

科或(上海)电子有限公司

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COMPONENTS

FOR AUTOMOTIVE

PRODUCT CATALOG

2024-2025 VERSION

科 技 世 界 “ 感 ” 知 未 来

TECHNOLOGY WORLD "FEEL" THE FUTURE

OUR
SERVICES
我们的服务



Delivery Services

Advanced Supply System
Automotive Grade: 6-8 weeks
Industrial Grade: 4-6 weeks
Consumer Grade: 2-4 weeks



Industry Services

Professional Industry Technology
Upgraded Solutions



Value-Added Services

Technical Support
Application Guidance Products
Full Lifecycle Services



Quality Services

Certified with ISO 9001,
ISO 14001, and
IATF 16949



Product Services

General Power Inductors
Magnetic Glue Inductors,
Integrated Inductors
Alloy Inductors, Coupled Inductors
EMC Devices, etc.



Custom Services

Various Application Scenarios
Customized Services

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Products Line Up



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TECHNOLOGY WORLD "FEEL" THE FUTURE

科技世界“感”知未来
TECHNOLOGY WORLD "FEEL" THE FUTURE

科或基于2030年“碳达峰”与2060年“碳中和”目标，积极采取各种对应措施，实现以可持续发展社会为目标的绿色经营理念。提倡全员环保、时刻节能。科技守护绿色未来，致力于污染防治和环境改善。助力碳中和，节能减排。追求永续发展，执行资源有效回收与再利用。

科或一直以来都十分重视环保主题，与市场趋势接轨、满足客户的需求，致力于环境保护，生产符合环保的产品。科或遵循欧盟所倡议的物质限用指令(Directive for Restriction of Hazardous Substances in Electrical and Electronic Equipment, RoHS)，生产符合RoHS规范的产品。

COMPANY PROFILE 公司简介

科或(上海)电子有限公司是一家专注于EMC电子元器件的开发、设计、生产和销售的国际企业。自公司成立以来，一直致力于成为全球领先的磁性元件供应商，除了大量的标准组件外，KOHERElec还设计和生产定制磁性元件，以满足客户精准的产品需求。公司主要产品有：一体成型电感、共模电感、叠层电感、功率电感、磁珠等；产品广泛应用于汽车电子、医疗电子、电力、工业自动化、电源系统、新能源、智能家居等多个领域。

KOHERElec is an international enterprise focusing on the development, design, production and sales of EMC electronic components. Since its establishment, KOHERElec has been committed to becoming the world's leading supplier of magnetic components. In addition to a large number of standard components, Koherelec also designs and produces custom magnetic components to meet customers' precise needs of products. The main products of the company are: integrated forming inductors, common mode inductors, laminated inductors, power inductors, magnetic beads and other products; Products are widely used in automotive electronics, electric power, medical electronics, industrial automation, power system, new energy, smart household supplies and other fields.



COMPANY HISTORY

发展历程



BUSINESS DISTRIBUTION

业务分布

科或电子网络遍布国内外, 以上海总部为中心, 辐射江苏、四川、广东、台湾、香港、越南、美国等国家和地区, 并拥有多条自动化产线。

我们信念如一, 持之以恒, 愿为数字世界与现实世界的链接提供科技支持, 共生、共创、共享、共赢。

KOHERelec's business is all over the country and abroad with Shanghai headquarters as the center, it radiates Jiangsu, Sichuan, Guangdong, Taiwan, Hong Kong, Vietnam, the United States and other countries and regions. And also we have a number of automated production lines.

We believe in the same belief and perseverance, and are willing to provide scientific and technological support for the link between the digital world and the real world, symbiosis, co-creation, sharing and win-win.

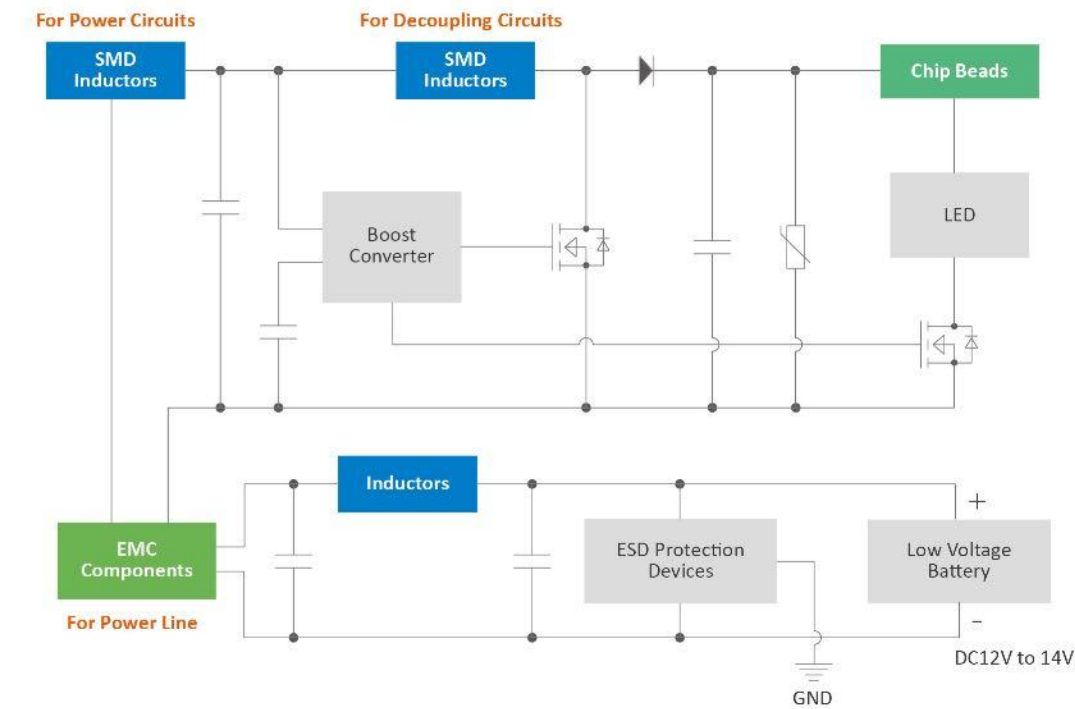


LED Lamp Module
车灯照明



Automotive exterior lamps are increasingly adopting LEDs to meet the growing needs for low power consumption and longer life. KOHER offers a broad lineup of Inductors designed to drive LEDs, and is actively involved in a number of activities to support the future of automotive lighting.

汽车外饰灯越来越多地采用LED技术以满足日益增长的低功耗和长寿命需求。KOHERelec提供用于驱动LED的电感器产品，并积极参与支持汽车照明未来的多项活动。



SMD Inductors	Power line 电源线	MDA Series 	MDA HT Series
	Decoupling line 去耦电路	WIV Series 	

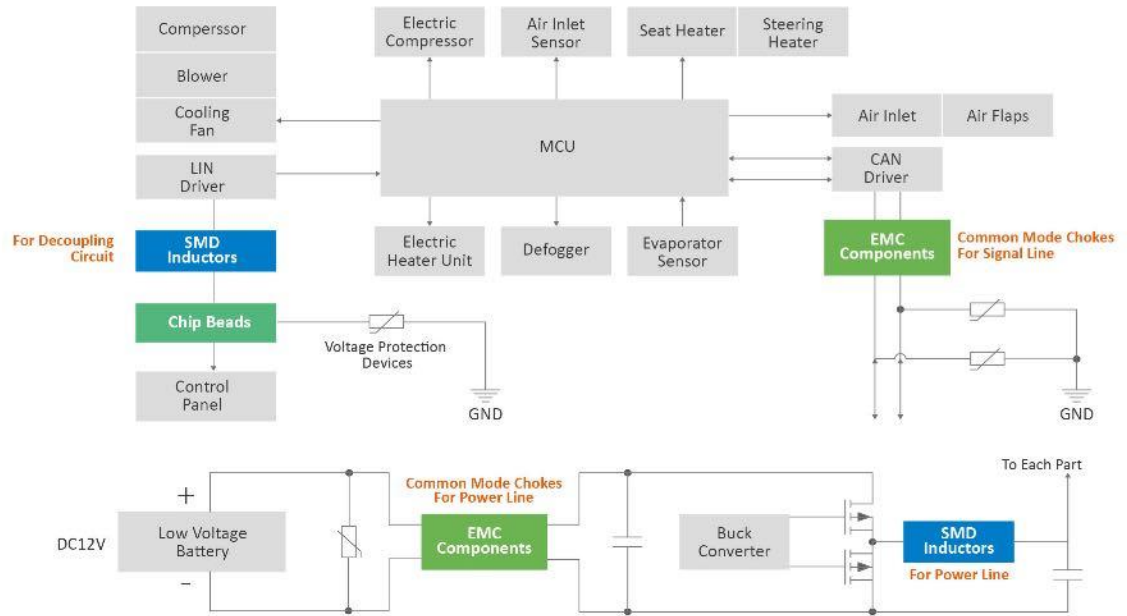
EMC Components	Power line 电源线	BCMA7060 	BCMA9070 	FBHA S Series
	Signal line 信号线	ACMA Series 		

HVAC Control Module
空调控制器模块



HVAC(Heating, Ventilation, and Air Conditioning) and car AC control modules perform system control of both cooling (via the refrigerant cycle) utilizing a compressor as well as heating by extracting exhaust heat from the engine using coolant water.HVAC systems typically include a manual mode enabling manual operation of the ratio between warm and cold air as well as fan speed, and an automatic mode that automatically adjusts the temperature and air flow based on a preset value.The following figure shows the block diagram of a typical HVAC system.

HVAC和汽车空调控制模块利用压缩机进行冷却(通过制冷剂循环)的系统控制, 以及通过使用冷却水从发动机中提取废热来加热.HVAC系统通常包括手动模式, 可以手动操作冷暖空气之间的比例和风扇速度, 以及根据预设值自动调节温度和气流的自动模式. 下图显示了典型HVAC系统的框图。



SMD Inductors	Power Line 电源线	MDA Series 	MDA HT Series

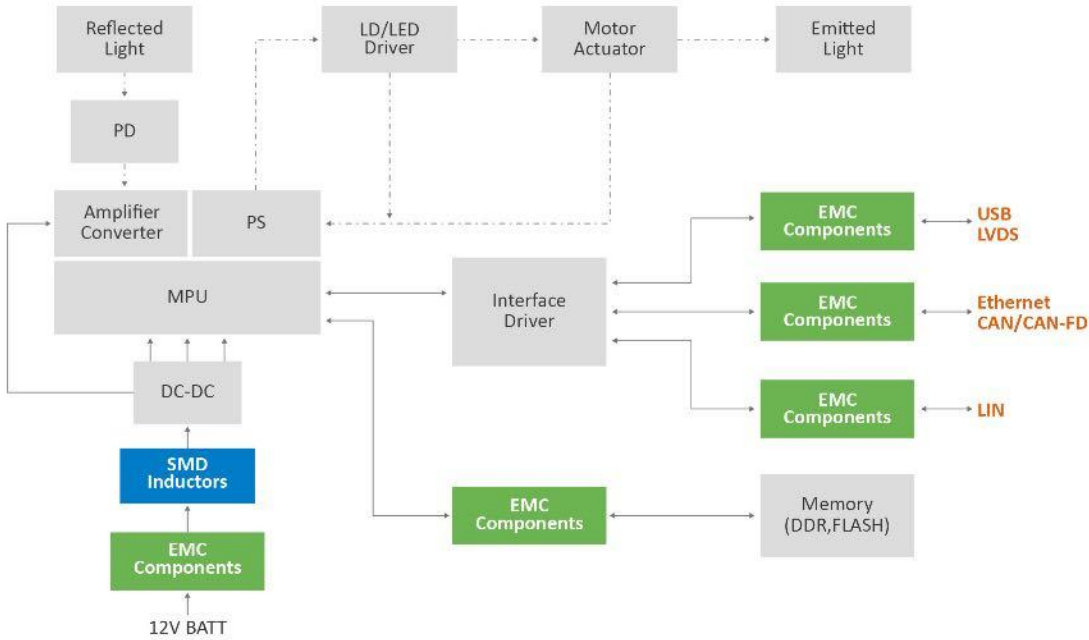
EMC Components	Power Line 电源线	BCMA7060 	BCMA9070 	FBHA S Series
	Signal Line 信号线	FBA Series 	ACMA Series 	

ADAS
Advanced Driver Assistance System
激光雷达



The advent of ADAS is accelerating the introduction of ADAS-equipped vehicles along with R&D. A variety of sensing devices required for system operation are used in different applications depending on features, and in recent years in addition to improving recognition and detection methods and reducing module size, the development of devices that take functional safety into account is increasingly demanded. KOHER offers a broad lineup of Inductors designed to the continuing evolution of ADAS/autonomous driving.

ADAS的出现正在加速配备ADAS车辆的引入以及研发。根据功能的不同，系统运行所需的各种传感设备被用于不同的应用中。近年来，除了改进识别和检测方法以及缩小模块尺寸外，对开发兼顾功能安全的设备的需求也越来越大。KOHERelec为ADAS的持续发展而设计，提供广泛的电感器产品。



SMD Inductors	Power Line 电源线	MDA Series	MDA HT Series	MDTA Series	SPM Series

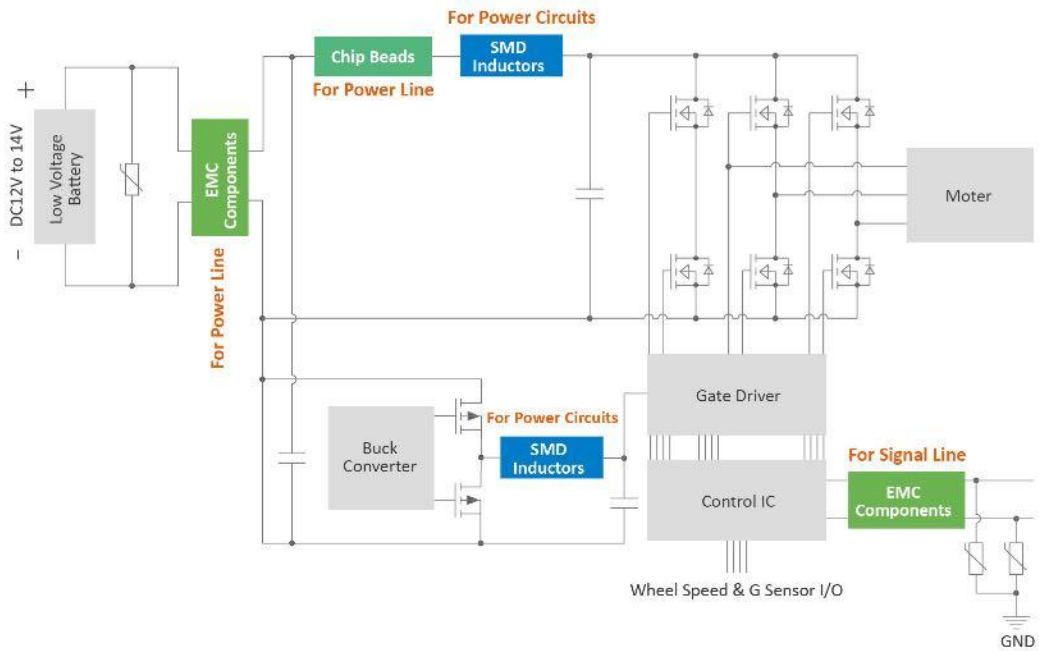
EMC Components	Power Line 电源线	BCMA7060	BCMA9070	FBHA S Series	FBHA Series
	Signal Line 信号线	BCMA2012	ACMA Series	ACMV Series	FBA Series

EPS
Electronic Power Steering
电子助力转向



Recent years have seen the increased adoption of electric power steering systems (EPS) in the latest vehicle models. In EPS systems the hydraulic pump is eliminated, reducing vehicle weight and improving fuel consumption by 3%. These systems are capable of adjusting the torque via software to achieve superior operability and driving performance. In addition, the steering torque is easier to adjust to the speed of the vehicle, and vehicle safety is improved by generating active torque based on the driving environment. Additional driver support features such as lane and parking assist are also possible by expanding the EPS functionality. The figure below shows a block diagram of EPS.

近年来，电动助力转向系统 (EPS) 在最新车型中的采用率越来越高。在EPS系统中，液压泵被淘汰，减轻了车辆重量，油耗降低了3%。这些系统能够通过软件调整扭矩，以实现卓越的操作性和驾驶性能。此外，转向扭矩更容易根据车速进行调整，并且根据行驶环境产生主动扭矩来提高车辆安全性。通过扩展EPS功能，还可以现额外的驾驶员支持功能，例如车道和停车辅助等。KOHERelec为ADAS的持续发展而设计，提供广泛的电感器产品。下图显示了EPS的框图。



SMD Inductors	Power Line 电源线	MDA Series	MDA HT Series	MDCA Series	SPM Series

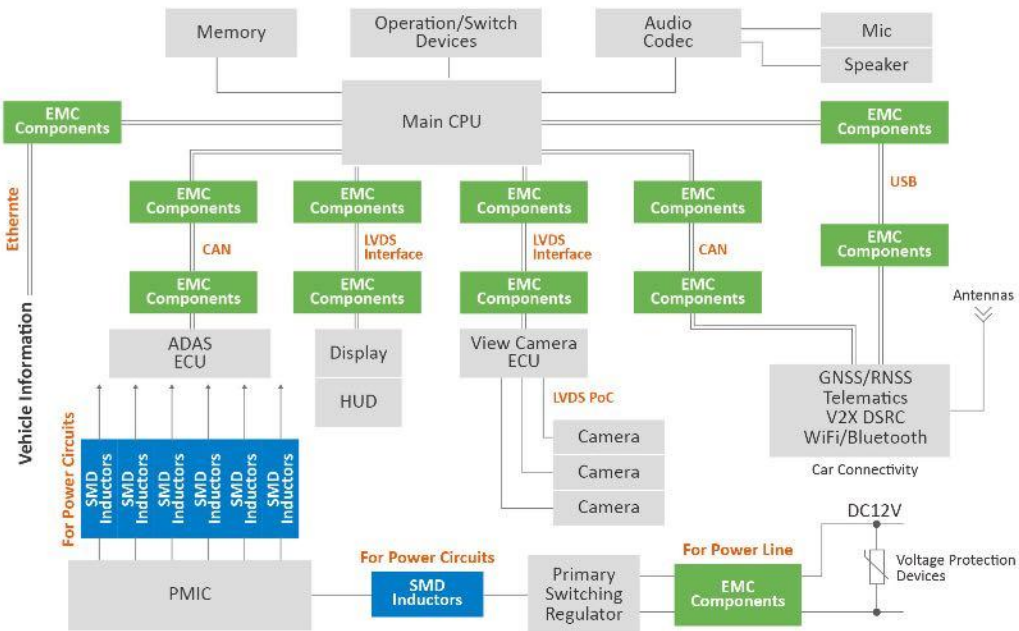
EMC Components	Power Line 电源线	BCMA7060	BCMA9070	FBHA Series
	Signal Line 信号线	ACMA Series	ACMV Series	

Smart Cockpit
智能座舱



The intelligent cockpit includes all modules that bring drivers and passengers a safer, more comfortable and intelligent driving experience: control system, entertainment system, air conditioning system, communication system, seat system, interaction system, perception system, etc. Control system includes: steering wheel; The entertainment system includes: center console screen, rear multimedia; Communication system includes: Bluetooth, WIFI, NFC, etc; The interactive system includes: central control screen, dashboard, HUD; Perception system includes: radar, cameras, driver health monitoring systems, air quality sensors, etc.

智能座舱包括带给驾驶员和乘客更加安全、舒适、智能的驾乘体验所有模块：操控系统、娱乐系统、空调系统、通信系统、座椅系统、交互系统、感知系统等。操控系统包括：方向盘；娱乐系统包括：中控台屏幕、后排多媒体；通信系统包括：蓝牙、WIFI、NFC等；交互系统包括：中控屏、仪表盘、HUD；感知系统包括：雷达、摄像头、驾驶员健康监控系统、空气质量传感器等。



SMD Inductors	Power Line 电源线	MDA Series	MDA HT Series	MDTA Series	SPM Series

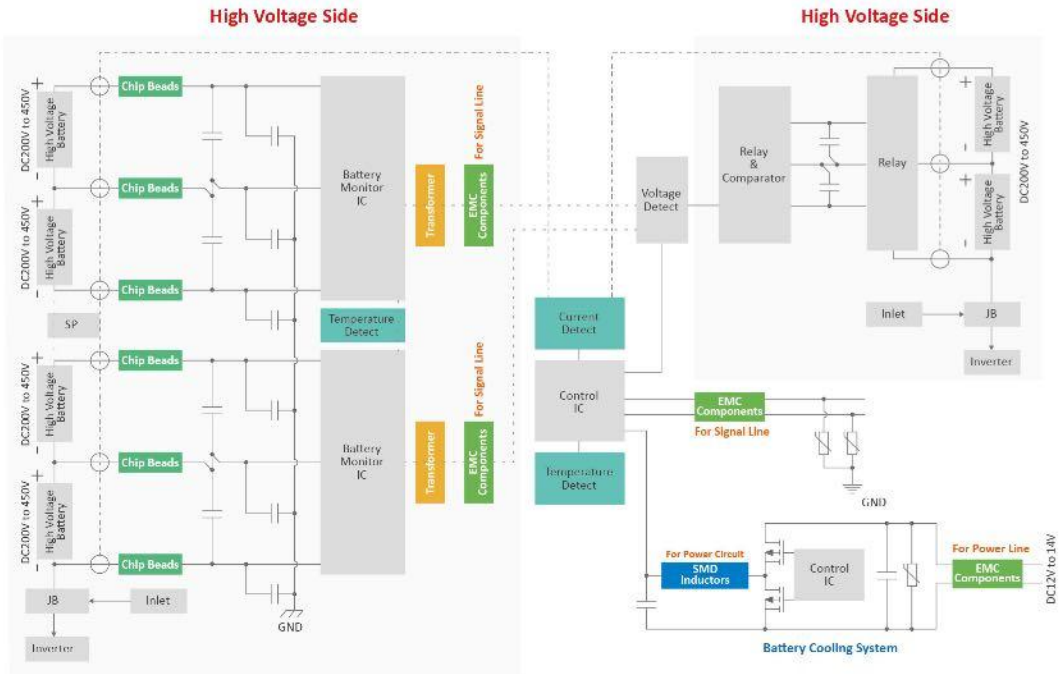
EMC Components	Power Line 电源线	BCMA7060	BCMA9070	FBHA S Series	FBHA Series
	Signal Line 信号线	BCMA2012	ACMA Series	ACMV Series	FBA Series

BMS(Battery Management System)
电池管理系统



Battery management system is any electronic system that manages a rechargeable battery (cell or battery pack), such as by protecting the battery from operating outside its safe operating area [clarification needed], monitoring its state, calculating secondary data, reporting that data, controlling its environment, authenticating it and / or balancing it. BMS are necessary for controlling the required power and maximizing the range of electric vehicles. KOHER offers a broad lineup of Inductors and Optimized solutions are offered for next-generation BMS that support multiple series connections.

BMS系统是管理可充电电池(或电池组)的电子系统。例如通过保护电池在其安全操作区域之外运行, 监控其状态, 计算辅助数据, 报告该数据, 控制其环境, 保持内部环境的平衡。BMS对于控制所需的功率和最大化电动汽车的续航里程是必要的。KOHERelec提供广泛的电感器产品为支持多个串联的下一代BMS提供优化的解决方案。



SMD Inductors	Power Line 电源线	MDA Series	MDA HT Series	MDCA Series	SPM Series

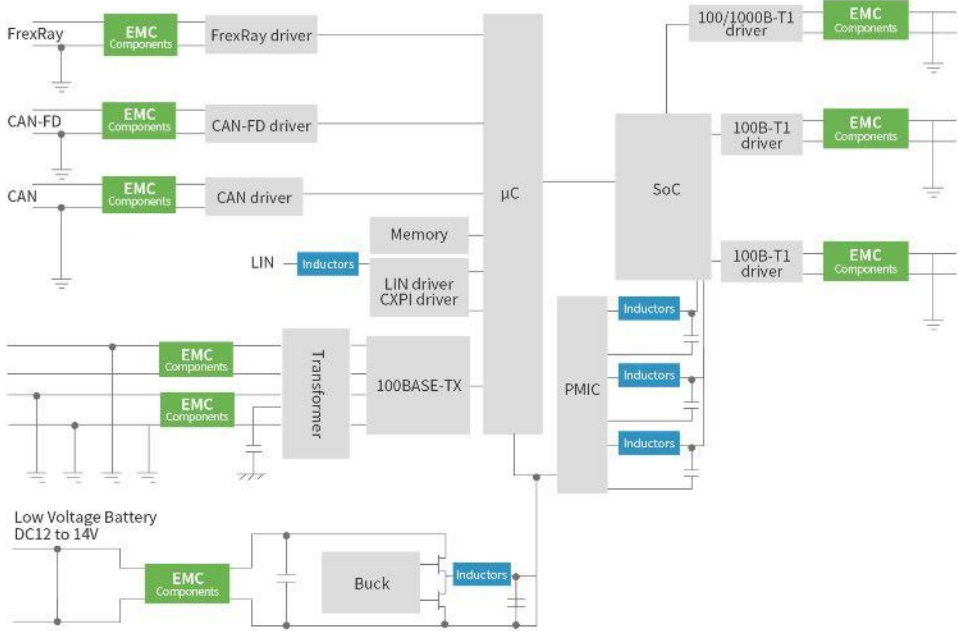
EMC Components	Power Line 电源线	BCMA7060	BCMA9070	FBHA S Series	FBHA Series
	Signal Line 信号线	BCMA2012	ACMA Series	ACMV Series	FBA Series

Gateway
网关



The Automotive Gateway, as the data exchange hub of the vehicle network, is the core component of the vehicle's electronic and electrical architecture, which can securely and reliably interconnect and transmit data across multiple different networks within the vehicle. It interacts information between shared data functional domains (powertrain, chassis and safety, body control, infotainment, remote information processing, ADAS) through physical isolation and protocol conversion. Vehicles are increasingly relying on electronic control units (ECUs) to enhance their driving experience. As a communication bridge between various ECU networks, the gateway controller achieves data exchange through external connections (including high and low speed CAN, LIN, ISO-9141, FlexRay, and Ethernet protocols), playing a fundamental role.

汽车网关作为车联网的数据交换枢纽,是车辆电子电气架构的核心组件,可以安全可靠地在车内多个不同网络之间互连和传输数据。它通过物理隔离和协议转换,在共享数据功能域(动力总成、底盘和安全、车身控制、信息娱乐、远程信息处理、ADAS)之间进行信息交互。车辆越来越依赖电子控制单元(ECU)来增强其驾驶体验。网关控制器作为各种ECU网络之间的通信桥梁,通过外部连接(包括高速和低速CAN、LIN、ISO-9141、FlexRay和以太网协议)实现数据交换,起着基础性的作用。



SMD Inductors	Power line 电源线	MDA Series	NRSA Series

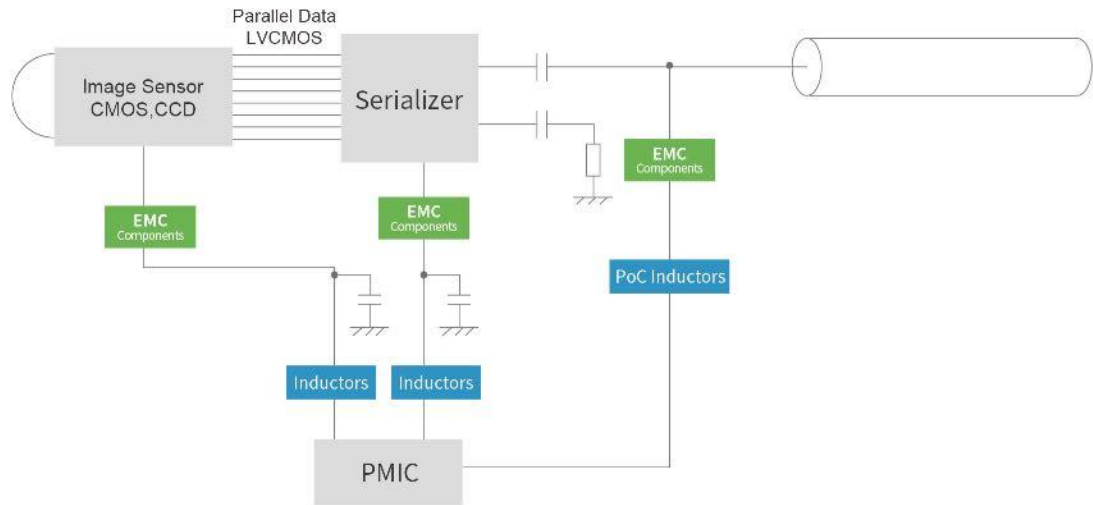
EMC Components	Signal line 信号线	ACMA Series	ACMV Series	FBHA S Series	FBHA Series

PoC Camera
PoC摄像头



POC (Power Over Coaxial) is a technology based on coaxial cables for image transmission, coaxial control, and power superposition. In coaxial cables, high-definition video signals are transmitted while also transmitting power, that is, high-definition images and coaxial signals are combined with the power supply and transmitted on a coaxial line.

POC (Power Over Coaxial) 是一种基于同轴电缆的技术,用于图像传输、同轴控制和功率叠加。在同轴电缆中,高清视频信号在传输的同时也传输功率,即高清图像和同轴信号与电源相结合,在同轴线上传输。



SMD Inductors	Power line 电源线	MDTA Series

EMC Components	Signal line 信号线	ACMA Series	ACMV Series	FBHA S Series	FBHA Series

PRODUCTS LINE UP

FBA Series
Chip Ferrite Bead SMD Type

Size	Impendace @100 MHz(Ω)	Temp Rise Current(A)	DC Resistance (Ω)	Page
0402	30~1800	0.20~0.30	0.20~2.00	02
0603	22~2500	0.20~0.50	0.25~1.50	05
0805	7~2000	0.25~0.60	0.10~0.60	08
1206	26~600	0.40~0.50	0.20~0.40	11

FBHA Series
Chip Ferrite Bead High Current Type

Size	Impendace @100 MHz(Ω)	Temp Rise Current(A)	DC Resistance (Ω)	Page
0402	10~220	1.5~3.0	0.022~0.150	16
0603	30~1000	1.0~3.0	0.040~0.200	18
0805	22~1000	1.0~6.0	0.010~0.200	20
1206	30~600	1.0~6.0	0.010~0.200	23
1806	60~80	3.0~6.0	0.010~0.040	25
1812	80~150	5.0~6.0	0.010~0.020	26

ACMA Series
Common Mode Filters For Automotive Signal Line

Size	Inductance (μH)	Temp Rise Current(A)	DC Resistance (Ω)	Page
3225	11~100	0.15~0.30	0.4~1.5	28
4532	11~100	0.20~0.36	0.6~2.0	30

ACMV Series
Wire-wound Common Mode Choke

Size	Inductance (μH)	Temp Rise Current(A)	DC Resistance (Ω)	Page
3225	51~100	0.15~0.20	0.7~1.5	34
4532	51~100	0.15~0.20	1.0~2.0	36

BCMA Series
Common Mode Filters For Automotive Signal Line/Power Line

Size	Impendace @100 MHz(Ω)	Temp Rise Current(A)	DC Resistance (Ω)	Page
2012	67~1000	0.10~0.40	0.250~1.300	40
3216	90~2200	0.20~0.40	0.300~1.200	42
3225	90~1000	0.40~1.00	0.050~0.300	44
4532	90~600	2.50~4.00	0.050~0.060	45
5020	100~1500	1.50~6.00	0.013~0.056	46
7060	70~3000	0.90~15.00	0.005~0.075	48
9070	300~4000	1.80~6.00	0.006~0.100	50
9250	/	0.20~1.60	0.080~2.600	52
1009	5~4700	0.35~5.00	0.010~0.720	55
1211	300~2700	1.50~9.00	0.004~0.050	57

NRSA Series
SMD Power Inductors For Automotive

Size	Inductance (μH)	Temp Rise Current(A)	DC Resistance (Ω)	Page
201610	0.47~22.00	0.30~2.16	0.0410~1.5500	60
2520B	0.24~47.00	0.29~3.50	0.0280~2.0000	62
3012B	1.00~3.30	1.70~2.80	0.0430~0.1150	65
3015B	0.47~6.80	1.70~3.70	0.0220~0.1720	67
4014B	1.00~4.70	1.50~2.20	0.0450~0.1080	69
4018B	1.00~22.00	0.75~3.50	0.0320~0.4500	71
4030	0.68~47.00	0.72~4.60	0.0100~0.5300	73
5020	1.00~47.00	0.70~4.10	0.0200~0.4600	76
5040	1.00~100.00	0.72~5.00	0.0120~0.5600	79
6020	1.00~22.00	1.40~4.50	0.0190~0.2040	82
6028	1.00~100.00	0.72~5.20	0.0100~0.6050	84
6045	0.47~220.00	0.60~8.60	0.0068~0.9000	87
8040	1.00~220.00	0.85~8.50	0.0082~0.6100	92

PRODUCTS LINE UP

MDA Series
SMD Low Profile High Current Molded Inductor

Size	Inductance (μH)	Temp Rise Current(A)	DC Resistance (Ω)	Page
4020	0.10~10.00	2.4~16.0	0.00290~0.16500	96
5030	0.47~15.00	2.9~13.5	0.00520~0.14000	98
7030	0.15~47.00	1.5~30.0	0.00170~0.31800	100
7050	1.00~47.00	2.6~17.0	0.00560~0.27500	104
7054HT	1.50~100.00	1.8~11.5	0.00630~0.30300	107
1040	0.15~68.00	2.6~44.0	0.00050~0.19200	110
1050	0.36~47.00	4.5~34.0	0.00082~0.10600	113
1054HT	0.68~47.00	4.2~32.0	0.00180~0.08900	116
1350	0.47~68.00	4.3~38.0	0.00077~0.09500	118
1360	0.36~47.00	5.2~60.0	0.00065~0.07600	121
1365	0.47~68.00	5.8~42.0	0.00088~0.08200	123
1870	0.47~82.00	6.5~60.0	0.00070~0.06900	126

MDTA Series
SMD Low Profile High Current Molded Inductor

Size	Impedance @100 MHz(Ω)	Temp Rise Current(A)	DC Resistance (Ω)	Page
20161A	0.10~4.70	1.6~8.5	0.0080~0.1900	130
25201B	0.10~10.00	1.2~12.0	0.0040~0.3300	132
32251B	0.22~6.80	2.2~9.5	0.0074~0.1770	134

DMMA Series
Molded Inductor

Size	Inductance (μH)	Temp Rise Current(A)	DC Resistance (Ω)	Page
7078	1.0~22.0	2.2~9.8	0.0065~0.1340	137
1094	3.3~22.0	3.6~9.0	0.0086~0.0560	138



FBA Series
Chip Ferrite Bead SMD Type

FEATURES

- Noise reduction solution for general signal line
- Various frequency characteristics with 2 materials of different features for countermeasures against everything from general signals to high-speed signals
- AEC-Q200 qualified
- Operating temperature:-55 to +150℃

APPLICATION

- Signal line filter for body controls, and car multimedia etc



FBA0402

P02



FBA0603

P05



FBA0805

P08



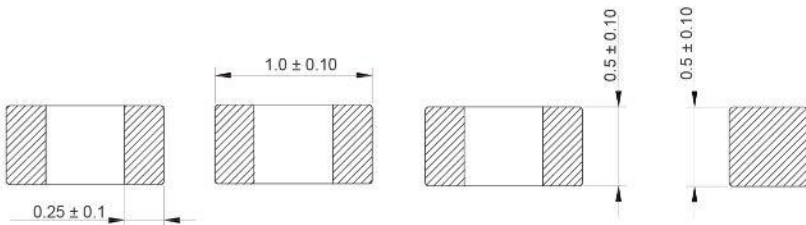
FBA1206

P11

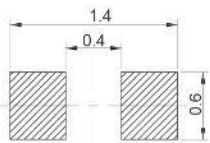
FBA Series
Chip Ferrite Bead SMD Type
0402 Size



Dimensions: [mm]



Land Pattern: [mm]

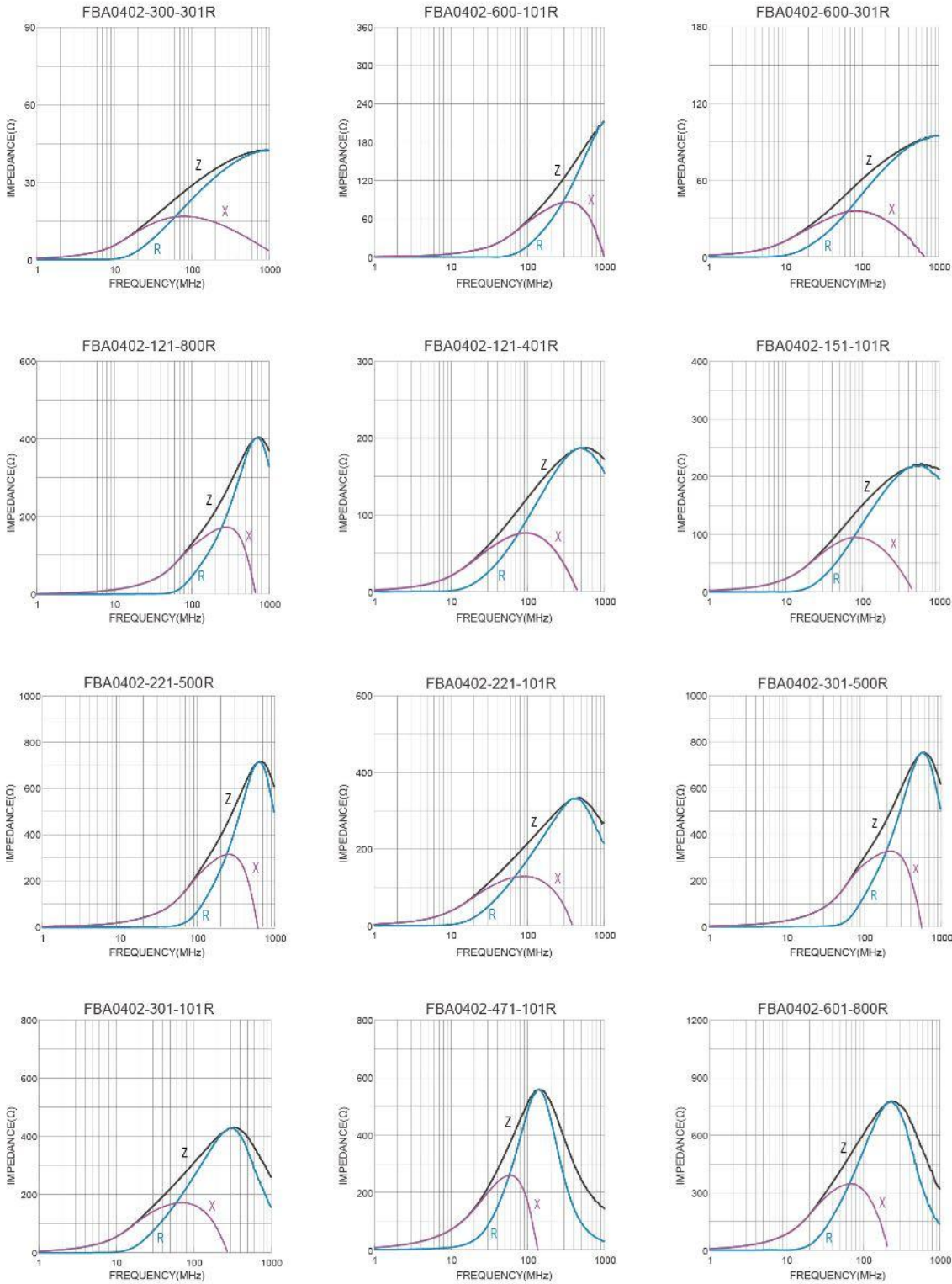


Electrical Properties

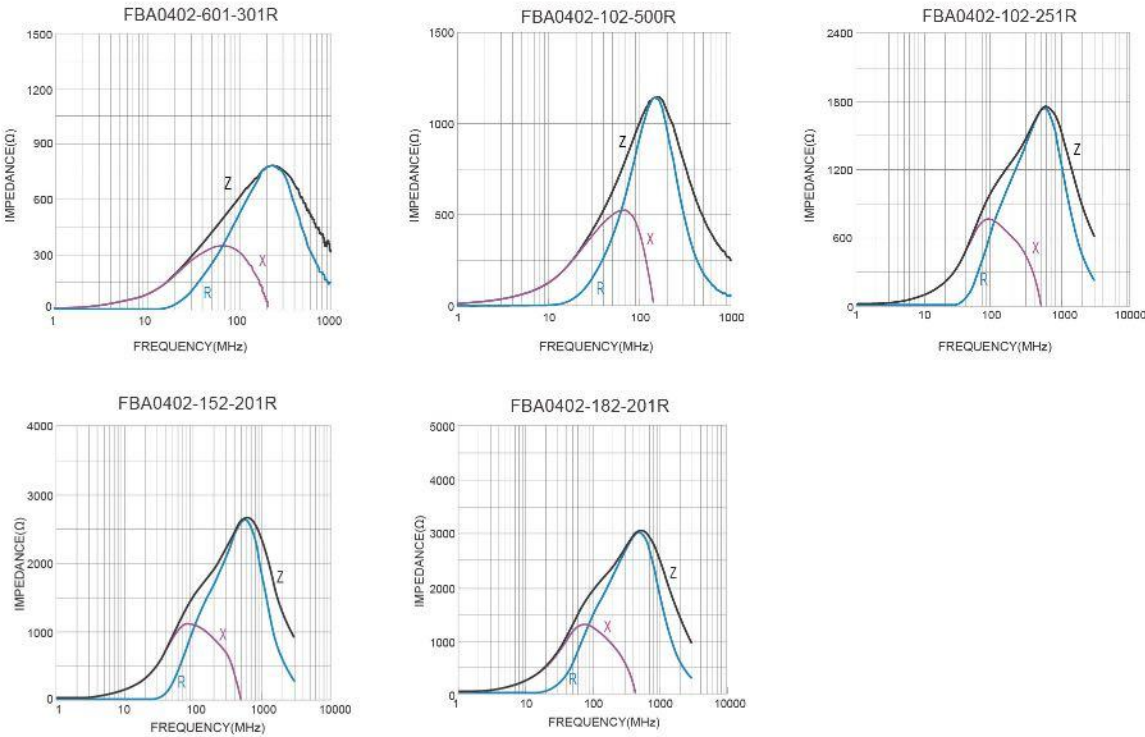
Part No	Impedance @ 100MHz (Ω)	Tolerance	DC Resistance Max. (Ω)	Temperature Rise Current Max. (mA)
FBA0402-300-301R	30	±25%	0.20	300
FBA0402-600-101R	60	±25%	0.30	100
FBA0402-600-301R	60	±25%	0.25	300
FBA0402-121-800R	120	±25%	0.45	80
FBA0402-121-401R	120	±25%	0.30	400
FBA0402-151-101R	150	±25%	0.30	100
FBA0402-221-500R	220	±25%	0.60	50
FBA0402-221-101R	220	±25%	0.40	100
FBA0402-301-500R	300	±25%	0.75	50
FBA0402-301-101R	300	±25%	0.50	100
FBA0402-471-101R	470	±25%	0.65	100
FBA0402-601-800R	600	±25%	0.80	80
FBA0402-601-301R	600	±25%	0.80	300
FBA0402-102-500R	1000	±25%	1.20	50
FBA0402-102-251R	1000	±25%	1.25	250
FBA0402-152-201R	1500	±25%	1.50	200
FBA0402-182-201R	1800	±25%	2.00	200

I_R referring to 20K self-heating above ambient temperature

Typical Electrical Characteristics



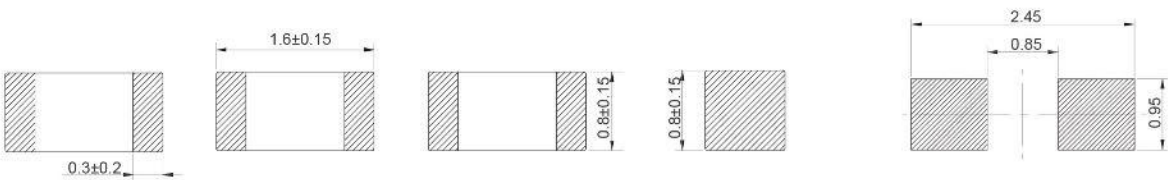
Typical Electrical Characteristics



FBA Series
Chip Ferrite Bead SMD Type
0603 Size



Dimensions: [mm]

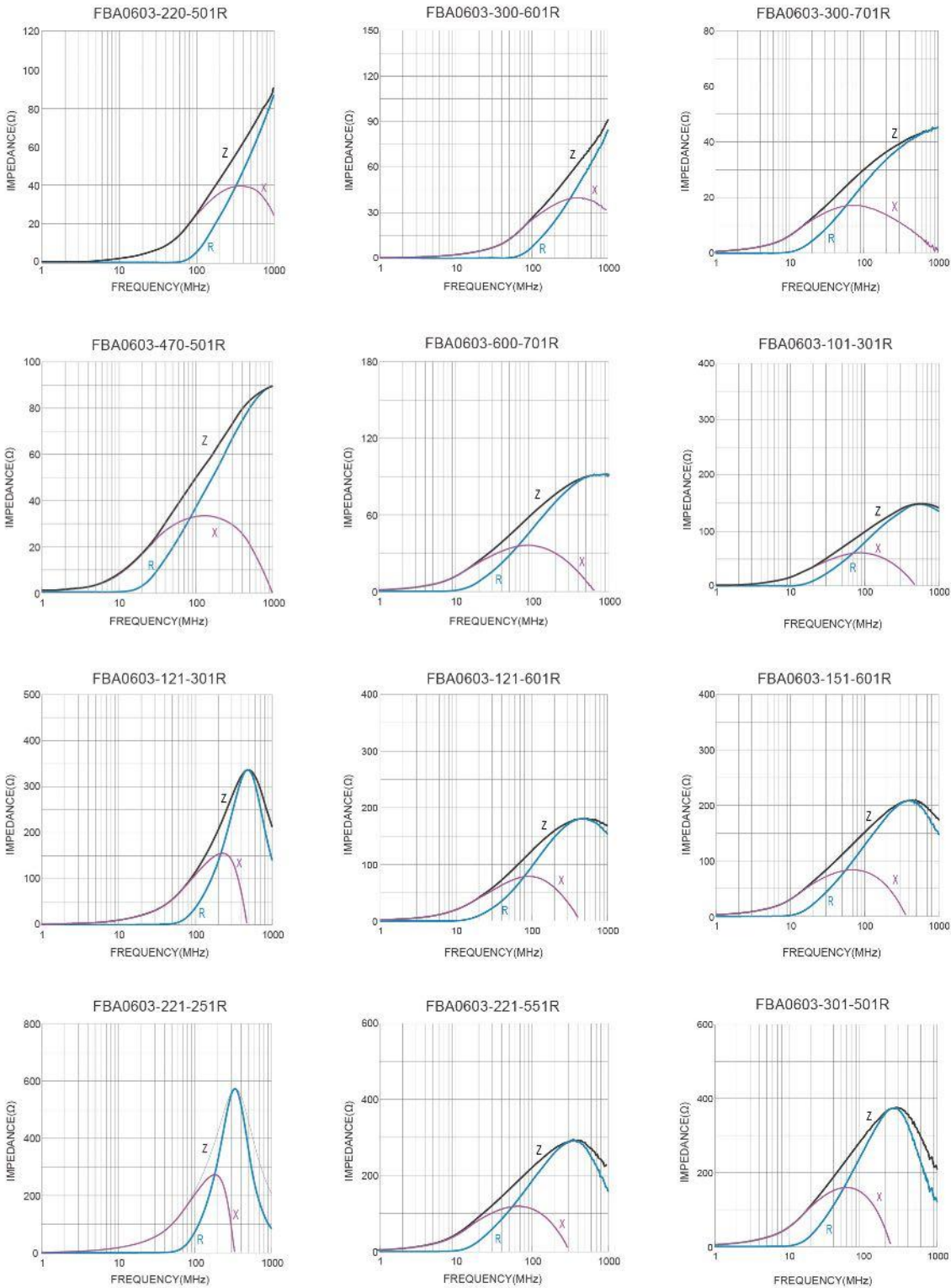


Land Pattern: [mm]

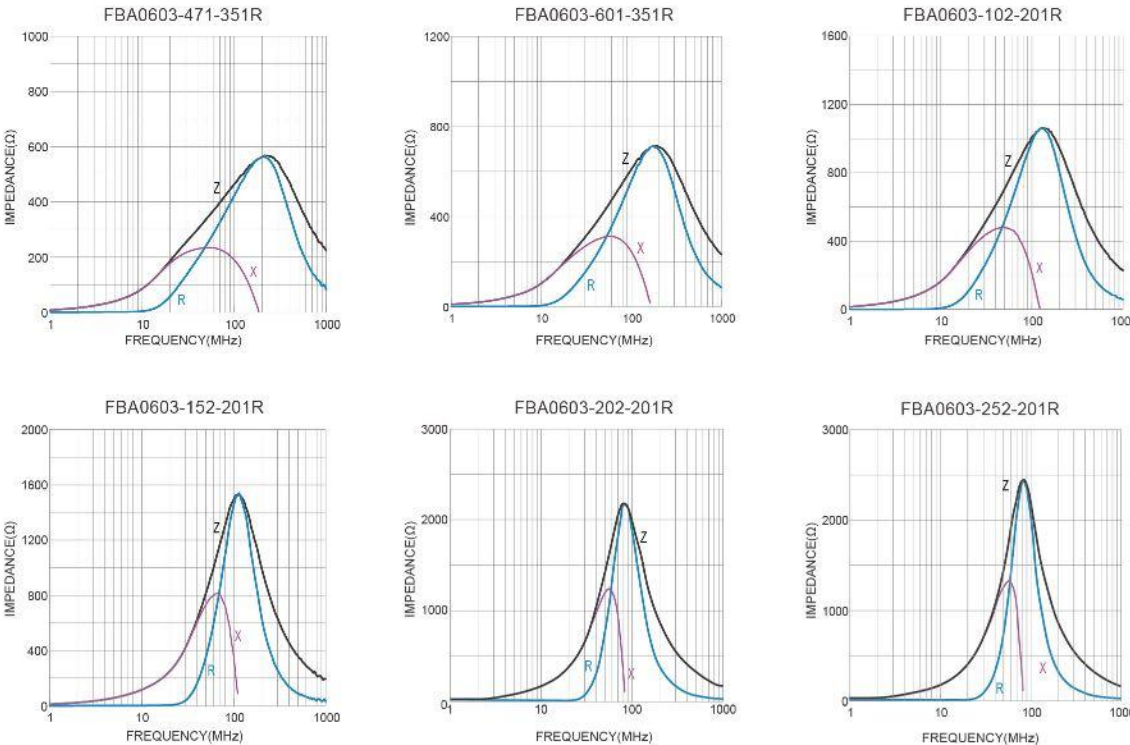
Part No	Impedance @ 100MHz (Ω)	Tolerance	DC Resistance Max. (Ω)	Temperature Rise Current Max. (mA)
FBA0603-220-501R	22	±25%	0.25	500
FBA0603-300-601R	30	±25%	0.25	600
FBA0603-300-701R	30	±25%	0.20	700
FBA0603-470-501R	47	±25%	0.20	500
FBA0603-600-701R	60	±25%	0.20	700
FBA0603-101-301R	100	±25%	0.20	300
FBA0603-121-301R	120	±25%	0.40	300
FBA0603-121-601R	120	±25%	0.25	600
FBA0603-151-601R	150	±25%	0.25	600
FBA0603-221-251R	220	±25%	0.60	250
FBA0603-221-551R	220	±25%	0.30	550
FBA0603-301-501R	300	±25%	0.35	500
FBA0603-471-351R	470	±25%	0.45	350
FBA0603-601-351R	600	±25%	0.50	350
FBA0603-102-201R	1000	±25%	0.70	200
FBA0603-152-201R	1500	±25%	1.00	200
FBA0603-202-201R	2000	±25%	1.20	200
FBA0603-252-201R	2500	±25%	1.50	200

I_R referring to 20K self-heating above ambient temperature

Typical Electrical Characteristics



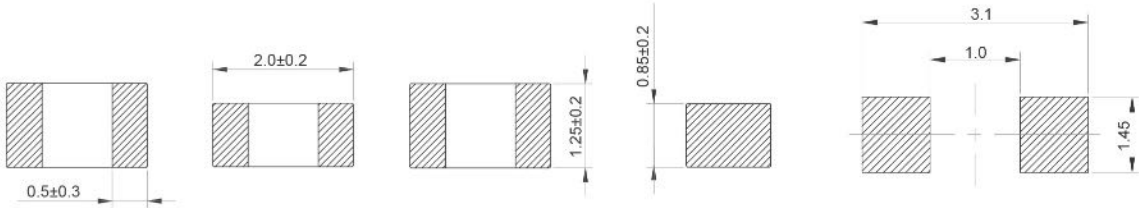
Typical Electrical Characteristics



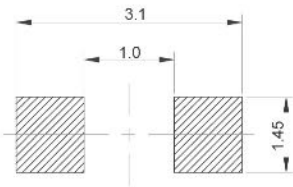
FBA Series
Chip Ferrite Bead SMD Type
0805 Size



Dimensions: [mm]



Land Pattern: [mm]

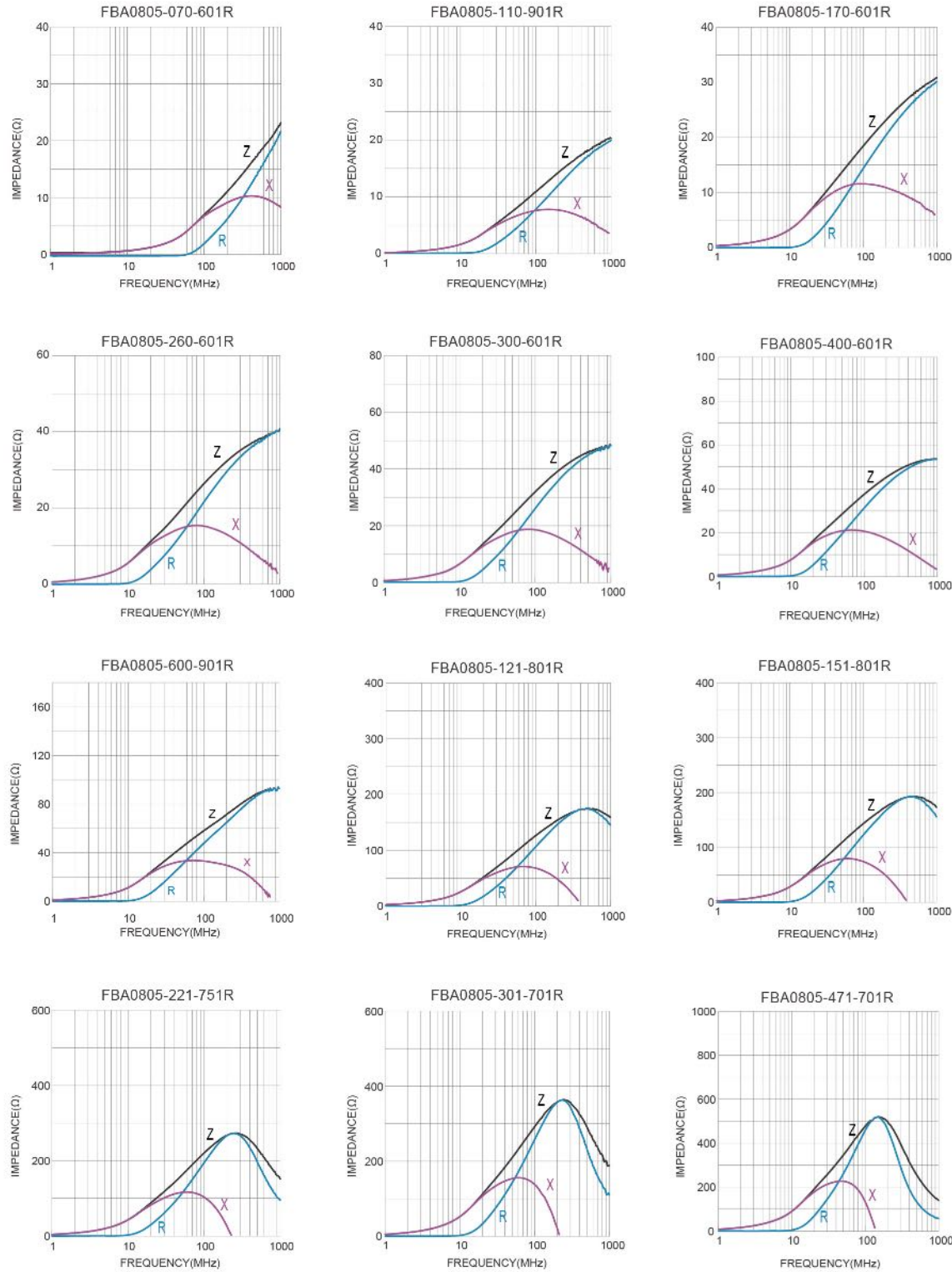


Electrical Properties

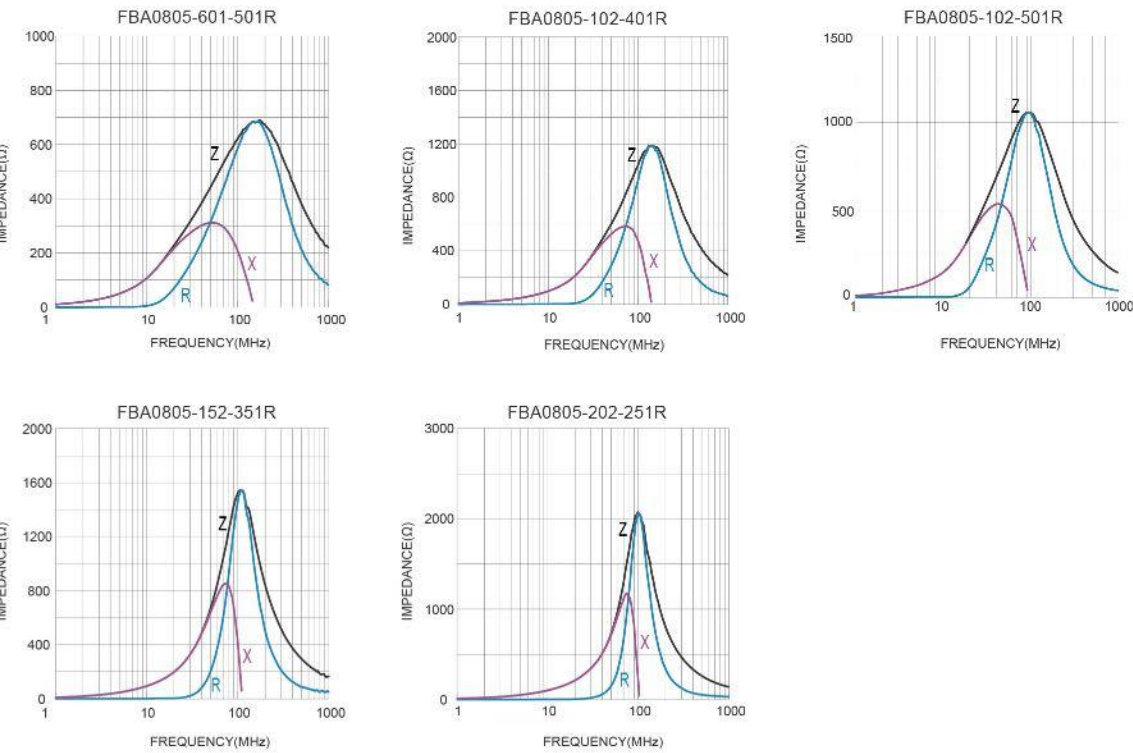
Part No	Impedance @ 100MHz (Ω)	Tolerance	DC Resistance Max. (Ω)	Temperature Rise Current Max. (mA)
FBA0805-070-601R	7	±25%	0.10	600
FBA0805-110-901R	11	±25%	0.10	900
FBA0805-170-601R	17	±25%	0.10	600
FBA0805-260-601R	26	±25%	0.10	600
FBA0805-300-601R	30	±25%	0.10	600
FBA0805-400-601R	40	±25%	0.10	600
FBA0805-600-901R	60	±25%	0.10	900
FBA0805-121-801R	120	±25%	0.20	800
FBA0805-151-801R	150	±25%	0.20	800
FBA0805-221-751R	220	±25%	0.30	750
FBA0805-301-701R	300	±25%	0.30	700
FBA0805-471-701R	470	±25%	0.35	700
FBA0805-601-501R	600	±25%	0.40	500
FBA0805-102-401R	1000	±25%	0.45	400
FBA0805-102-501R	1000	±25%	0.35	500
FBA0805-152-351R	1500	±25%	0.50	350
FBA0805-202-251R	2000	±25%	0.60	250

I_R referring to 20K self-heating above ambient temperature

Typical Electrical Characteristics



Typical Electrical Characteristics

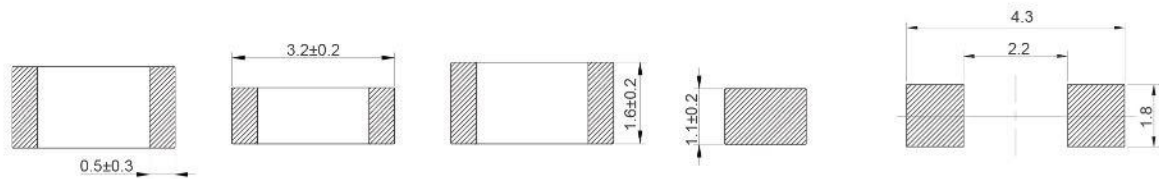


FBA Series
Chip Ferrite Bead SMD Type
1206 Size



Dimensions: [mm]

Land Pattern: [mm]

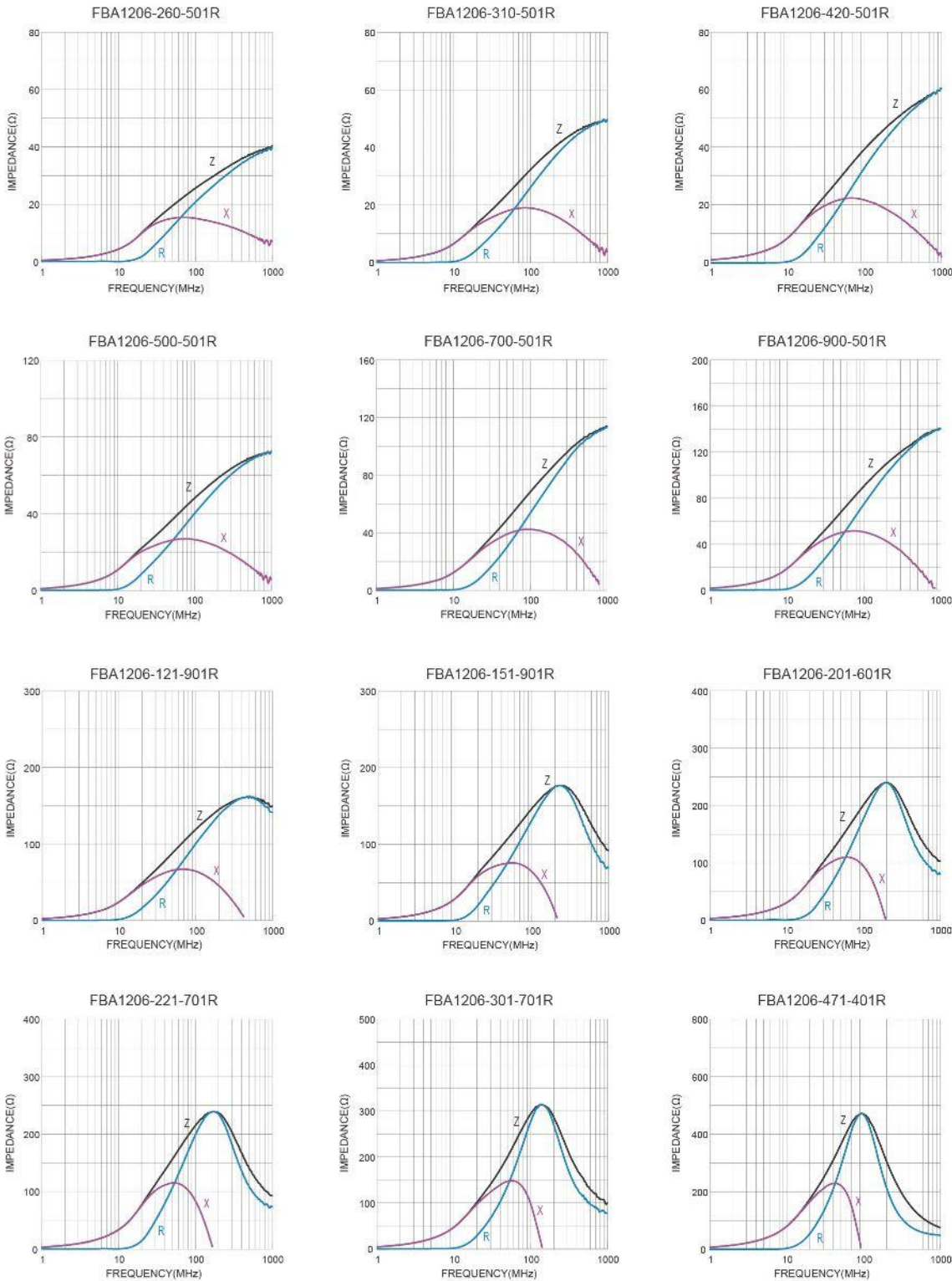


Electrical Properties

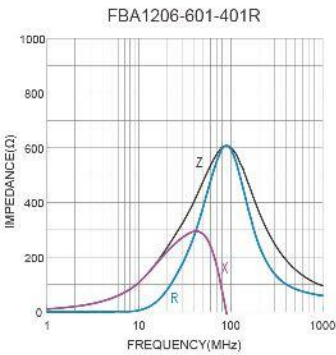
Part No	Z @ 100 MHz (Ω)	Tolerance	DC Resistance (Ω)	Temperature Rise Current (mA)
FBA1206-260-501R	26	±25%	0.20	500
FBA1206-310-501R	31	±25%	0.20	500
FBA1206-420-501R	42	±25%	0.20	500
FBA1206-500-501R	50	±25%	0.20	500
FBA1206-700-501R	70	±25%	0.20	500
FBA1206-900-501R	90	±25%	0.20	500
FBA1206-121-901R	120	±25%	0.15	900
FBA1206-151-901R	150	±25%	0.15	900
FBA1206-201-601R	200	±25%	0.35	600
FBA1206-221-701R	220	±25%	0.35	700
FBA1206-301-701R	300	±25%	0.35	700
FBA1206-471-401R	470	±25%	0.35	400
FBA1206-601-401R	600	±25%	0.40	400

Temperature Rise Current: The actual value of DC current when the temperature rise is $\Delta T=20^{\circ}\text{C}$

Typical Electrical Characteristics



Typical Electrical Characteristics





- Noise reduction solution for power line
- Compared to the FBA series, has low direct current resistance for compatibility with large currents, optimal for low power consumption. Various frequency characteristics with 2 materials of different features for countermeasures against everything from general signals to high-speed signals
- Performs well even in signal lines where low direct current resistance is required
- AEC-Q200 qualified
- Operating temperature:-55 to +150°C

- Power line filter for body controls, and car multimedia etc



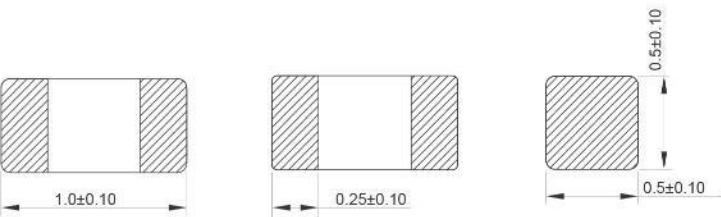
FBHA Series

Chip Ferrite Bead High Current Type

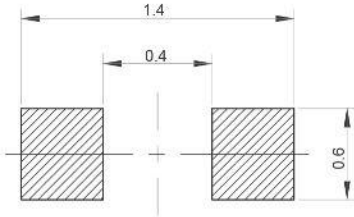
0402 Size



Dimensions: [mm]



Land Pattern: [mm]

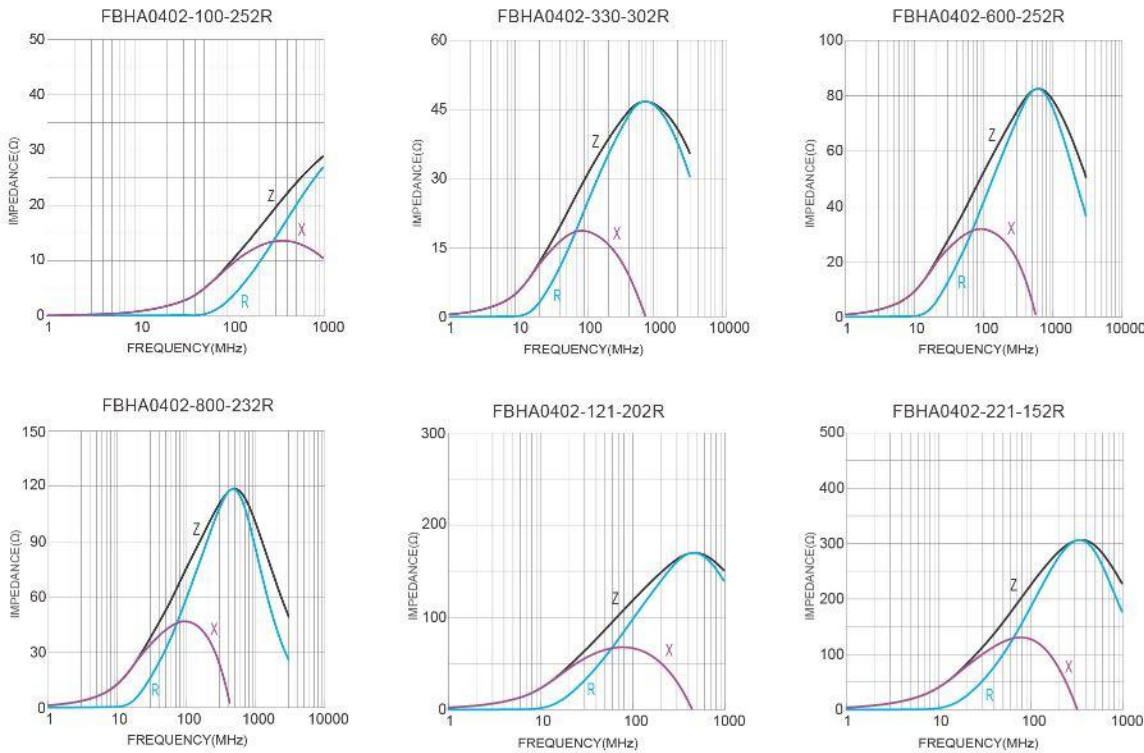


Electrical Properties

Part No	Impedance @ 100MHz (Ω)	Tolerance	DC Resistance (Ω)	Temperature Rise Current (mA)
FBHA0402-100-252R	10	±25%	0.050	2500
FBHA0402-330-302R	33	±25%	0.022	3000
FBHA0402-600-252R	60	±25%	0.032	2500
FBHA0402-800-232R	80	±25%	0.038	2300
FBHA0402-121-202R	120	±25%	0.095	2000
FBHA0402-221-152R	220	±25%	0.150	1500

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

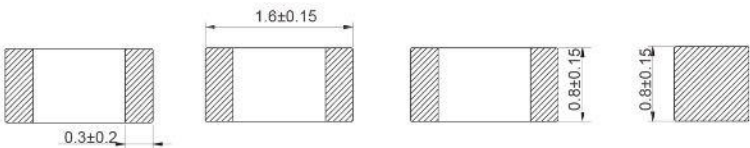
Typical Electrical Characteristics



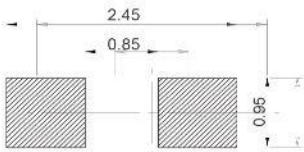
FBHA Series
Chip Ferrite Bead High Current Type
0603 Size



Dimensions: [mm]



Land Pattern: [mm]

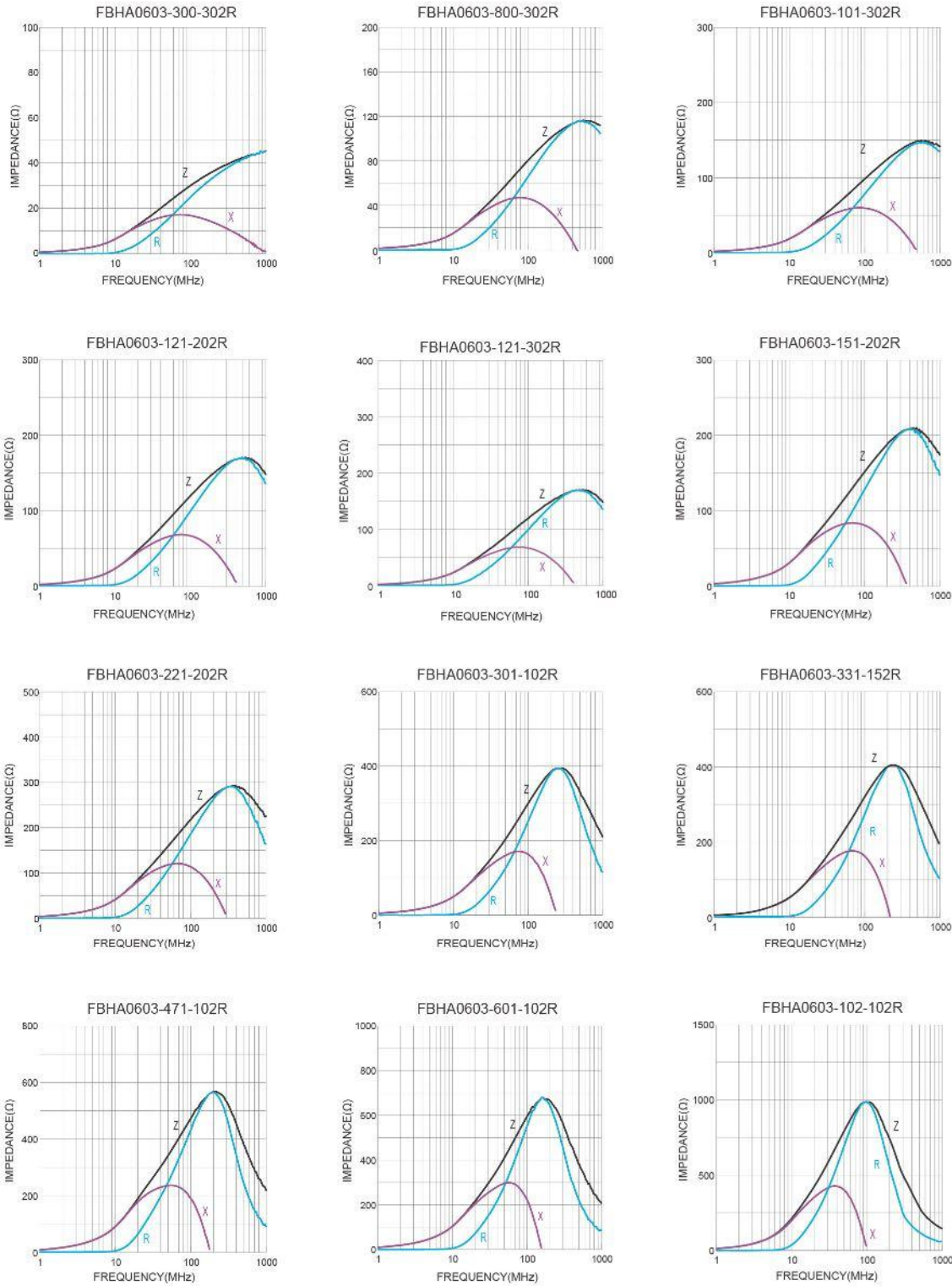


Electrical Properties

Part No	Impedance @ 100MHz (Ω)	Tolerance	DC Resistance (Ω)	Temperature Rise Current (mA)
FBHA0603-300-302R	30	±25%	0.04	3000
FBHA0603-800-302R	80	±25%	0.04	3000
FBHA0603-101-302R	100	±25%	0.04	3000
FBHA0603-121-202R	120	±25%	0.10	2000
FBHA0603-121-302R	120	±25%	0.04	3000
FBHA0603-151-202R	150	±25%	0.10	2000
FBHA0603-221-202R	220	±25%	0.10	2000
FBHA0603-301-102R	300	±25%	0.20	1000
FBHA0603-331-152R	330	±25%	0.10	1500
FBHA0603-471-102R	470	±25%	0.20	1000
FBHA0603-601-102R	600	±25%	0.20	1000
FBHA0603-102-102R	1000	±25%	0.20	1000

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

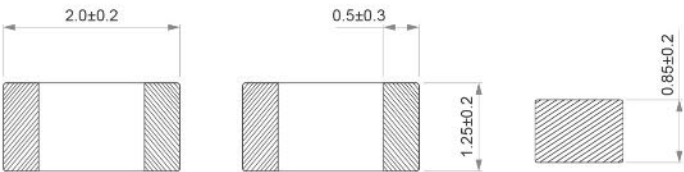
Typical Electrical Characteristics



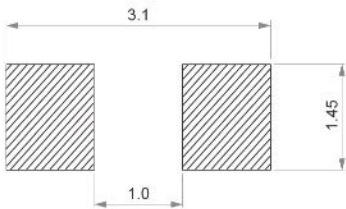
FBHA Series
Chip Ferrite Bead High Current Type
0805 Size



Dimensions: [mm]



Land Pattern: [mm]

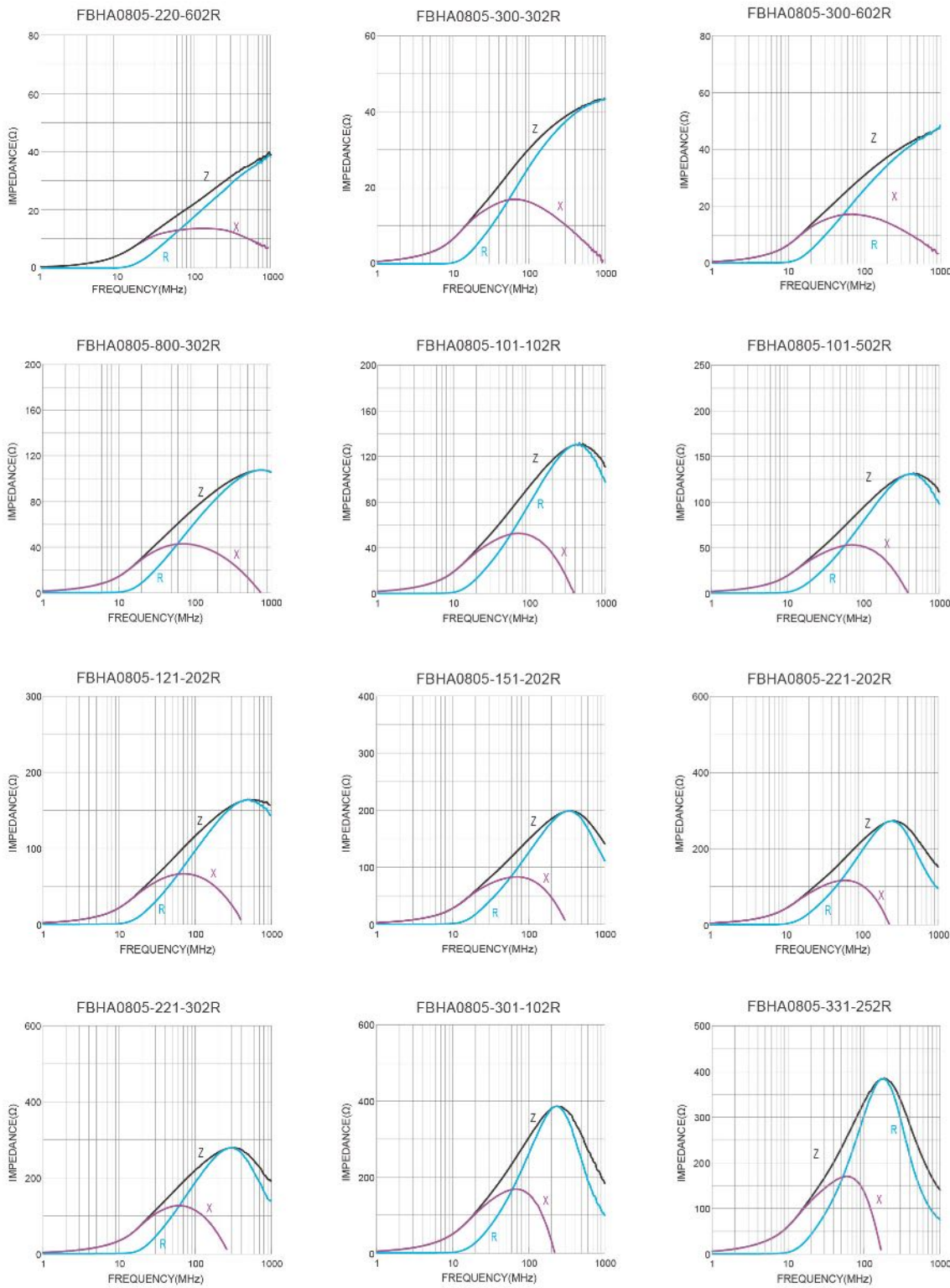


Electrical Properties

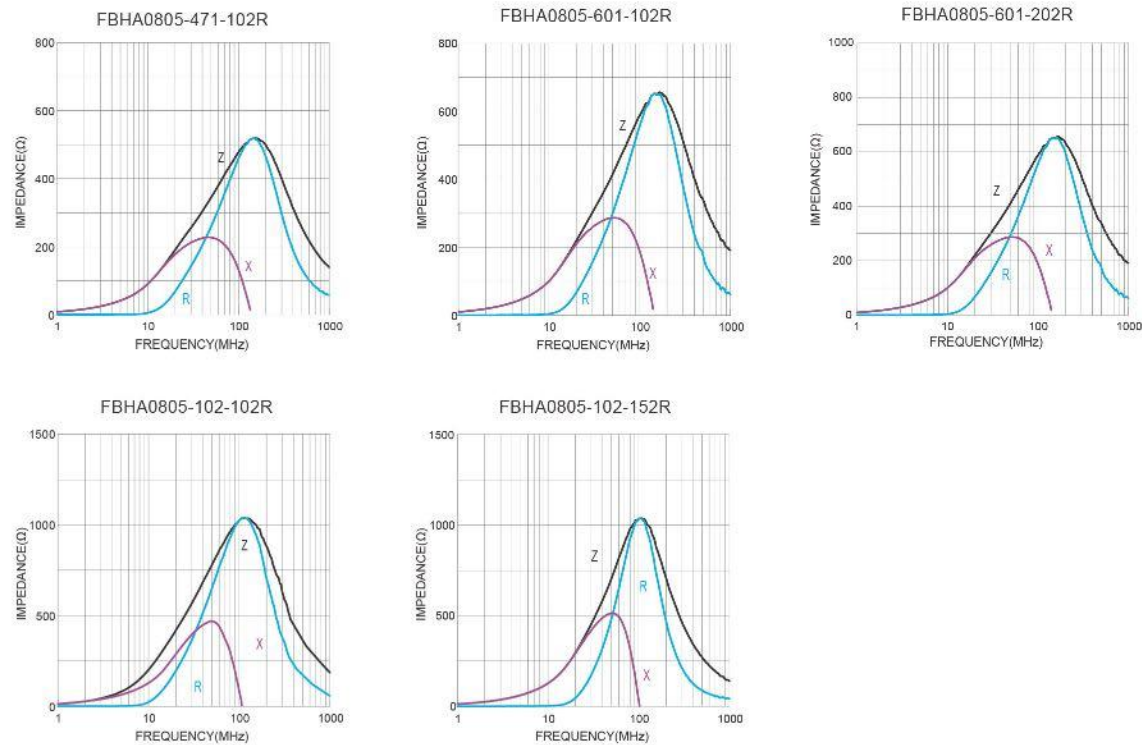
Part No	Impedance @ 100MHz (Ω)	Tolerance	DC Resistance (Ω)	Temperature Rise Current (mA)
FBHA0805-220-602R	22	±25%	0.01	6000
FBHA0805-300-302R	30	±25%	0.04	3000
FBHA0805-300-602R	30	±25%	0.01	6000
FBHA0805-800-302R	80	±25%	0.04	3000
FBHA0805-101-102R	100	±25%	0.15	1000
FBHA0805-101-502R	100	±25%	0.02	5000
FBHA0805-121-202R	120	±25%	0.10	2000
FBHA0805-151-202R	150	±25%	0.10	2000
FBHA0805-221-202R	220	±25%	0.10	2000
FBHA0805-221-302R	220	±25%	0.04	3000
FBHA0805-301-102R	300	±25%	0.20	1000
FBHA0805-331-252R	330	±25%	0.05	2500
FBHA0805-471-102R	470	±25%	0.20	1000
FBHA0805-601-102R	600	±25%	0.20	1000
FBHA0805-601-202R	600	±25%	0.10	2000
FBHA0805-102-102R	1000	±25%	0.20	1000
FBHA0805-102-152R	1000	±25%	0.15	1500

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



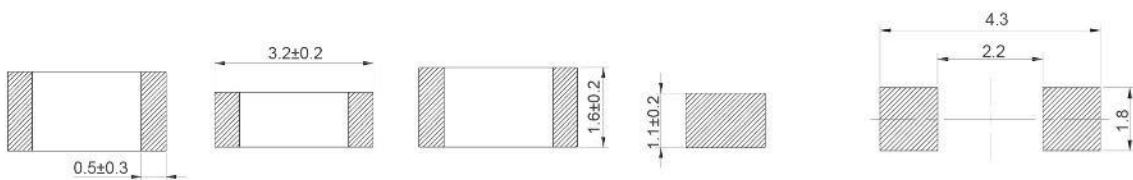
Typical Electrical Characteristics



FBHA Series
Chip Ferrite Bead High Current Type
1206 Size



Dimensions: [mm]



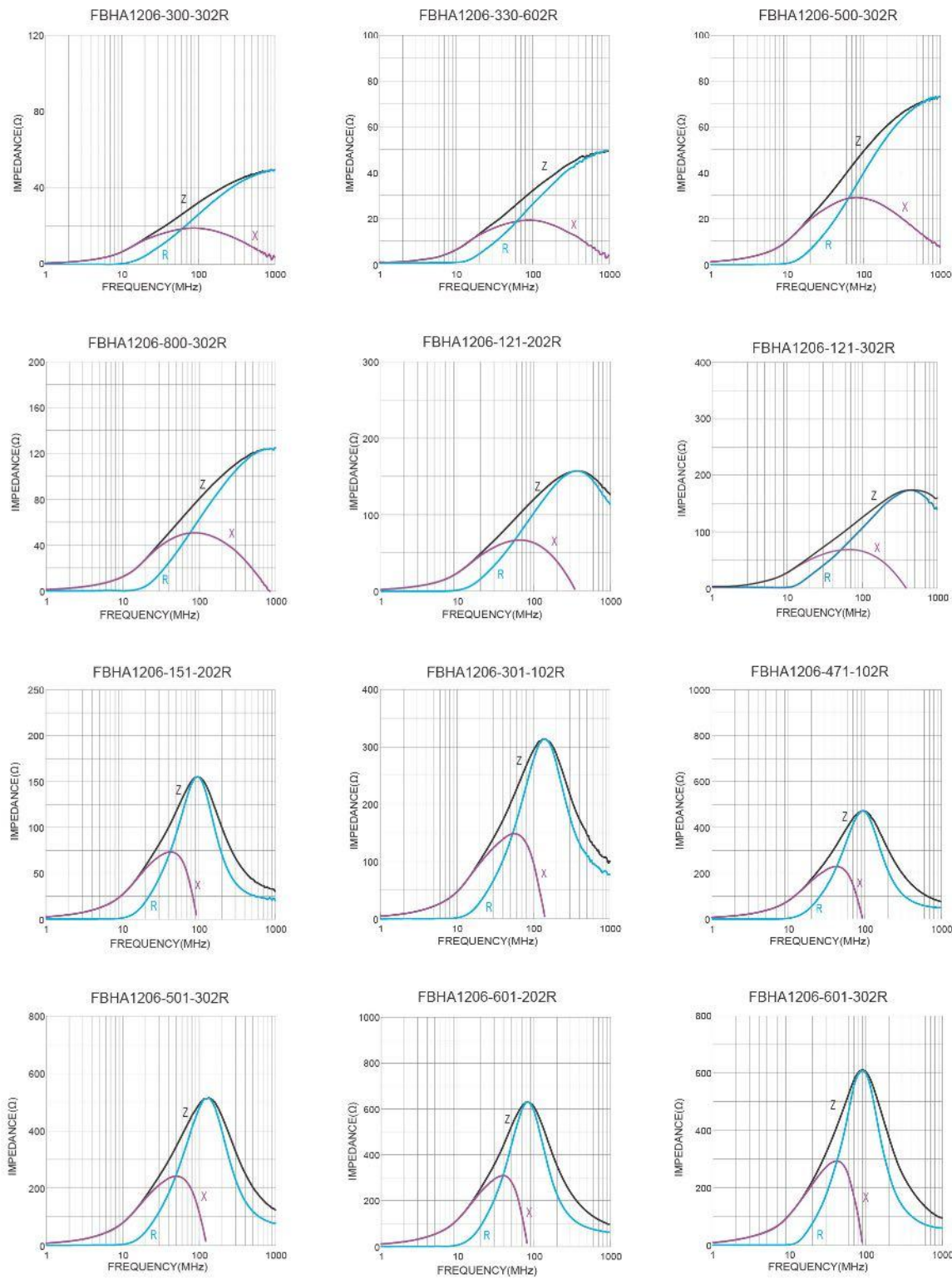
Land Pattern: [mm]

Electrical Properties

Part No	Impedance @ 100MHz (Ω)	Tolerance	DC Resistance (Ω)	Temperature Rise Current (mA)
FBHA1206-300-302R	30	±25 %	0.04	3000
FBHA1206-330-602R	33	±25 %	0.01	6000
FBHA1206-500-302R	50	±25 %	0.04	3000
FBHA1206-800-302R	80	±25 %	0.04	3000
FBHA1206-121-202R	120	±25 %	0.10	2000
FBHA1206-121-302R	120	±25 %	0.03	3000
FBHA1206-151-202R	150	±25 %	0.10	2000
FBHA1206-301-102R	300	±25 %	0.20	1000
FBHA1206-471-102R	470	±25 %	0.20	1000
FBHA1206-501-302R	500	±25 %	0.04	3000
FBHA1206-601-202R	600	±25 %	0.10	2000
FBHA1206-601-302R	600	±25 %	0.04	3000

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

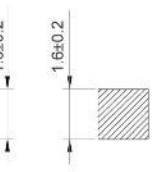
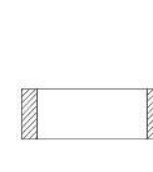
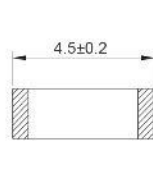
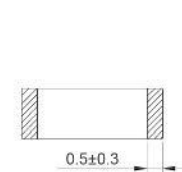
Typical Electrical Characteristics



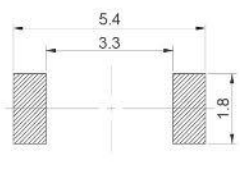
FBHA Series
Chip Ferrite Bead High Current Type
1806 Size



Dimensions: [mm]



Land Pattern: [mm]

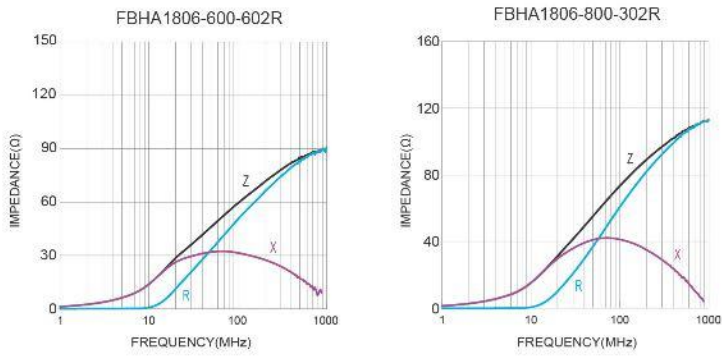


Electrical Properties

Part No	Impedance @ 100MHz (Ω)	Tolerance	DC Resistance (Ω)	Temperature Rise Current (mA)
FBHA1806-600-602R	60	±25%	0.01	6000
FBHA1806-800-302R	80	±25%	0.04	3000

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

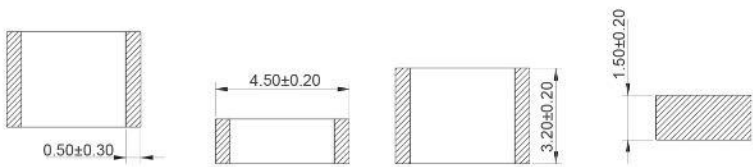
Typical Electrical Characteristics



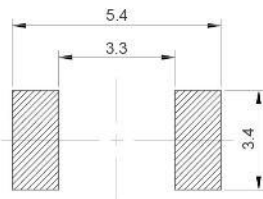
FBHA Series
Chip Ferrite Bead High Current Type
1812 Size



Dimensions: [mm]



Land Pattern: [mm]

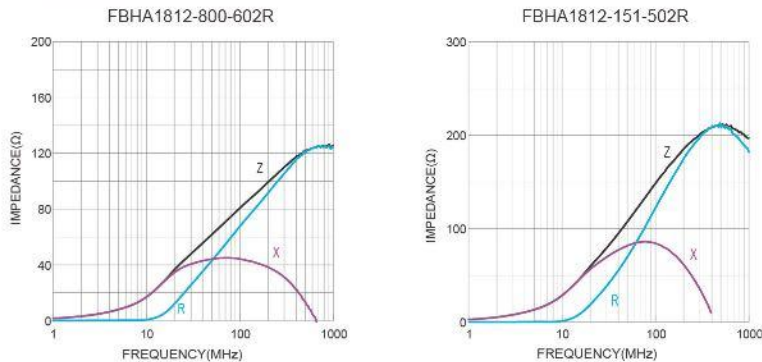


Electrical Properties

Part No	Impedance @ 100MHz (Ω)	Tolerance	DC Resistance (Ω)	Temperature Rise Current (mA)
FBHA1812-800-602R	80	±25 %	0.01	6000
FBHA1812-151-502R	150	±25 %	0.02	5000

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



ACMA Series
Common Mode Filters
For Automotive Signal Line

FEATURES

- Compact products, whose characteristics are equivalent to that of conventional products
- Common mode filters for Signal Line
- Operating temperature range: -55 to +150°C
- AEC-Q200 qualified

APPLICATION

- CAN-BUS, FlexRay system



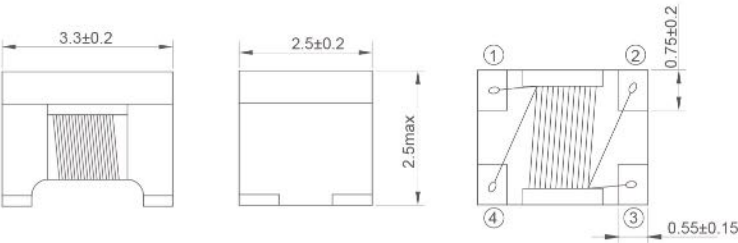
ACMA Series

Common Mode Filters For Automotive Signal Line

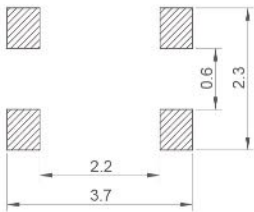
3225 Size



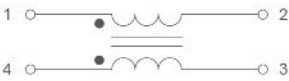
Dimensions: [mm]



Land Pattern: [mm]



Schematic

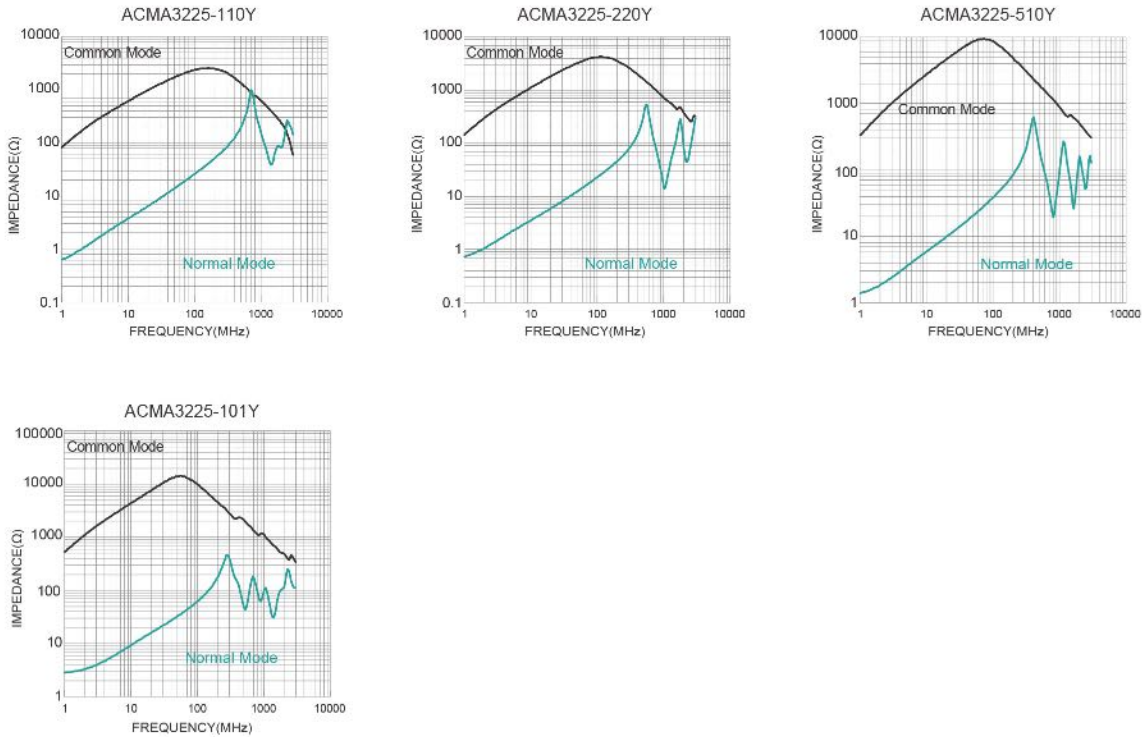


Electrical Properties

Part No	Z @ 10 MHz		L @ 100kHz/0.1V (μH)	Tol.	I _R Max. (mA)	R _{DC} Max. (Ω)	V _{DC} (Volts)	IR (MΩ)
	Min. (Ω)	Typ. (Ω)						
ACMA3225-110Y	300	550	11	+50/-30%	300	0.4	80	10
ACMA3225-220Y	500	1100	22	+50/-30%	250	0.5	80	10
ACMA3225-510Y	1000	2600	51	+50/-30%	200	0.7	80	10
ACMA3225-101Y	2200	5100	100	+50/-30%	150	1.5	80	10

I_R efering to 20K self-heating above ambient temperature

Typical Electrical Characteristics



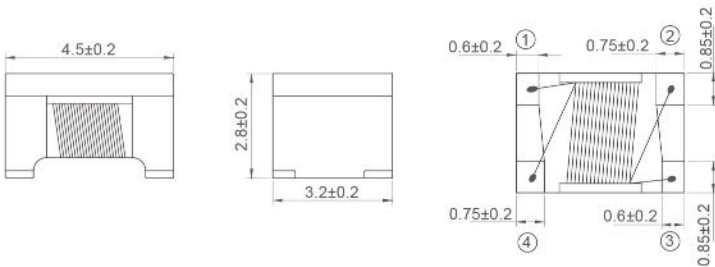
ACMA Series

Common Mode Filters For Automotive Signal Line

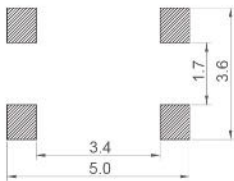
4532 Size



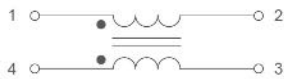
Dimensions: [mm]



Land Pattern: [mm]



Schematic

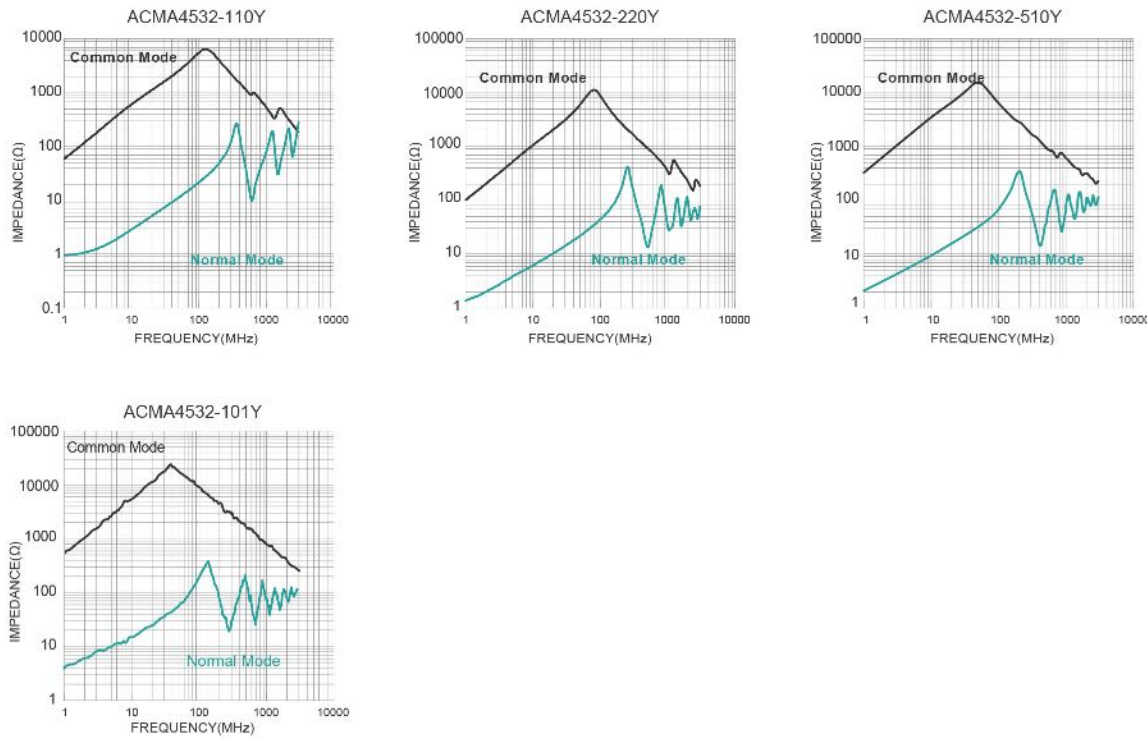


Electrical Properties

Part No	Z @ 10 MHz		L @ 100kHz/0.1V (μH)	Tol.	I _a Max. (mA)	R _{DC} Max. (Ω)	V _{DC} (Volts)	IR (MΩ)
	Min. (Ω)	Typ. (Ω)						
ACMA4532-110Y	300	600	11	+50%/-30%	360	0.6	50	10
ACMA4532-220Y	500	1200	22	+50%/-30%	310	1.0	50	10
ACMA4532-510Y	1000	2800	51	+50%/-30%	230	1.0	50	10
ACMA4532-101Y	2000	5800	100	+50%/-30%	200	2.0	50	10

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=20°C

Typical Electrical Characteristics



ACMV Series
Wire-wound Common
Mode Choke

FEATURES

- Suitable for lead-free reflow soldering
- Operating temperature-40℃~150℃
- AEC-Q200 qualified

APPLICATION

- CAN-FD
- Automotive CAN-BUS, FlexRay system
- Industrial field bus systems



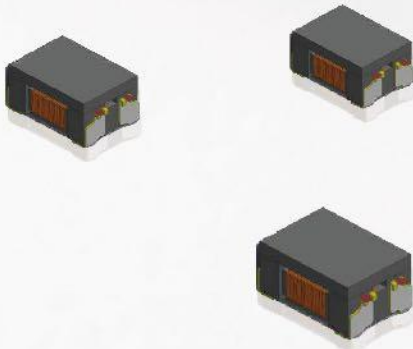
ACMV3225

P34



ACMV4532

P36



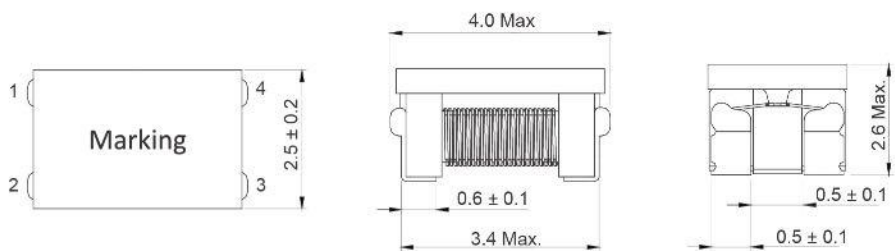
ACMV Series

Wire-wound Common Mode Choke

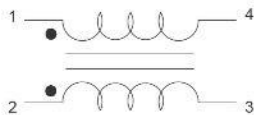
3225 Size



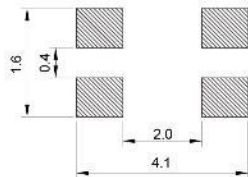
► Dimensions: [mm]



► Schematic



► Land Pattern: [mm]

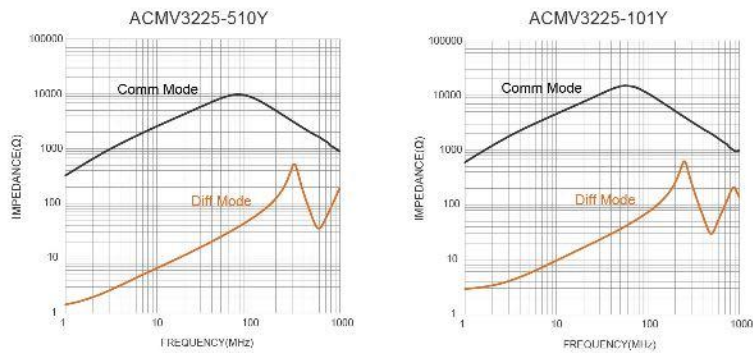


► Electrical Properties

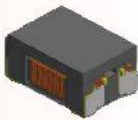
Part No	Common Mode Impedance @ 10 MHz/0.1V (Ω)		Common Mode Inductance @ 100kHz/0.1V +50%/-30% (μH)	DCR Max. (Ω)	Rated Current Max. (mA)	Rated Voltage Max. (Vdc)	Insulation Resistance Min. (MΩ)
	Min.	Typ.					
ACMV3225-510Y	1000	2600	51	0.7	200	80	10
ACMV3225-101Y	2200	5100	100	1.5	150	80	10

All test data is referenced to 25 °C ambient.

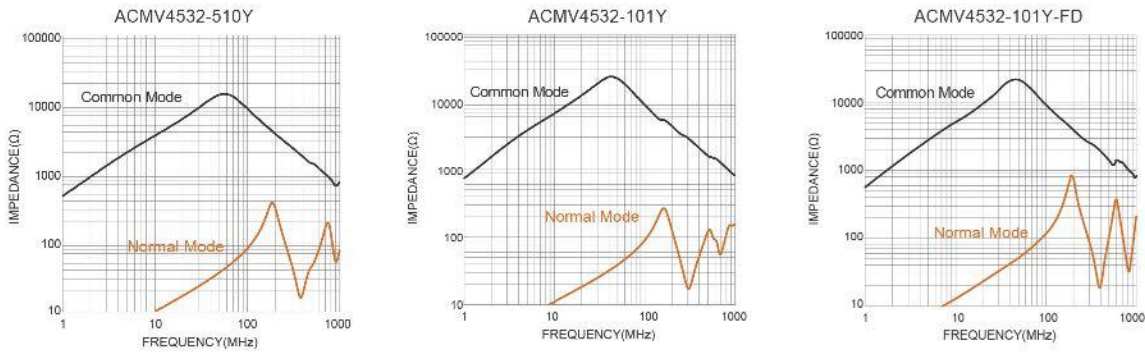
► Typical Electrical Characteristics



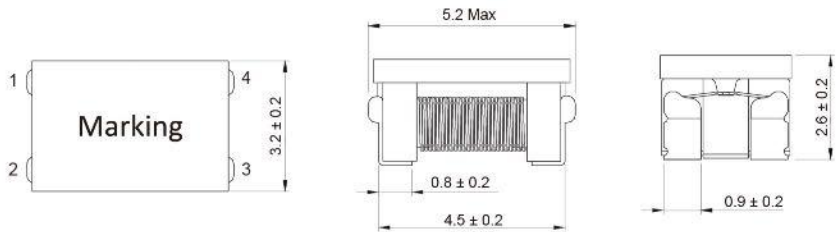
ACMV Series
Wire-wound Common Mode Choke
4532 Size



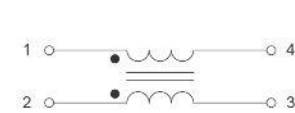
Typical Electrical Characteristics



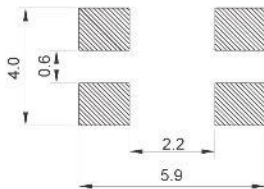
Dimensions: [mm]



Schematic



Land Pattern: [mm]



Electrical Properties

Part No	Common Mode Impedance @ 10 MHz/0.1V (Ω)		Common Mode Inductance @ 100kHz/0.1V +50%/-30% (μH)	Tolerance	DCR Max. (Ω)	Rated Current Max. (mA)	Rated Voltage Max. (Vdc)	Insulation Resistance Min. (MΩ)
	Min.	Typ.						
ACMV4532-510Y	1000	3000	51	+50%/-30%	1.0	200	80	10
ACMV4532-101Y	2000	6000	100	+50%/-30%	2.0	150	80	10
ACMV4532-101Y-FD	2000	5000	100	±40%	2.0	150	80	10

All test data is referenced to 25°C ambient.

BCMA Series
Common Mode
Filters For Automotive
Signal Line/Power Line



FEATURES

- Impedance variation: Extensive lineup are available for compatibility with various usages
- Common mode filters for Signal Line and Power Line
- Operating temperature range:-40 to +125°C
- AEC-Q200 qualified

APPLICATION

- Radiated noise suppression for car multimedia interfaces (MOST, USB2.0, IDB-1394, etc.)



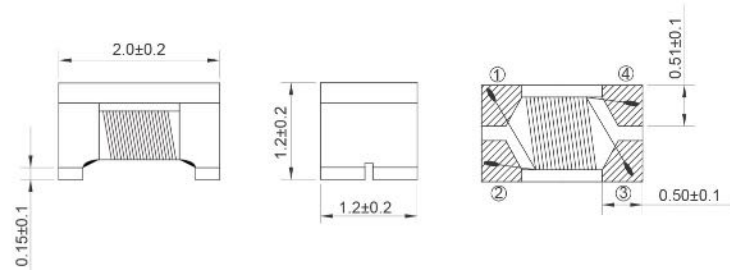
BCMA Series

Common Mode Filters For Automotive Signal Line

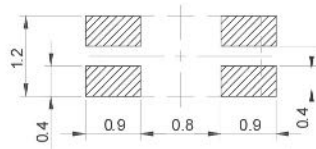
2012 Size



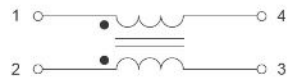
Dimensions: [mm]



Land Pattern: [mm]



Schematic

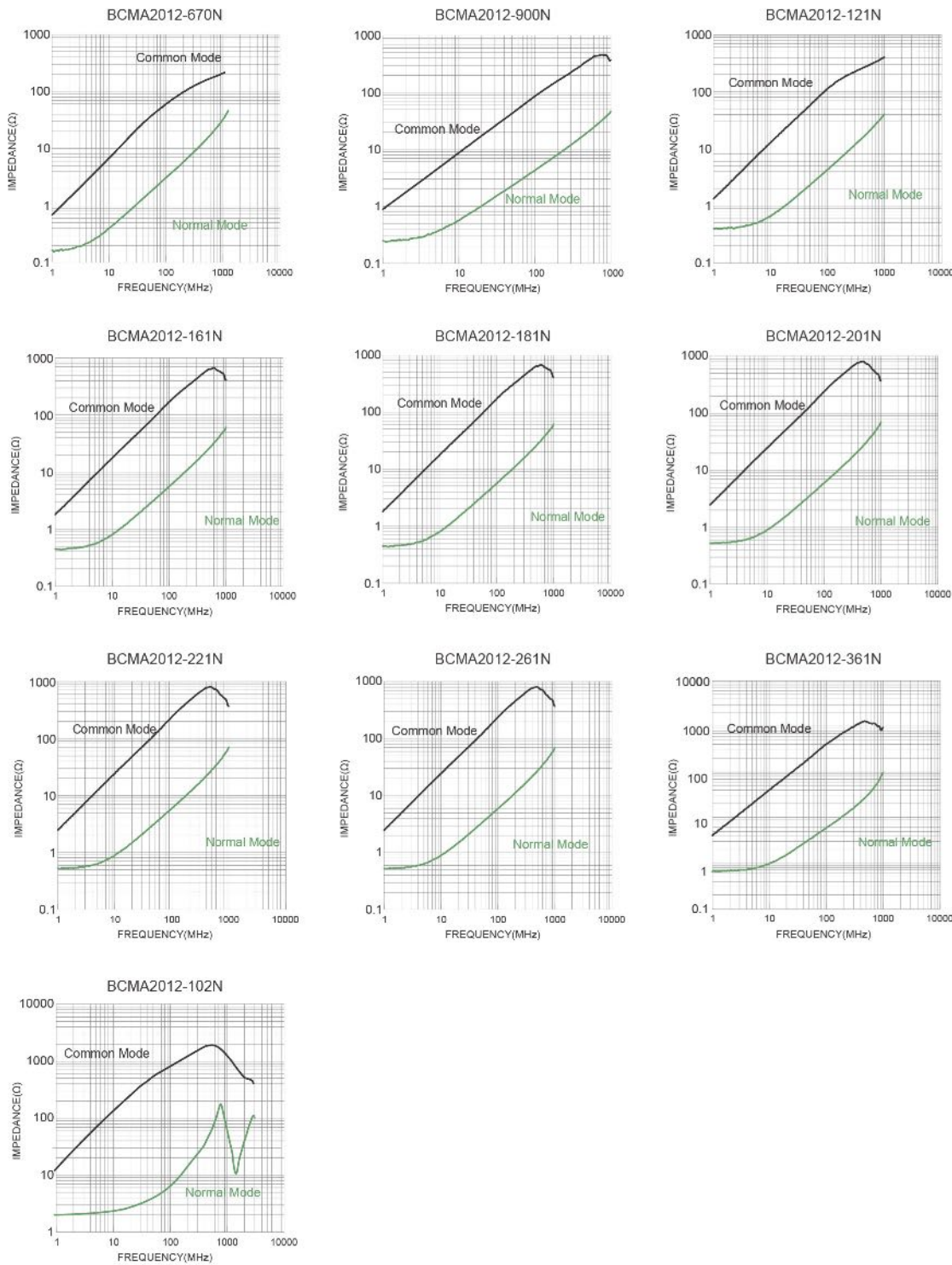


Electrical Properties

Part No	Impedance @ 100MHz (Ω)	Tolerance	Temperature Rise Current Max. (mA)	DC Resistance Max. (Ω)	Rated voltage Max. (Volts)	Insulation Resistance Min. (MΩ)
BCMA2012-670N	67	±25%	400	0.25	50	10
BCMA2012-900N	90	±25%	400	0.30	50	10
BCMA2012-121N	120	±25%	400	0.30	50	10
BCMA2012-161N	160	±25%	350	0.35	50	10
BCMA2012-181N	180	±25%	350	0.35	50	10
BCMA2012-201N	200	±25%	300	0.40	50	10
BCMA2012-221N	220	±25%	300	0.40	50	10
BCMA2012-261N	260	±25%	300	0.40	50	10
BCMA2012-361N	360	±25%	300	0.50	50	10
BCMA2012-102N	1000	±25%	100	1.30	50	10

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=20°C

Typical Electrical Characteristics



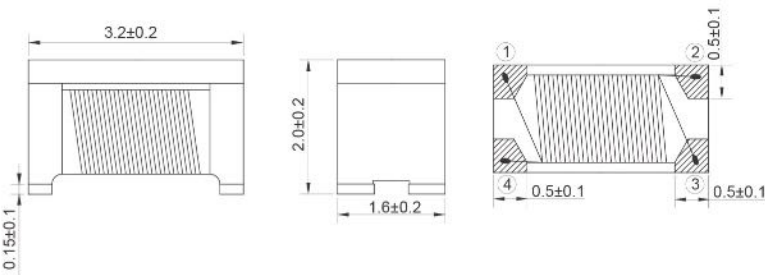
BCMA Series

Common Mode Filters For Automotive Signal Line

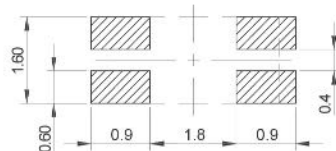
3216 Size



Dimensions: [mm]



Land Pattern: [mm]

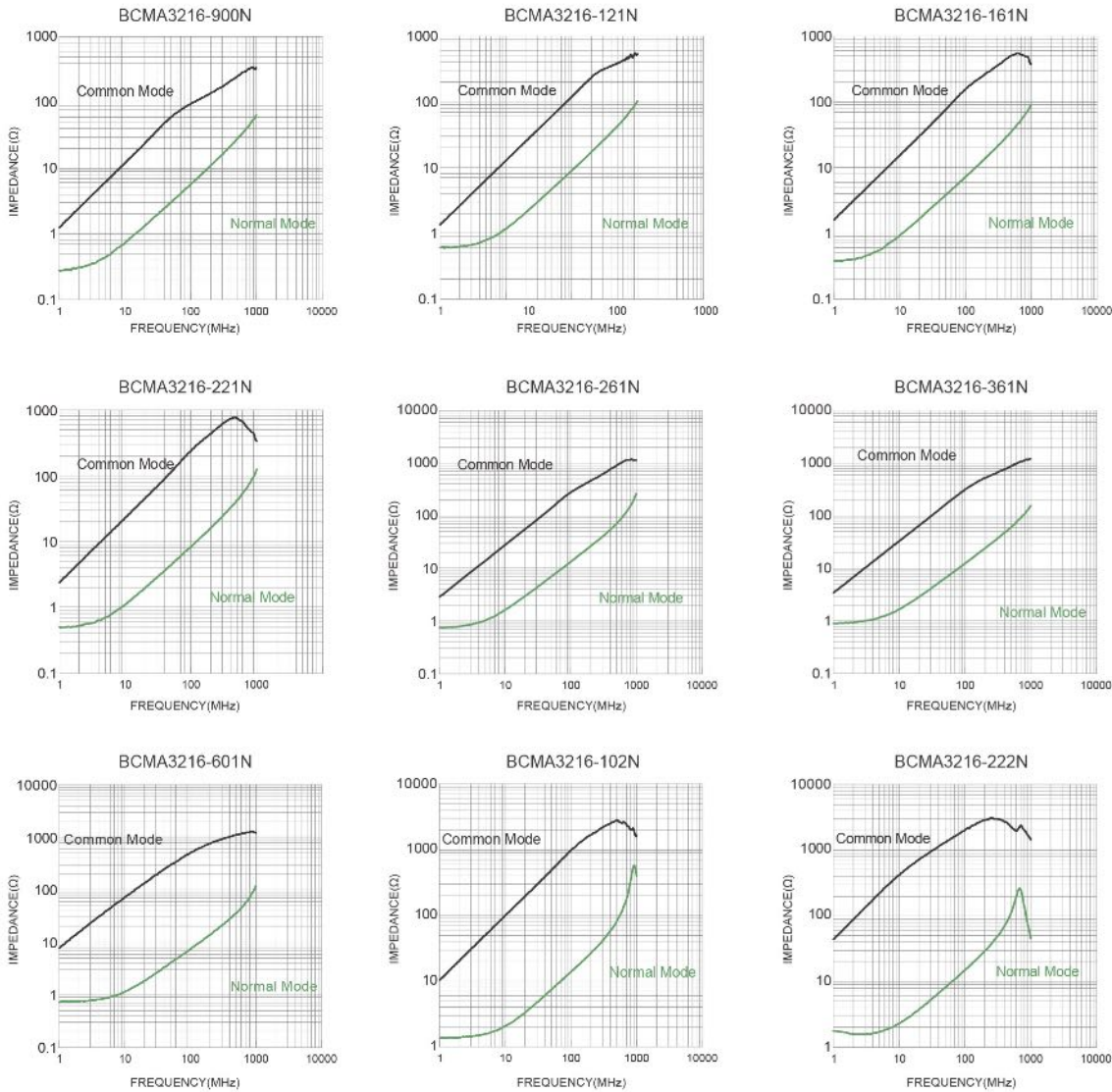


Electrical Properties

Part No	Impedance @ 100MHz (Ω)	Temperature Rise Current Max. (mA)	DC Resistance Max. (Ω)	Rated voltage Max. (Volts)	Insulation Resistance Min. (MΩ)
BCMA3216-900N	90	400	0.30	50	10
BCMA3216-121N	120	350	0.30	50	10
BCMA3216-161N	160	350	0.40	50	10
BCMA3216-221N	220	300	0.45	50	10
BCMA3216-261N	260	300	0.50	50	10
BCMA3216-361N	360	300	0.60	50	10
BCMA3216-601N	600	300	0.80	50	10
BCMA3216-102N	1000	200	1.00	50	10
BCMA3216-222N	2200	200	1.20	50	10

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=20°C

Typical Electrical Characteristics



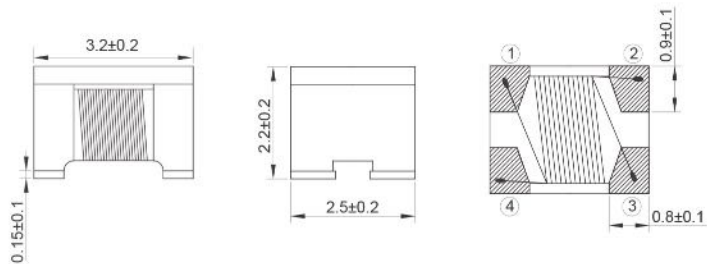
BCMA Series

Common Mode Filters For Automotive Signal Line

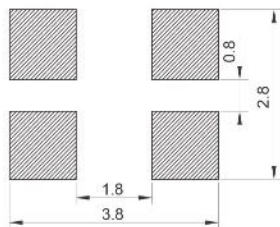
3225 Size



Dimensions: [mm]



Land Pattern: [mm]

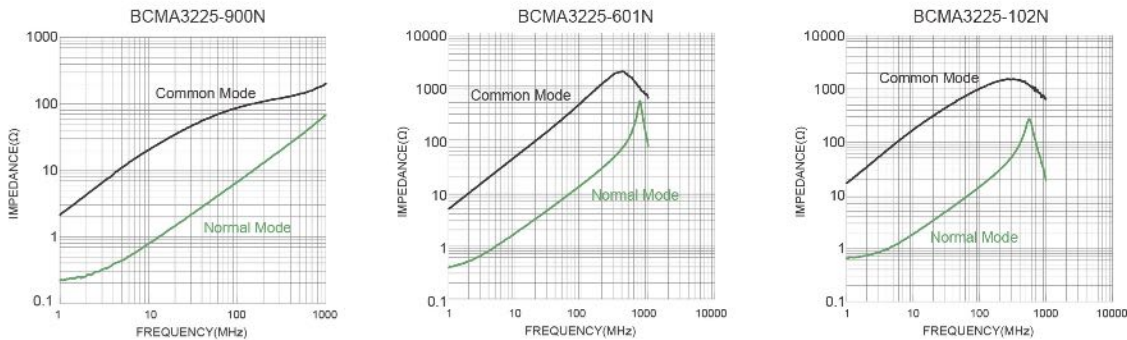


Electrical Properties

Part No	Impedance @ 100MHz (Ω)	Temperature Rise Current Max. (mA)	DC Resistance Max. (Ω)	Rated voltage Max. (Volts)	Insulation Resistance Min. (MΩ)
BCMA3225-900N	90	1000	0.05	50	10
BCMA3225-601N	600	1000	0.20	50	10
BCMA3225-102N	1000	400	0.30	50	10

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=20°C

Typical Electrical Characteristics



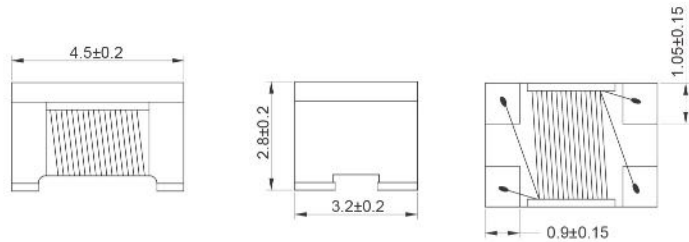
BCMA Series

Common Mode Filters For Automotive Signal Line

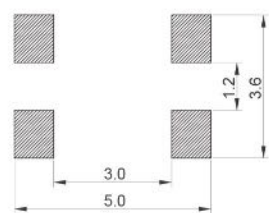
4532 Size



Dimensions: [mm]



Land Pattern: [mm]

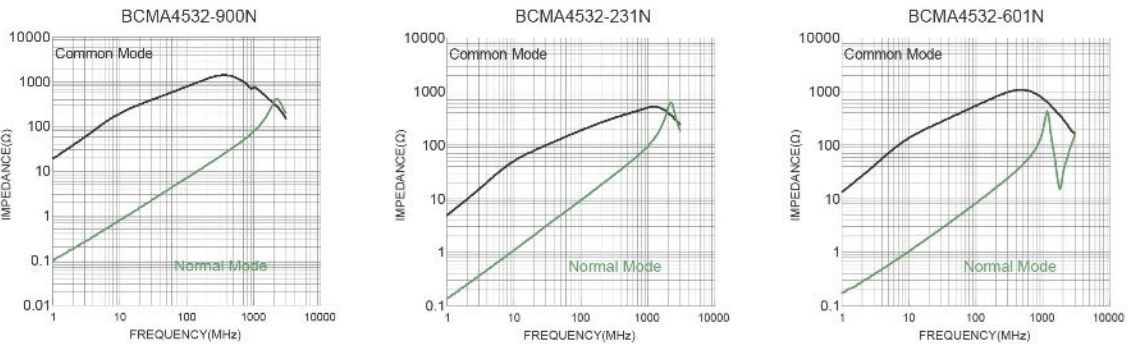


Electrical Properties

Part No	Impedance @ 100MHz Min. (Ω)	Impedance @ 100MHz Typ. (Ω)	Temperature Rise Current Max. (mA)	DC Resistance Max. (Ω)	Rated voltage Max. (Volts)	Insulation Resistance Min. (MΩ)
BCMA4532-900N	68	90	4000	0.05	50	10
BCMA4532-231N	173	230	3500	0.05	50	10
BCMA4532-601N	450	600	2500	0.06	50	10

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=20°C

Typical Electrical Characteristics



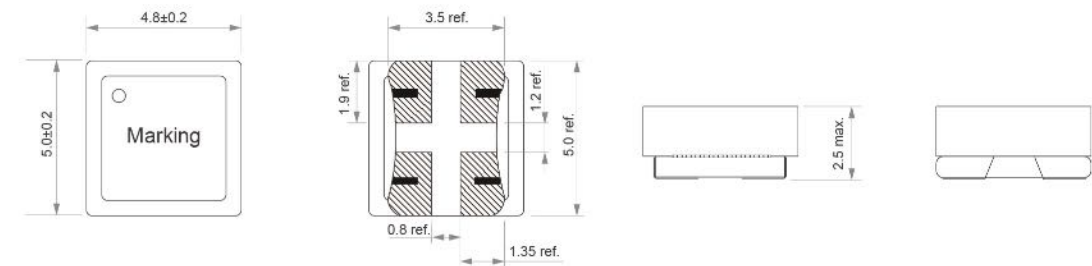
BCMA Series

Common Mode Filters For Automotive Signal Line/Power Line

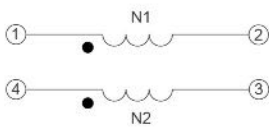
5020 Size



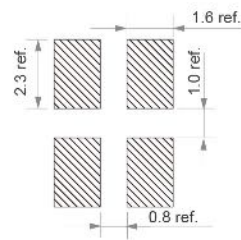
Dimensions: [mm]



Schematic



Land Pattern: [mm]

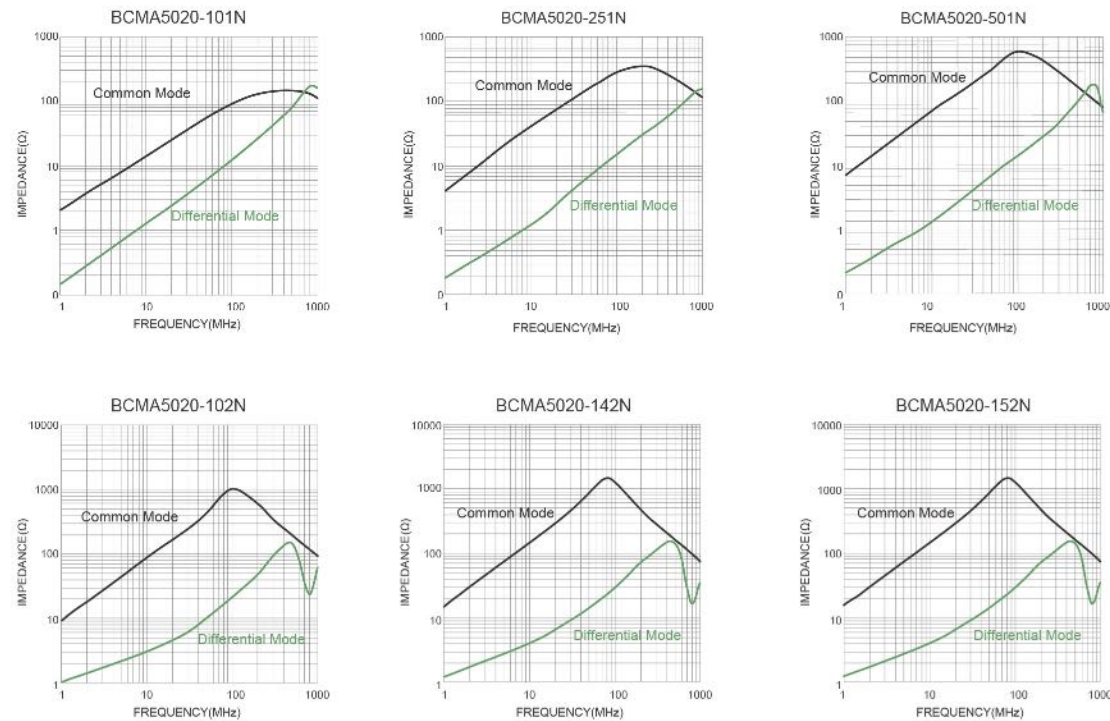


Electrical Properties

Part No	Impedance @100MHz Typ. (Ω)	Temperature Rise Current Max. (A)	DC Resistance Max. (mΩ)	Rated Voltage Max. (Volts)	Insulation Resistance Min. (MΩ)
BCMA5020-101N	100	6.0	13	50	10
BCMA5020-251N	250	5.0	20	50	10
BCMA5020-501N	500	4.0	27	50	10
BCMA5020-102N	1000	2.0	34	50	10
BCMA5020-142N	1400	1.5	56	50	10
BCMA5020-152N	1500	1.5	56	50	10

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



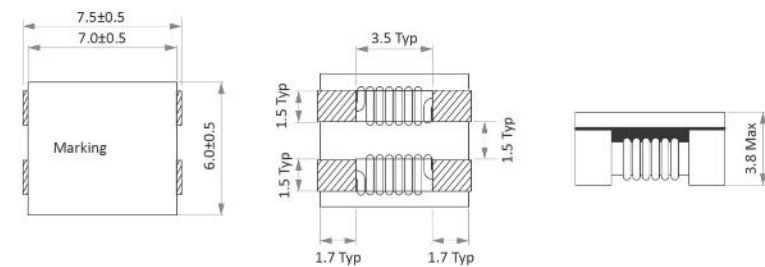
BCMA Series

Common Mode Filters For Automotive Power Line

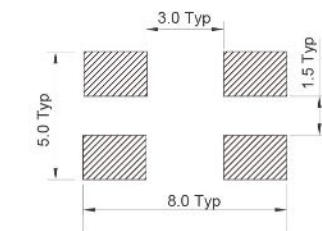
7060 Size



Dimensions: [mm]



Land Pattern: [mm]

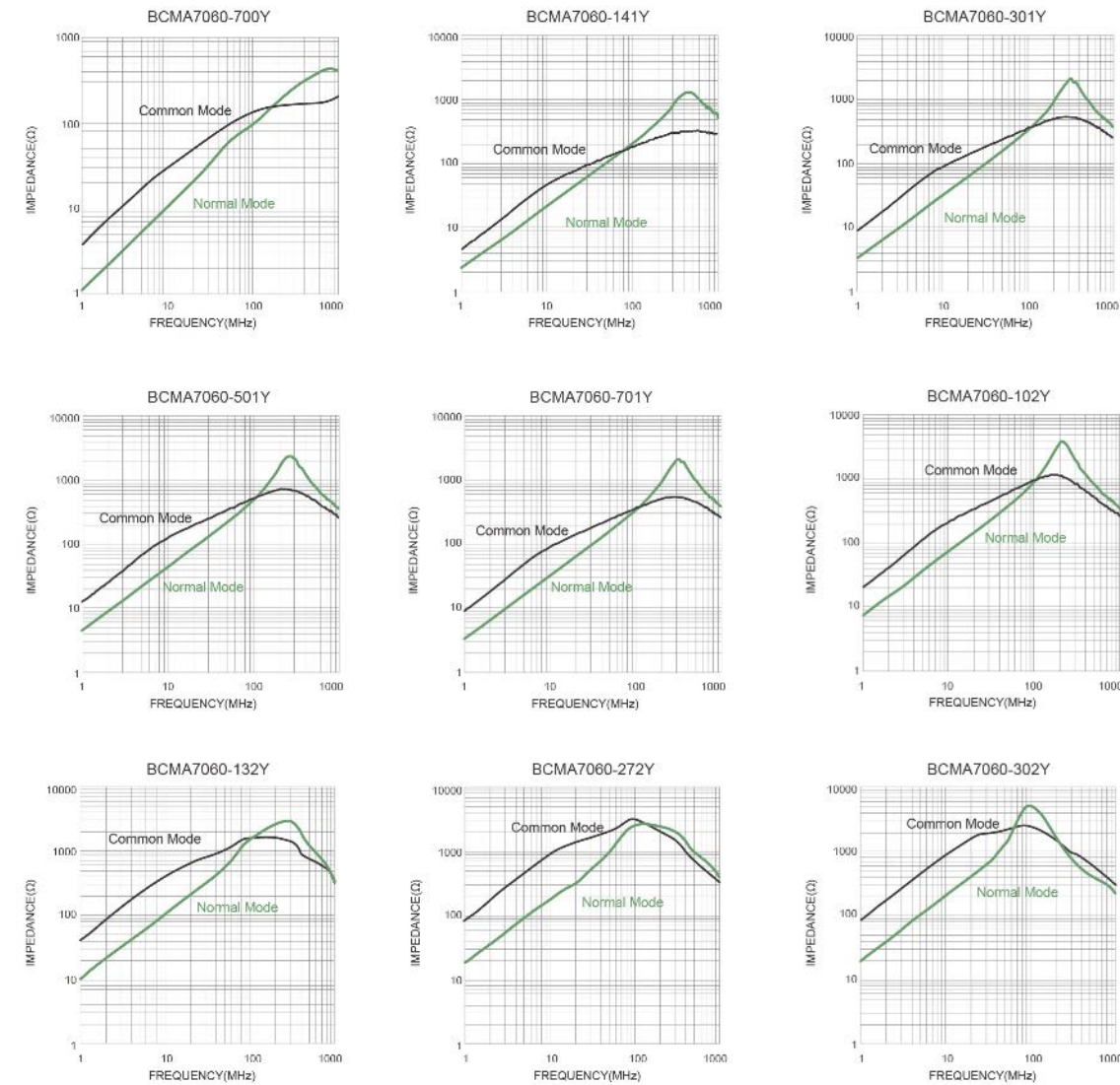


Electrical Properties

Part No	Impedance @ 100MHz Min. (Ω)	Impedance @ 100MHz Typ. (Ω)	Temperature Rise Current Max. (A)	DC Resistance Max. (mΩ)	Rated voltage Max. (Volts)	Insulation Resistance Min. (MΩ)
BCMA7060-700Y	40	70	15	5	80	10
BCMA7060-141Y	100	140	9.0	10	80	10
BCMA7060-301Y	225	300	5.0	10	80	10
BCMA7060-501Y	400	500	5.0	10	80	10
BCMA7060-701Y	500	700	4.0	15	80	10
BCMA7060-102Y	800	1000	3.0	17	80	10
BCMA7060-132Y	910	1300	3.0	20	80	10
BCMA7060-272Y	2000	2700	1.0	63	80	10
BCMA7060-302Y	2500	3000	0.9	75	80	10

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



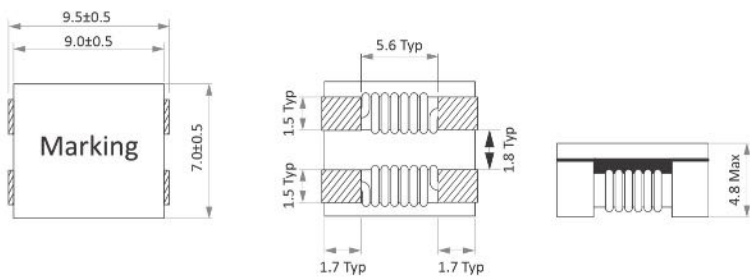
BCMA Series

Common Mode Filters For Automotive Power Line

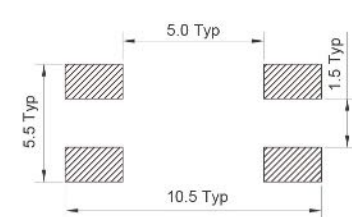
9070 Size



Dimensions: [mm]



Land Pattern: [mm]

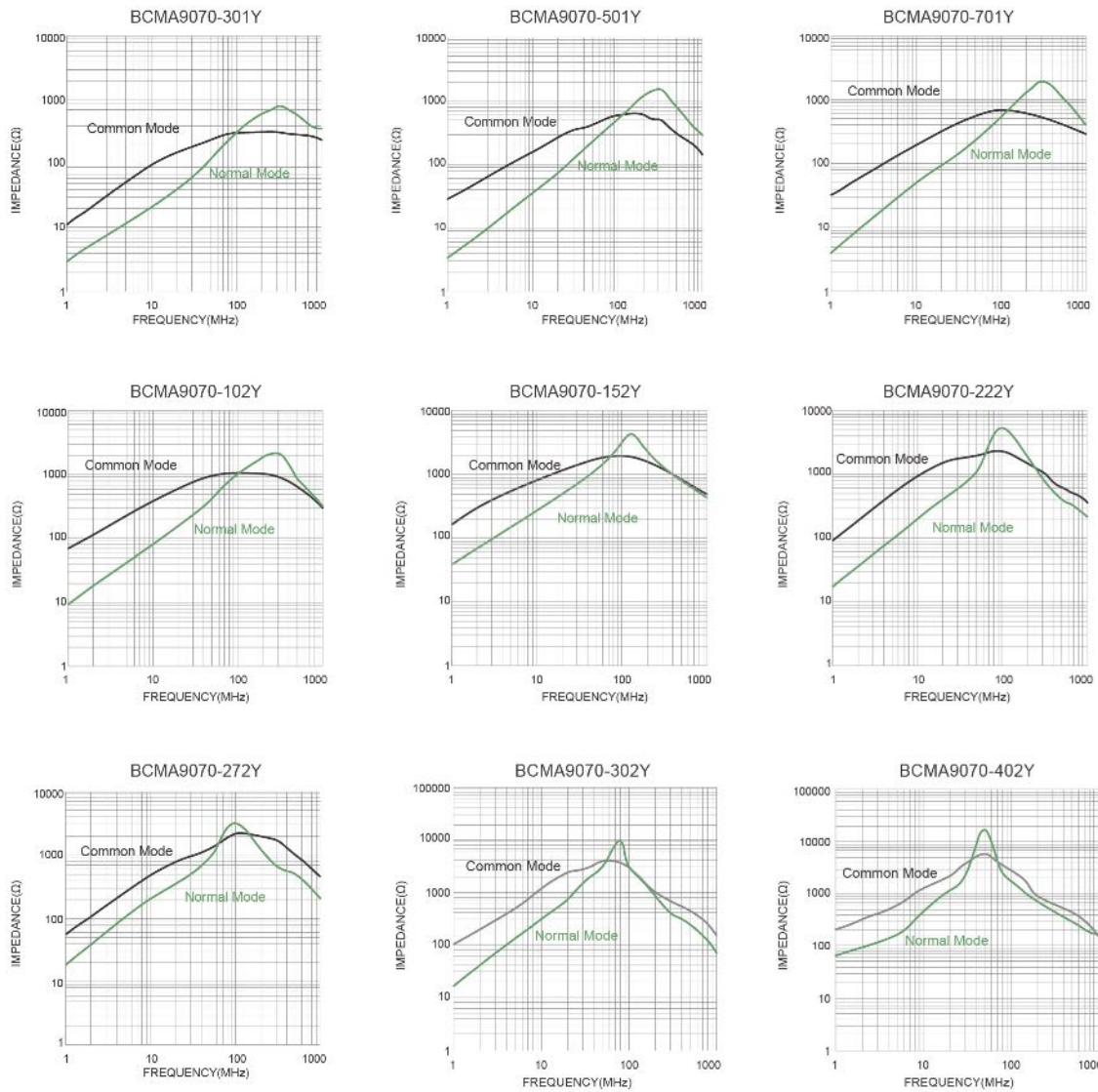


Electrical Properties

Part No	Impedance Min. (Ω)	Impedance Typ. (Ω)	Test Frequency @0.1V	Temperature Rise Current Max. (A)	DC Resistance Max. (mΩ)	Rated voltage Max. (Volts)	Insulation Resistance Min. (MΩ)
BCMA9070-301Y	225	300	100MHz	6.0	6	80	10
BCMA9070-501Y	450	500	100MHz	5.5	8	80	10
BCMA9070-701Y	500	700	100MHz	5.0	10	80	10
BCMA9070-102Y	750	1000	100MHz	4.0	13	80	10
BCMA9070-152Y	1000	1500	100MHz	4.5	15	80	10
BCMA9070-222Y	1700	2200	20~50MHz	3.0	50	80	10
BCMA9070-272Y	2000	2700	20~50MHz	3.5	32	80	10
BCMA9070-302Y	2500	3000	20~50MHz	1.9	85	80	10
BCMA9070-402Y	3300	4000	20~50MHz	1.8	100	80	10

Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



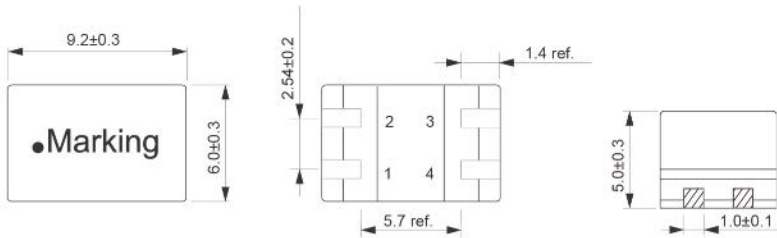
BCMA Series

SMD Common Mode Line Filter

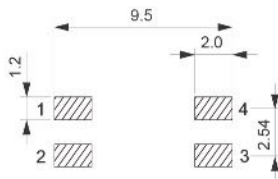
9250 Size



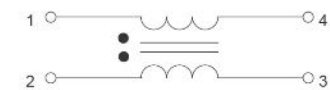
► Dimensions: [mm]



► Land Pattern: [mm]



► Schematic

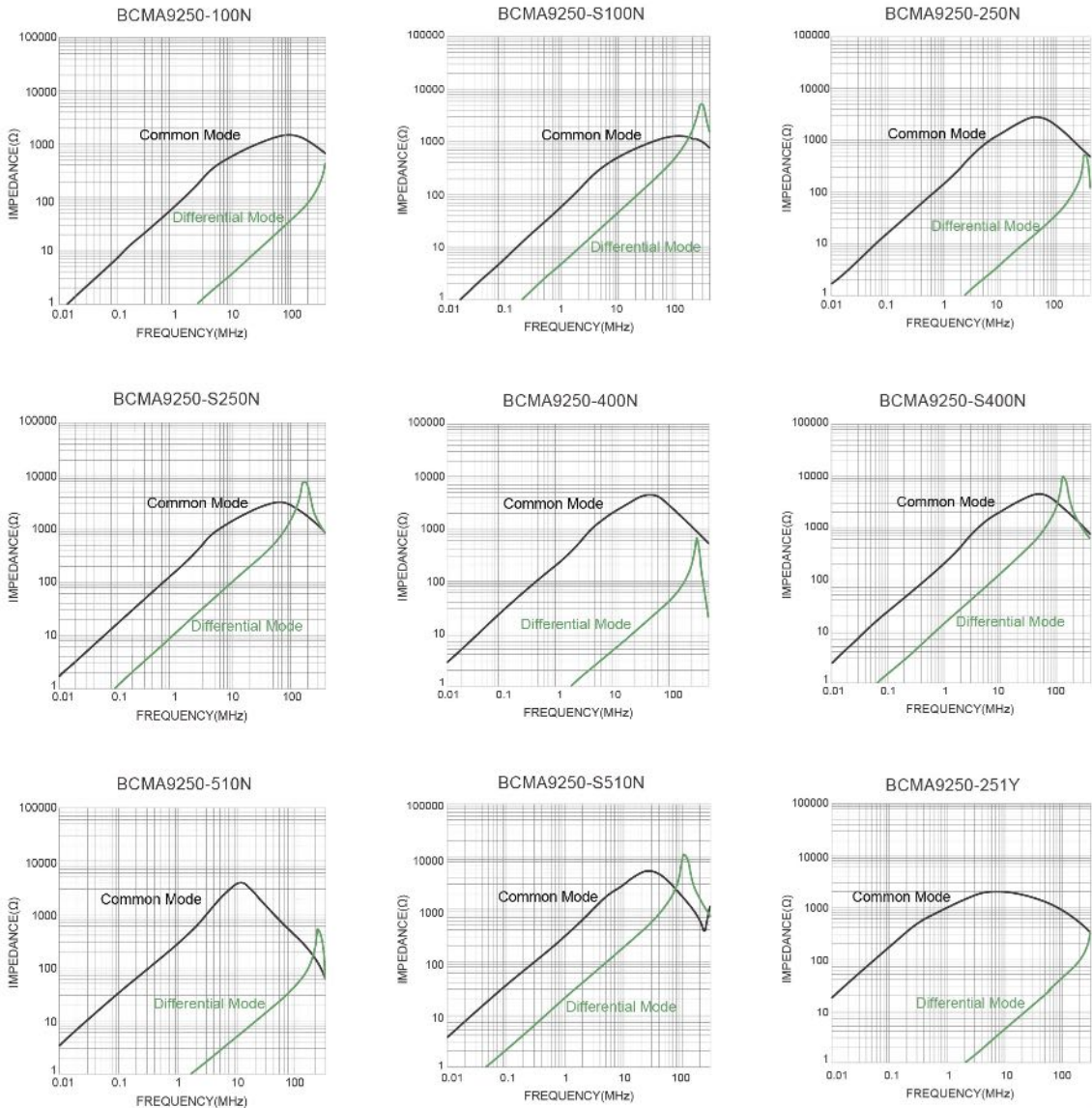


► Electrical Properties

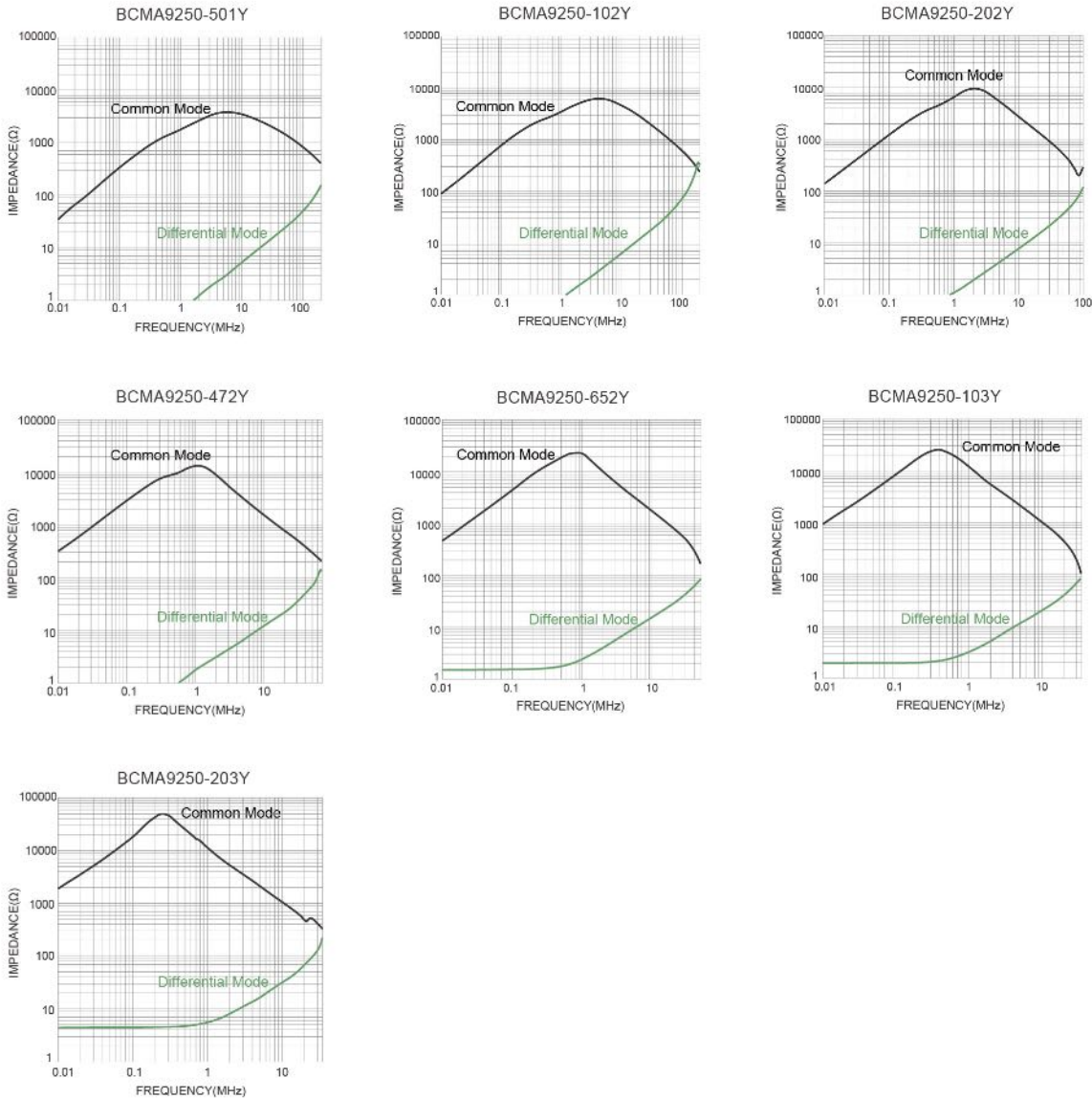
Part No	Inductance (μH)	Tolerance	Temperature Rise Current Max. (A)	DC Resistance Max. (Ω)	Rated Voltage (Volts)	Insulation Voltage (Vac)	Test Conditions
BCMA9250-100N	10	±30%	1.6	0.08	80	500	1KHz/0.1V
BCMA9250-S100N	10	±30%	1.6	0.08	80	500	1KHz/0.1V
BCMA9250-250N	25	±30%	1.0	0.12	80	500	1KHz/0.1V
BCMA9250-S250N	25	±30%	1.0	0.12	80	500	1KHz/0.1V
BCMA9250-400N	40	±30%	0.9	0.25	80	500	1KHz/0.1V
BCMA9250-S400N	40	±30%	0.9	0.25	80	500	1KHz/0.1V
BCMA9250-510N	51	±30%	1.0	0.16	80	500	1KHz/0.1V
BCMA9250-S510N	51	±30%	1.0	0.16	80	500	1KHz/0.1V
BCMA9250-251Y	250	±50%	1.2	0.13	80	500	100KHz/5mV
BCMA9250-501Y	500	±50%	1.0	0.15	80	500	100KHz/5mV
BCMA9250-102Y	1000	±50%	0.8	0.207	80	500	100KHz/5mV

Part No	Inductance (μH)	Tolerance	Temperature Rise Current Max. (A)	DC Resistance Max. (Ω)	Rated Voltage (Volts)	Insulation Voltage (Vac)	Test Conditions
BCMA9250-202Y	2000	±50%	0.60	0.42	80	500	100KHz/5mV
BCMA9250-472Y	4700	±50%	0.50	0.75	80	500	100KHz/5mV
BCMA9250-652Y	6500	±50%	0.40	0.95	80	500	10KHz/50mV
BCMA9250-103Y	10000	±50%	0.35	1.20	80	500	10KHz/50mV
BCMA9250-203Y	20000	±50%	0.20	2.60	80	500	10KHz/50mV

► Typical Electrical Characteristics



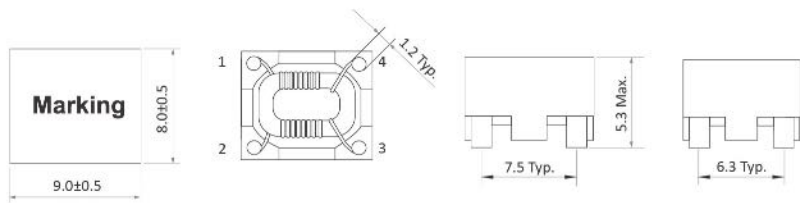
Typical Electrical Characteristics



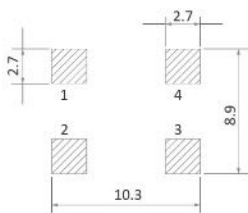
BCMA Series
Common Mode Filters For Automotive Signal Line
1009 Size



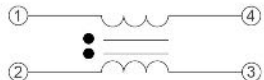
Dimensions: [mm]



Land Pattern: [mm]



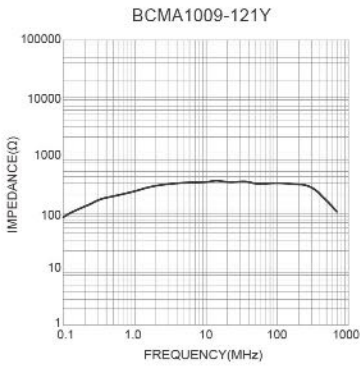
Schematic



Electrical Properties

Part No	Inductance @100KHz/0.1V (μH)	Tolerance	Impedance Max. (Ω)	Temperature Rise Current Max. (A)	DC Resistance Max. (mΩ)	Frequency (MHz)
BCMA1009-050Y	5	±50%	500	5.00	10	108
BCMA1009-090Y	9	±50%	800	3.50	11	105
BCMA1009-110Y	11	±50%	1000	2.50	30	100
BCMA1009-300Y	30	±50%	2200	1.40	60	60
BCMA1009-500Y	50	±50%	3200	0.50	96	22
BCMA1009-121Y	120	±40%	460	2.50	30	40
BCMA1009-151Y	150	±40%	480	3.50	13	10
BCMA1009-221Y	220	±40%	780	2.20	32	18
BCMA1009-251Y	250	±40%	970	2.00	40	15
BCMA1009-471Y	470	±40%	1750	1.60	70	12
BCMA1009-102Y	1000	±40%	3600	0.95	180	6.0
BCMA1009-222Y	2200	±40%	7500	0.75	300	4.0
BCMA1009-332Y	3300	±40%	8900	0.65	360	2.0
BCMA1009-392Y	3900	±40%	9600	0.52	540	2.0
BCMA1009-472Y	4700	±40%	13000	0.35	720	1.2

Typical Electrical Characteristics

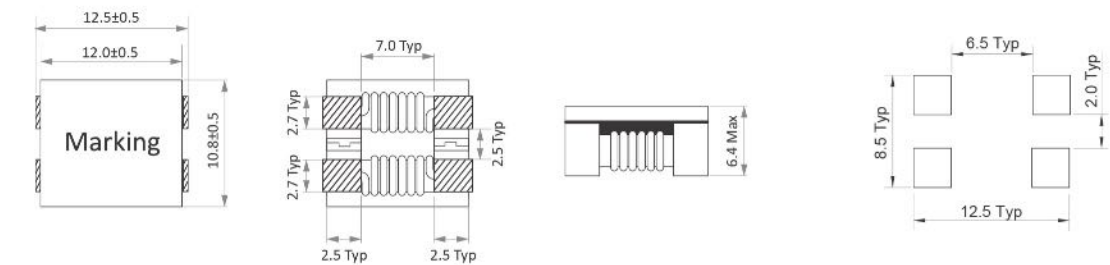


BCMA Series
Common Mode Filters For Automotive Power Line
1211 Size



Dimensions: [mm]

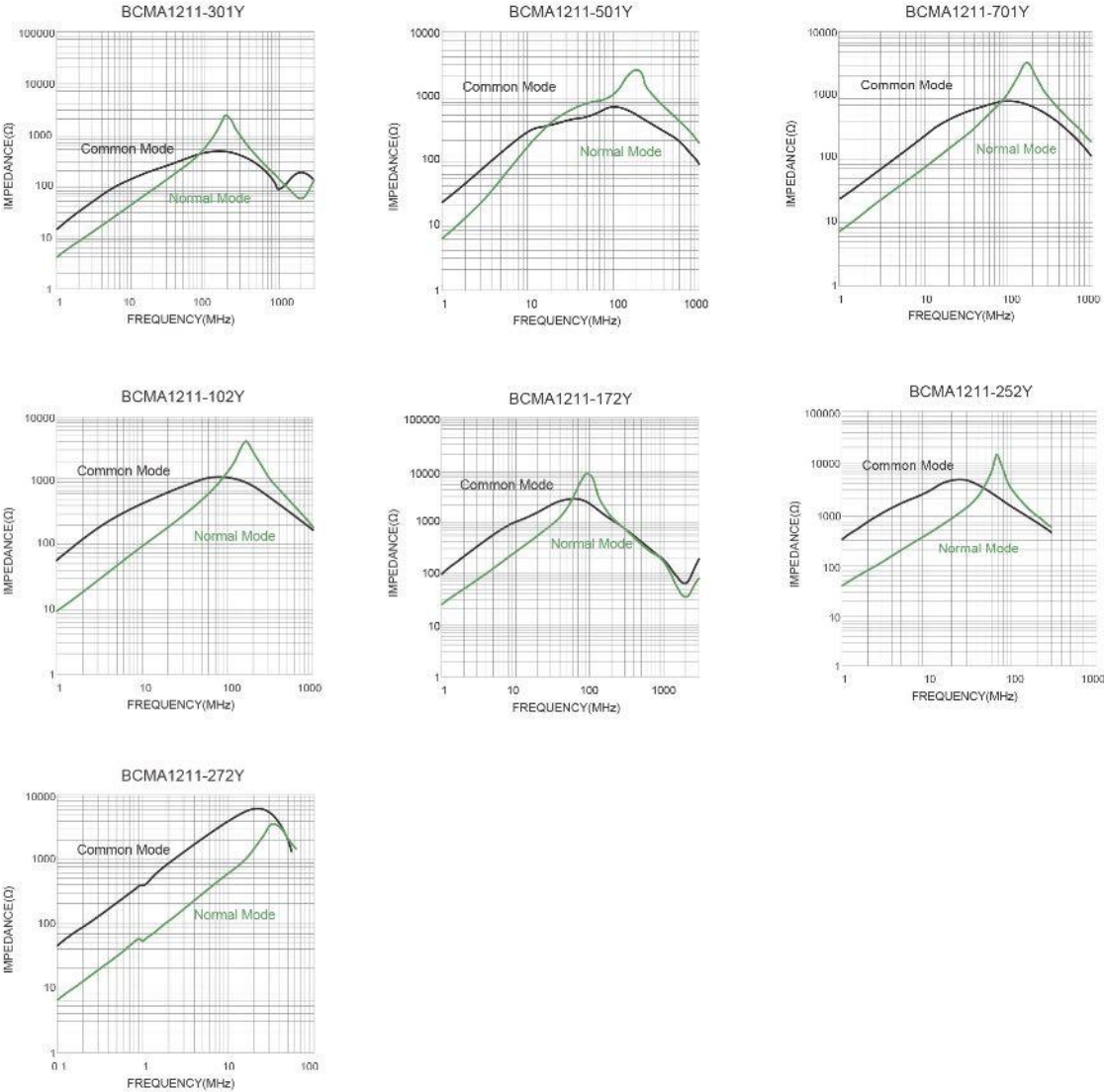
Land Pattern: [mm]



Electrical Properties

Part No	Impedance @100MHz Max. (Ω)	Impedance @100MHz Typ. (Ω)	Temperature Rise Current Max. (A)	DC Resistance Max. (mΩ)	Rated Voltage Max. (Volts)	Insulation Resistance Min. (MΩ)
BCMA1211-301Y	200	300	9.0	4.0	80	10
BCMA1211-501Y	300	500	8.0	5.5	80	10
BCMA1211-701Y	500	700	8.0	6.0	80	10
BCMA1211-102Y	750	1000	6.0	14	80	10
BCMA1211-172Y	1200	1700	4.8	12	80	10
BCMA1211-252Y	2200	2500	1.8	35	80	10
BCMA1211-272Y	2300	2700	1.5	50	80	10

Typical Electrical Characteristics



NRSA Series

SMD Power Inductors

For Automotive

FEATURES

- Magnetic shield type wound inductor for power circuits using a ferrite magnetic material
- High magnetic shield construction and compatible with high-density mounting
- Larger current and lower Rdc were achieved by optimizing the ferrite core figure
- Operating temperature: -55 to +125°C
- AEC-Q200 qualified

APPLICATION

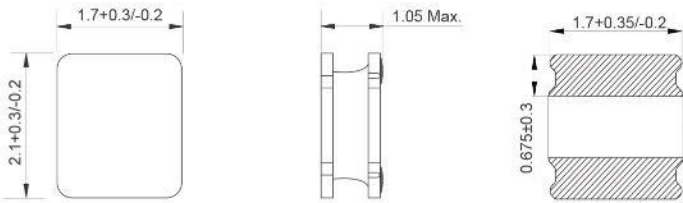
- Car navigation, car stereo and car accessories only



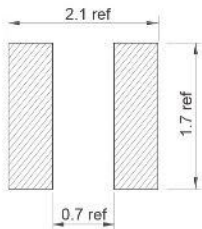
NRSA Series
SMD Power Inductors For Automotive
201610 Size



Dimensions: [mm]



Land Pattern: [mm]

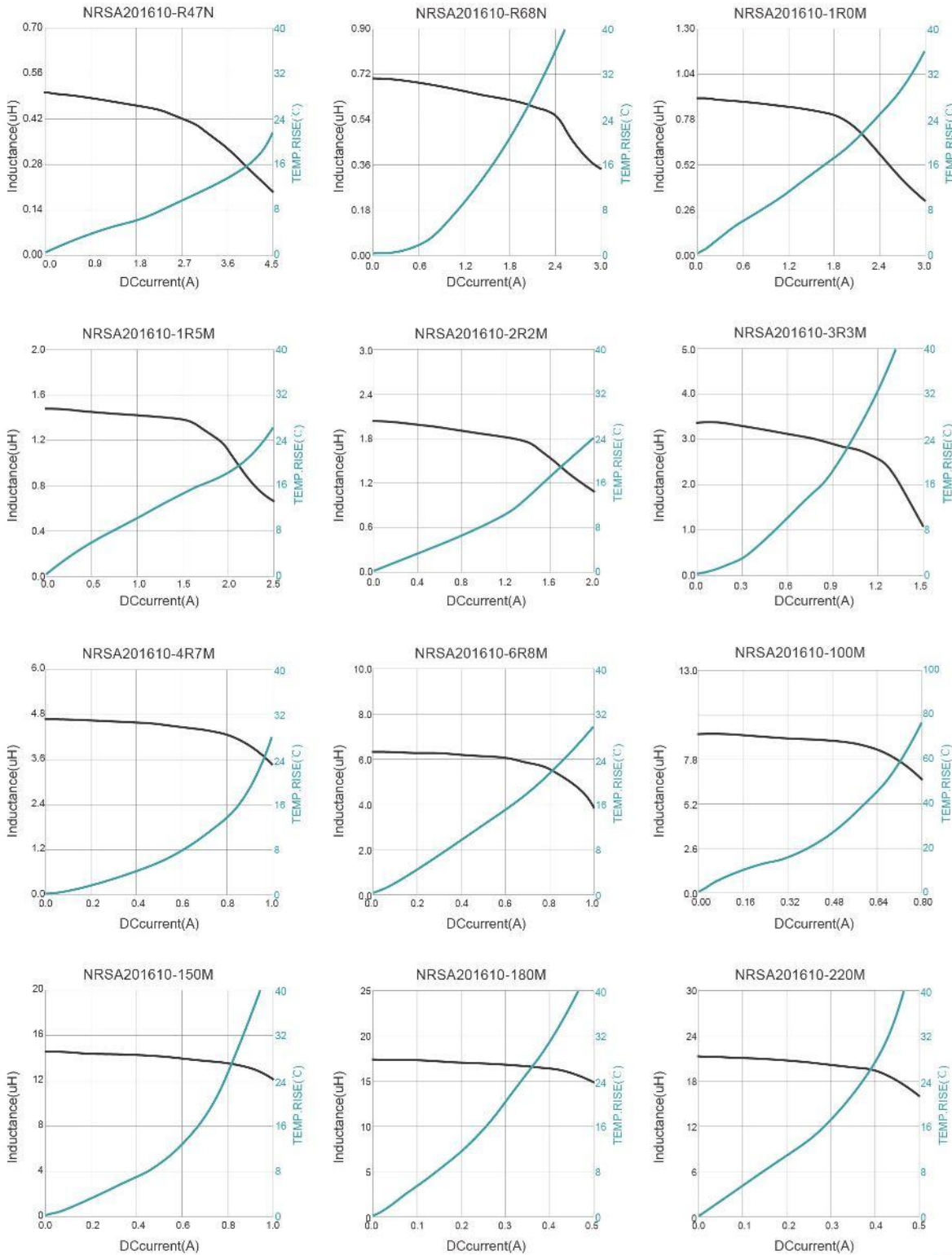


Electrical Properties

Part No	Inductance @ 1MHz/0.1V (μH)	Tolerance	Temperature Rise Current Max. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
NRSA201610-R47N	0.47	±30%	2.16	2.70	41	53
NRSA201610-R68N	0.68	±30%	1.60	2.00	66	82
NRSA201610-1R0M	1.00	±20%	1.60	2.00	90	115
NRSA201610-1R5M	1.50	±20%	1.36	1.70	137	156
NRSA201610-2R2M	2.20	±20%	1.01	1.26	155	174
NRSA201610-3R3M	3.30	±20%	0.84	1.05	240	294
NRSA201610-4R7M	4.70	±20%	0.68	0.85	340	432
NRSA201610-6R8M	6.80	±20%	0.58	0.72	575	620
NRSA201610-100M	10.0	±20%	0.48	0.60	730	864
NRSA201610-150M	15.0	±20%	0.39	0.55	1300	1680
NRSA201610-180M	18.0	±20%	0.32	0.40	1360	1700
NRSA201610-220M	22.0	±20%	0.30	0.38	1550	2000

Saturation Current will cause L to drop approximately 35%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

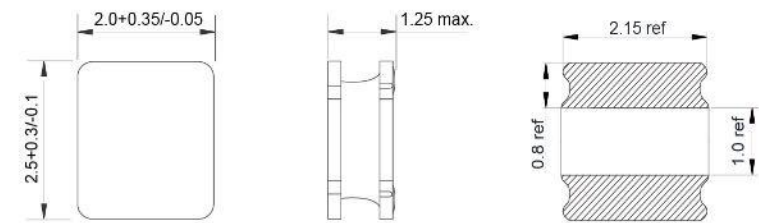
Typical Electrical Characteristics



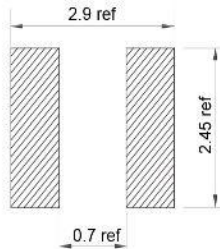
NRSA Series
SMD Power Inductors For Automotive
2520B Size



Dimensions: [mm]



Land Pattern: [mm]

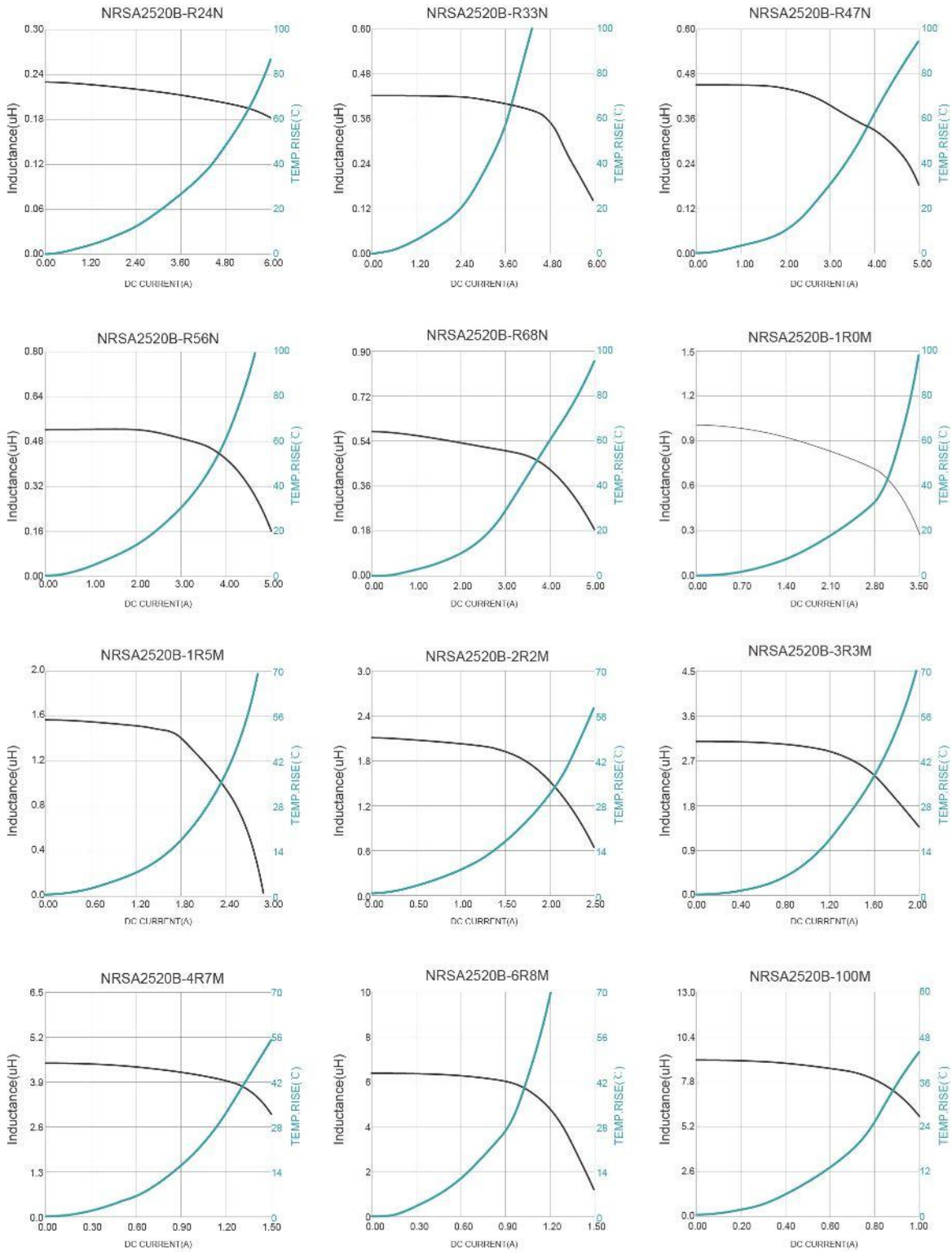


Electrical Properties

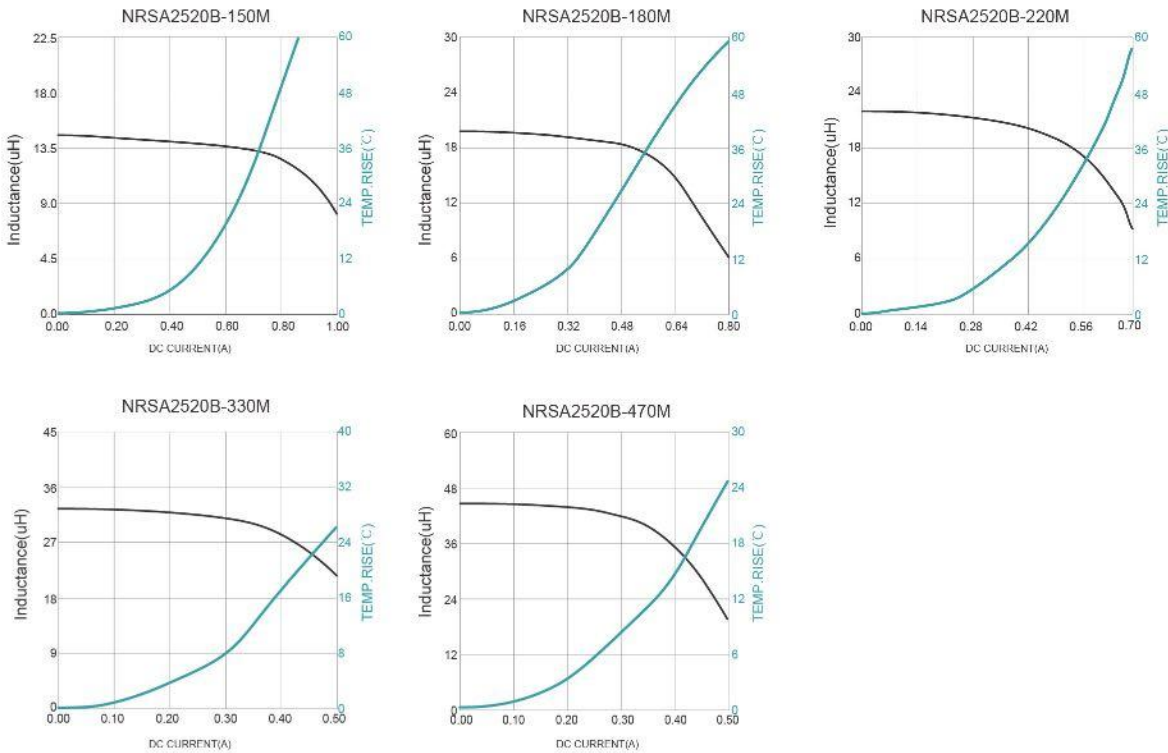
Part No	Inductance @ 1MHz/0.1V (μH)	Tolerance	Temperature Rise Current Max. (A)	Saturation Current Max. (A)	DC Resistance Max. (mΩ)
NRSA2520B-R24N	0.24	±30%	3.50	4.05	28
NRSA2520B-R33N	0.33	±30%	3.00	4.00	40
NRSA2520B-R47N	0.47	±30%	2.90	3.60	40
NRSA2520B-R56N	0.56	±30%	2.80	3.30	40
NRSA2520B-R68N	0.68	±30%	2.60	3.28	45
NRSA2520B-1R0M	1.00	±20%	2.40	2.45	60
NRSA2520B-1R5M	1.50	±20%	1.90	2.05	84
NRSA2520B-2R2M	2.20	±20%	1.80	1.90	110
NRSA2520B-3R3M	3.30	±20%	1.40	1.50	155
NRSA2520B-4R7M	4.70	±20%	1.20	1.35	228
NRSA2520B-6R8M	6.80	±20%	0.90	1.00	325
NRSA2520B-100M	10.0	±20%	0.75	0.79	480
NRSA2520B-150M	15.0	±20%	0.55	0.65	625
NRSA2520B-180M	18.0	±20%	0.50	0.55	1000
NRSA2520B-220M	22.0	±20%	0.45	0.50	1020
NRSA2520B-330M	33.0	±20%	0.37	0.38	1400
NRSA2520B-470M	47.0	±20%	0.29	0.30	2000

Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



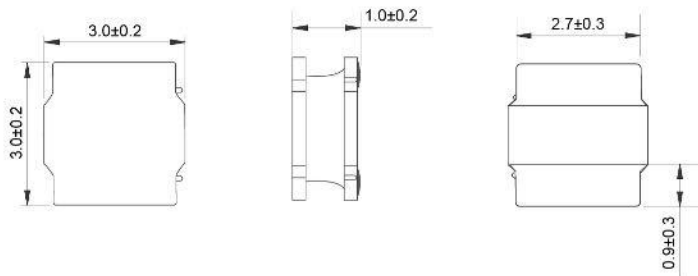
Typical Electrical Characteristics



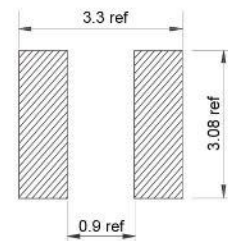
NRSA Series
SMD Power Inductors For Automotive
3012B Size



Dimensions: [mm]



Land Pattern: [mm]

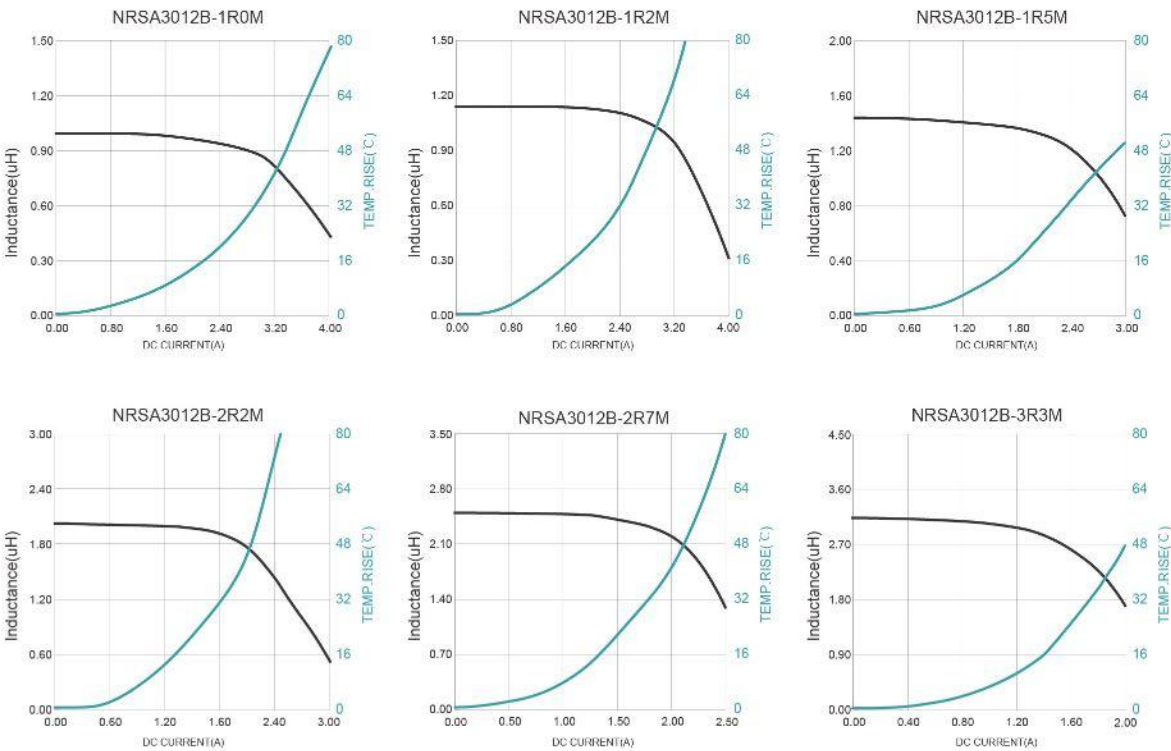


Electrical Properties

Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance ±20% (mΩ)
NRSA3012B-1R0M	1.00	±20%	2.80	2.60	3.60	3.30	43
NRSA3012B-1R2M	1.20	±20%	2.60	2.40	3.30	3.00	60
NRSA3012B-1R5M	1.50	±20%	2.60	2.30	2.60	2.30	60
NRSA3012B-2R2M	2.20	±20%	2.20	1.80	2.40	2.10	100
NRSA3012B-2R7M	2.70	±20%	1.80	1.60	2.10	1.90	112
NRSA3012B-3R3M	3.30	±20%	1.70	1.50	1.60	1.45	115

Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

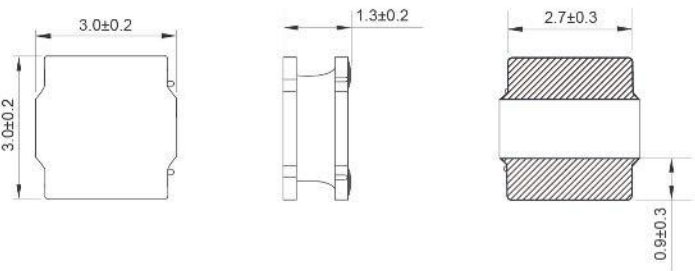
Typical Electrical Characteristics



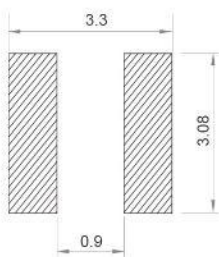
NRSA Series
SMD Power Inductors For Automotive
3015B Size



Dimensions: [mm]



Land Pattern: [mm]

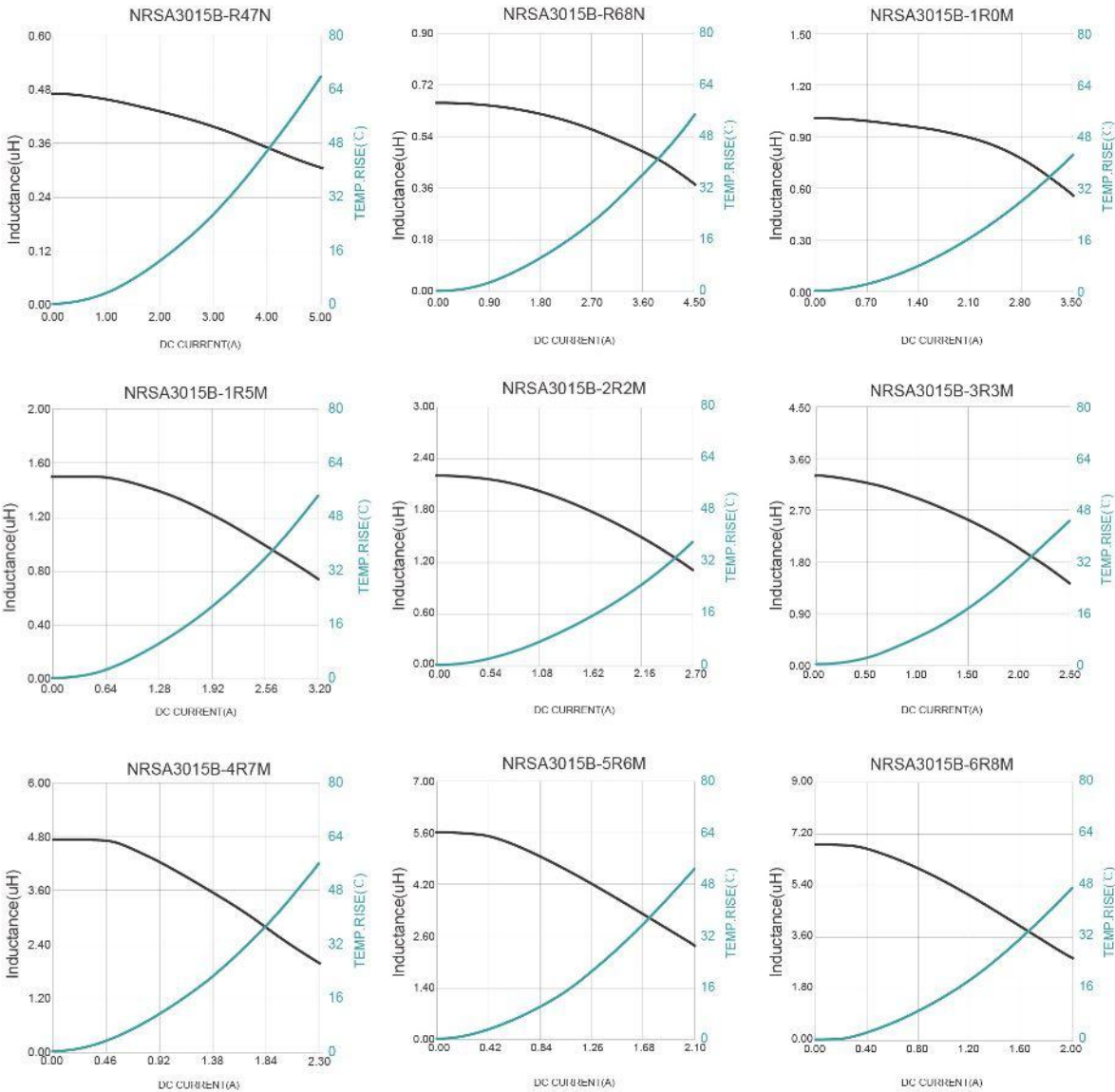


Electrical Properties

Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance ±20% (mΩ)
NRSA3015B-R47N	0.47	±30%	3.70	3.30	4.30	4.00	22
NRSA3015B-R68N	0.68	±30%	3.50	3.20	3.80	3.20	26
NRSA3015B-1R0M	1.00	±20%	3.00	2.70	3.00	2.40	33
NRSA3015B-1R5M	1.50	±20%	2.70	2.50	2.40	2.00	38
NRSA3015B-2R2M	2.20	±20%	2.50	2.30	2.10	1.90	60
NRSA3015B-3R3M	3.30	±20%	2.20	2.00	1.70	1.50	85
NRSA3015B-4R7M	4.70	±20%	1.90	1.70	1.50	1.30	112
NRSA3015B-5R6M	5.60	±20%	1.80	1.60	1.40	1.20	135
NRSA3015B-6R8M	6.80	±20%	1.70	1.50	1.30	1.10	172

Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

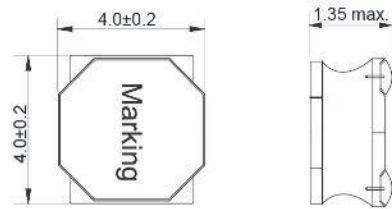
Typical Electrical Characteristics



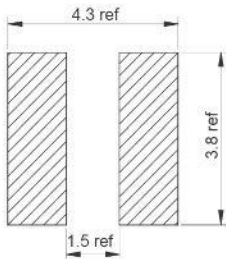
NRSA Series
SMD Power Inductors For Automotive
4014B Size



Dimensions: [mm]



Land Pattern: [mm]

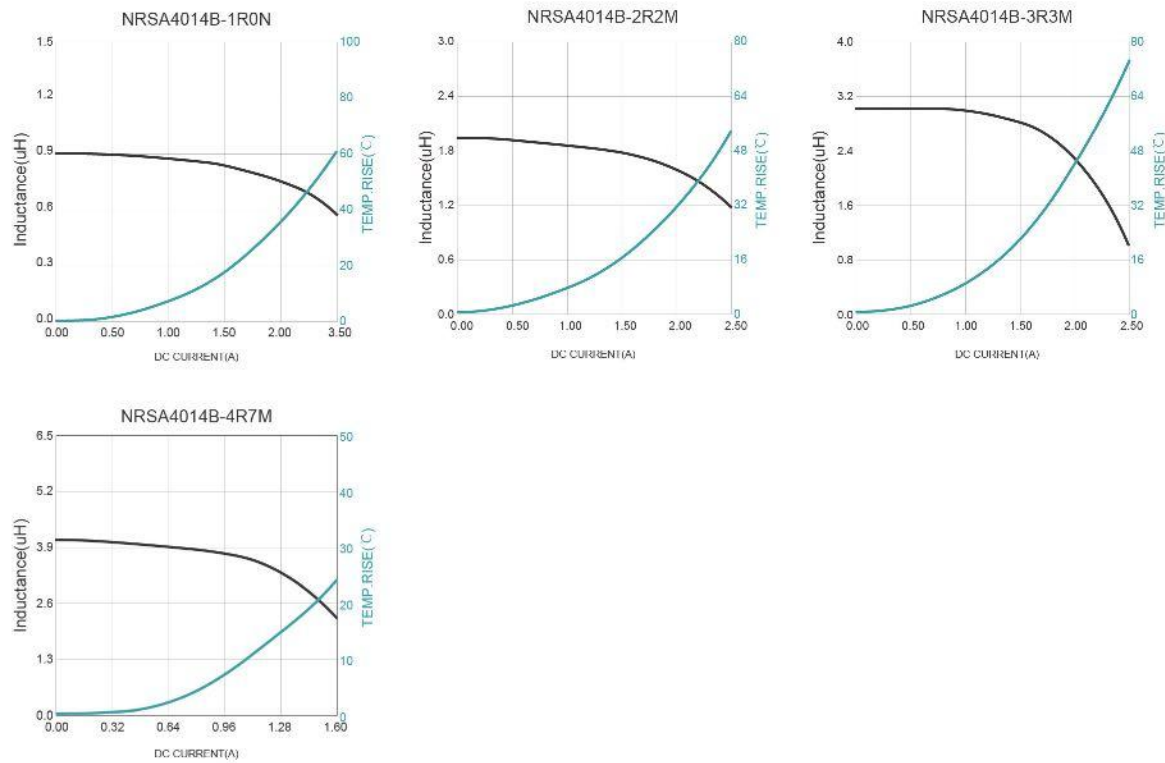


Electrical Properties

Part No	Inductance @100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance ±20% (mΩ)
NRSA4014B-1R0N	1.0	±30%	2.20	2.80	45
NRSA4014B-2R2M	2.2	±20%	1.90	1.65	75
NRSA4014B-3R3M	3.3	±20%	1.70	1.40	108
NRSA4014B-4R7M	4.7	±20%	1.50	1.20	108

Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics

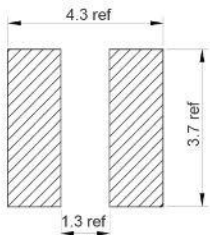
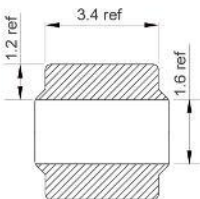
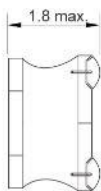
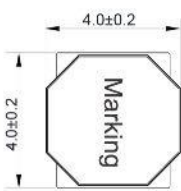


NRSA Series
SMD Power Inductors For Automotive

4018B Size



Dimensions: [mm]



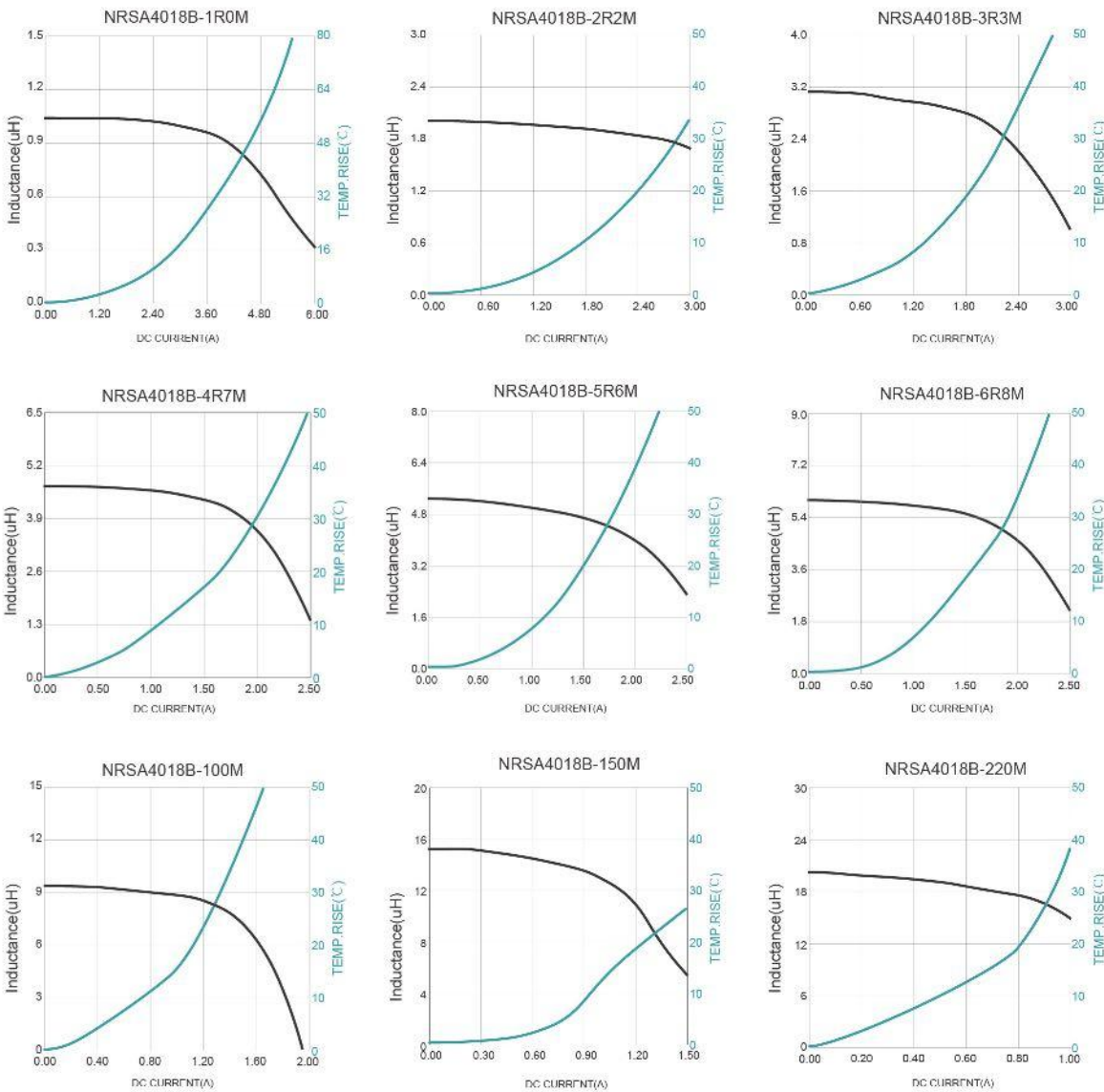
Electrical Properties

Part No	Inductance @100KHz/0.25V (μH)	Tolerance	Temperature Rise Current Max. (A)	Saturation Current Max. (A)	DC Resistance Max. (mΩ)
NRSA4018B-1R0M	1.0	±20%	3.50	4.50	32
NRSA4018B-2R2M	2.2	±20%	2.60	2.80	58
NRSA4018B-3R3M	3.3	±20%	2.00	2.15	84
NRSA4018B-4R7M	4.7	±20%	1.80	2.00	115
NRSA4018B-5R6M	5.6	±20%	1.65	1.70	125
NRSA4018B-6R8M	6.8	±20%	1.50	1.60	135
NRSA4018B-100M	10	±20%	1.30	1.40	220
NRSA4018B-150M	15	±20%	0.90	0.95	325
NRSA4018B-220M	22	±20%	0.75	0.80	450

Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

NRSA 磁致电感 NR Inductor

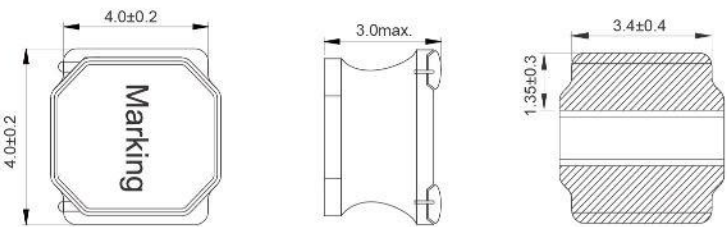
Typical Electrical Characteristics



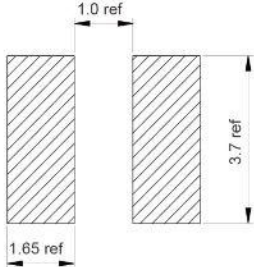
NRSA Series
SMD Power Inductors For Automotive
4030 Size



Dimensions: [mm]



Land Pattern: [mm]

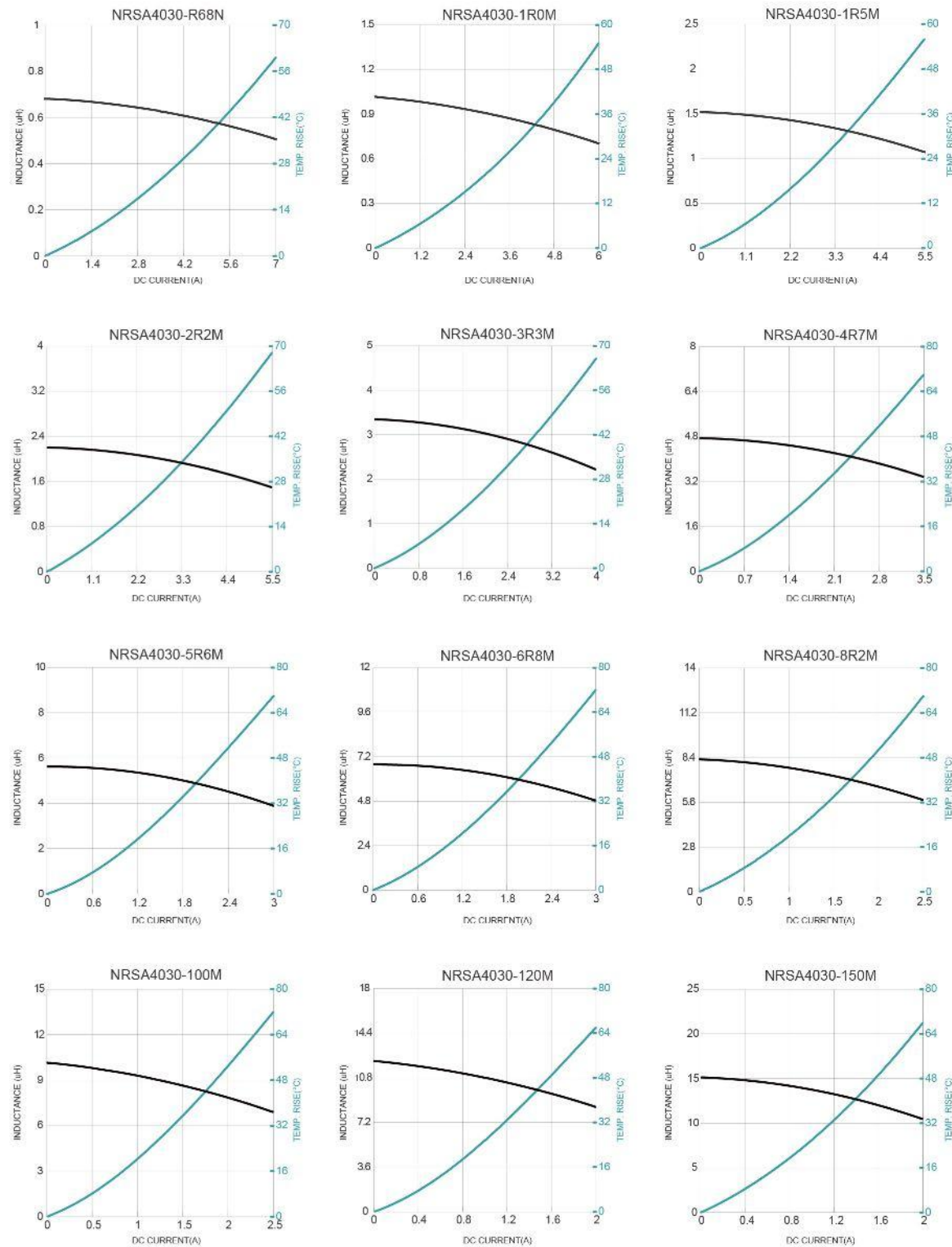


Electrical Properties

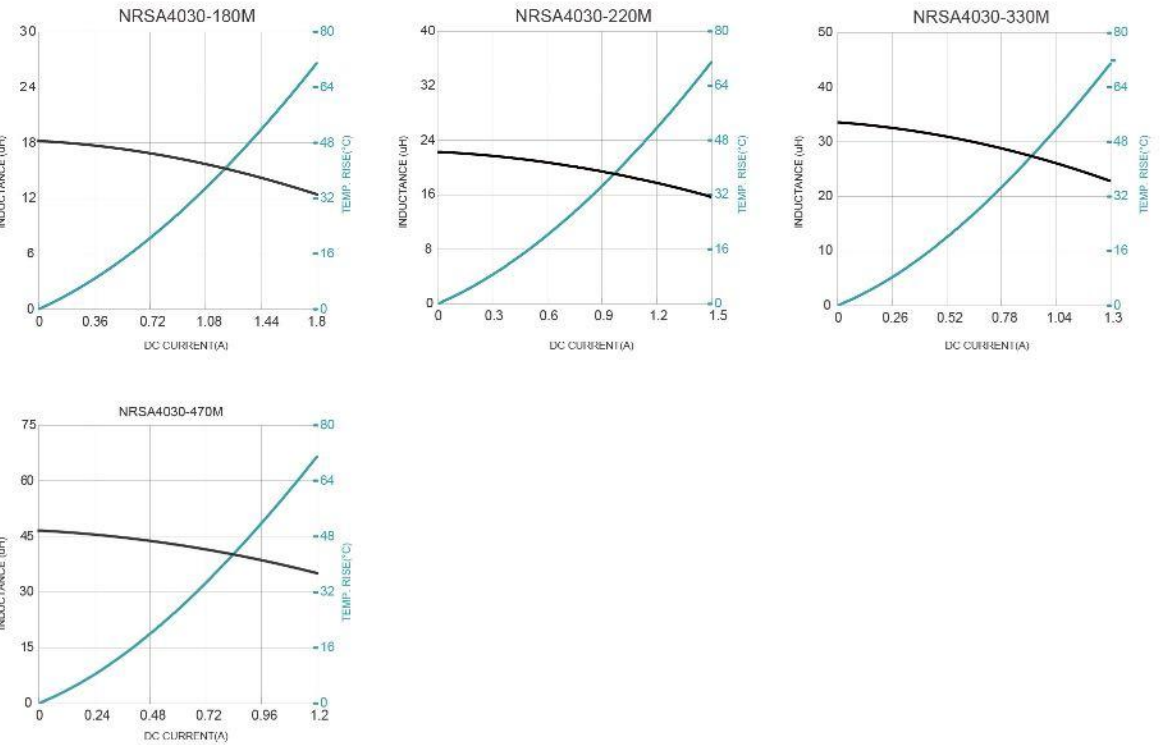
Part No	L@100KHz/1V (μH)	Tolerance	I _{SAT} Typ. (A)	I _R Typ. (A)	R _{DC} ±20% (mΩ)
NRSA4030-R68N	0.68	±30%	6.80	4.60	10
NRSA4030-1R0M	1.0	±20%	5.30	4.20	14
NRSA4030-1R5M	1.5	±20%	4.90	3.40	20
NRSA4030-2R2M	2.2	±20%	4.90	3.00	30
NRSA4030-3R3M	3.3	±20%	3.30	2.40	40
NRSA4030-4R7M	4.7	±20%	2.90	2.05	60
NRSA4030-5R6M	5.6	±20%	2.60	1.95	65
NRSA4030-6R8M	6.8	±20%	2.75	1.80	90
NRSA4030-8R2M	8.2	±20%	2.10	1.60	90
NRSA4030-100M	10	±20%	2.00	1.50	100
NRSA4030-120M	12	±20%	1.80	1.30	135
NRSA4030-150M	15	±20%	1.70	1.20	190
NRSA4030-180M	18	±20%	1.50	1.10	200
NRSA4030-220M	22	±20%	1.30	1.00	225
NRSA4030-330M	33	±20%	1.10	0.85	330
NRSA4030-470M	47	±20%	0.95	0.72	530

Temperature Rise Current will cause the coil temperature rise approximately Δt40℃
Saturation Current will cause Inductance to drop approximately 30%.

Typical Electrical Characteristics



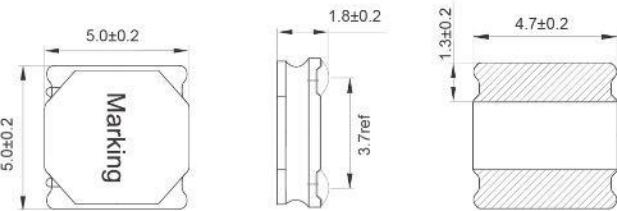
Typical Electrical Characteristics



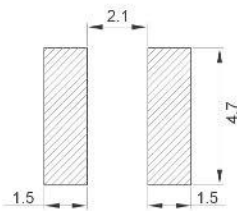
NRSA Series
SMD Power Inductors For Automotive
5020 Size



Dimensions: [mm]



Land Pattern: [mm]

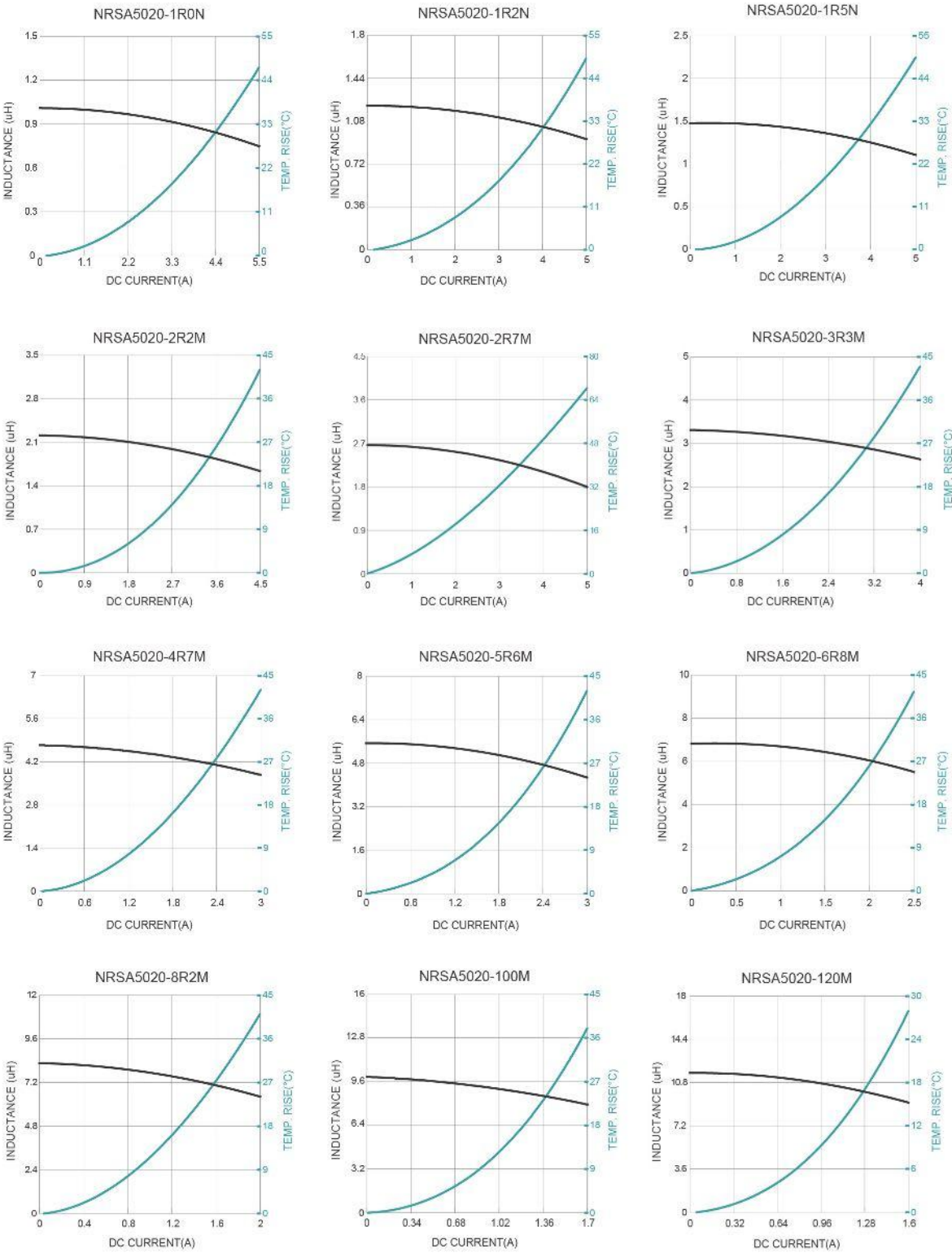


Electrical Properties

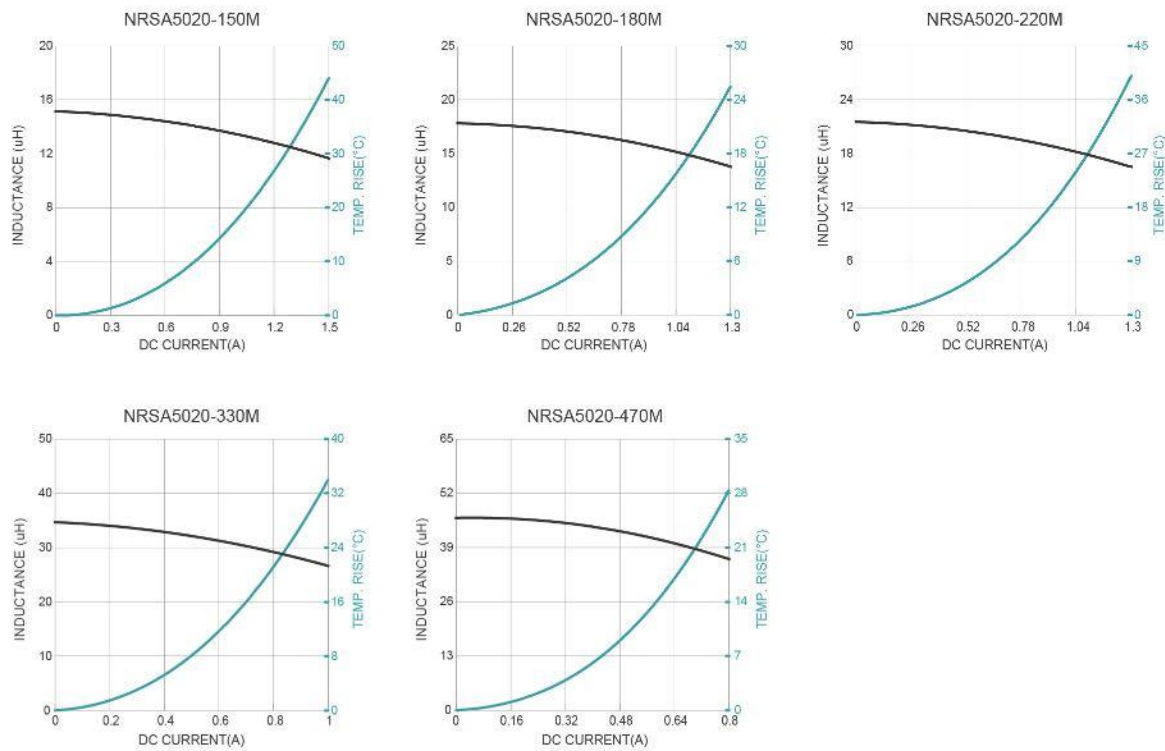
Part No	Inductance @ 100kHz/1V (μH)	Tolerance	Saturation Current Typ. (A)	Temperature Rise Current Typ. (A)	DC Resistance ±20% (mΩ)
NRSA5020-1R0N	1.0	±30%	5.00	4.10	20
NRSA5020-1R2N	1.2	±30%	4.80	3.80	20
NRSA5020-1R5N	1.5	±30%	4.50	3.50	25
NRSA5020-2R2M	2.2	±20%	4.10	3.30	32
NRSA5020-2R7M	2.7	±20%	3.80	3.00	38
NRSA5020-3R3M	3.3	±20%	3.50	2.80	43
NRSA5020-4R7M	4.7	±20%	2.70	2.40	60
NRSA5020-5R6M	5.6	±20%	2.40	2.10	69
NRSA5020-6R8M	6.8	±20%	2.10	1.90	90
NRSA5020-8R2M	8.2	±20%	1.90	1.75	98
NRSA5020-100M	10	±20%	1.70	1.60	110
NRSA5020-120M	12	±20%	1.40	1.40	135
NRSA5020-150M	15	±20%	1.30	1.25	165
NRSA5020-180M	18	±20%	1.20	1.17	190
NRSA5020-220M	22	±20%	1.10	1.10	225
NRSA5020-330M	33	±20%	0.80	0.80	335
NRSA5020-470M	47	±20%	0.70	0.70	460

Temperature Rise Current will cause the coil temperature rise approximately Δt40℃
Saturation Current will cause Inductance to drop approximately 30% .

Typical Electrical Characteristics



Typical Electrical Characteristics



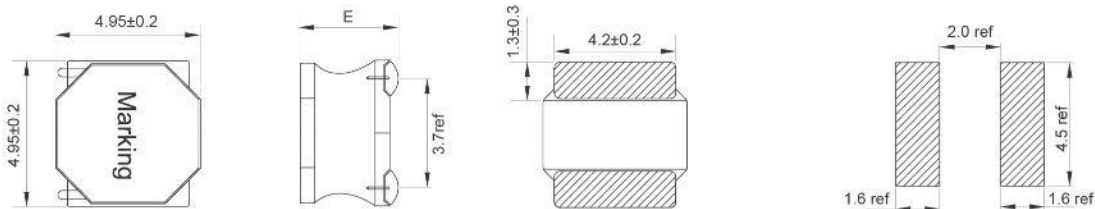
NRSA Series

SMD Power Inductors for Automotive

5040 Size



Dimensions: [mm]



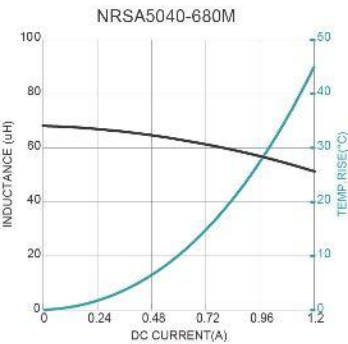
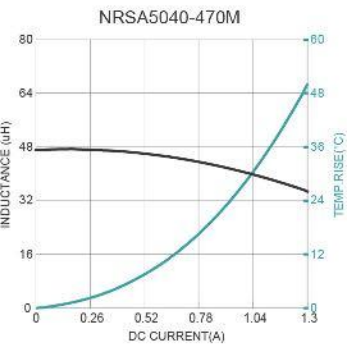
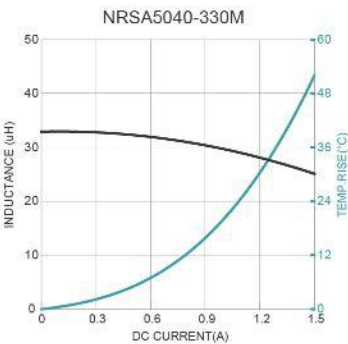
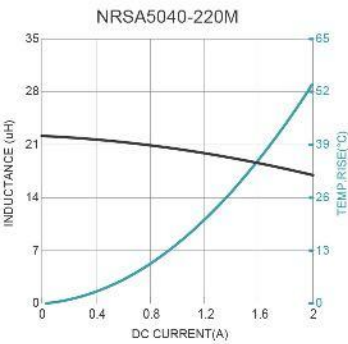
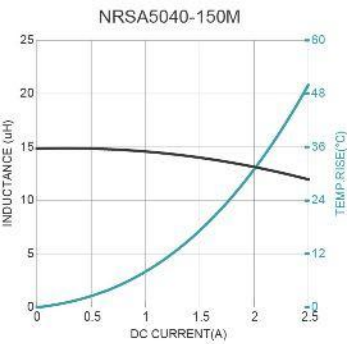
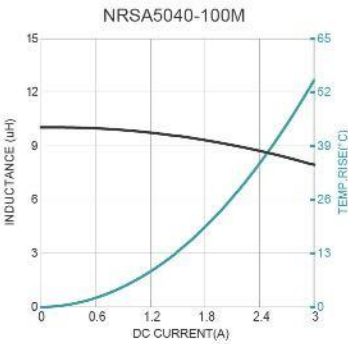
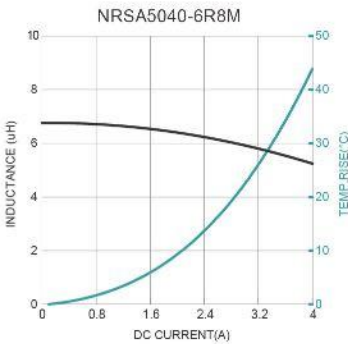
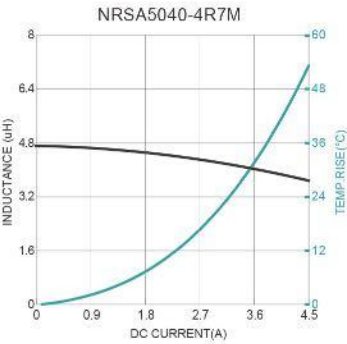
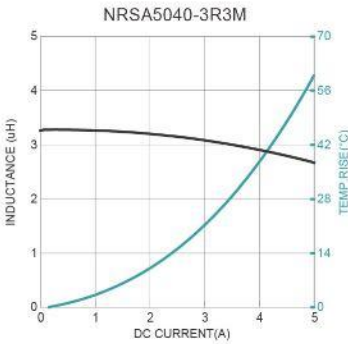
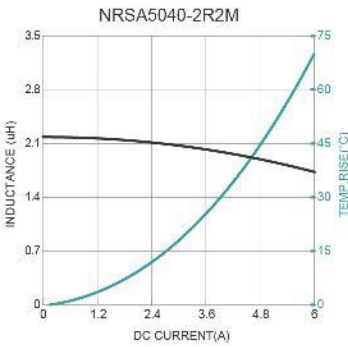
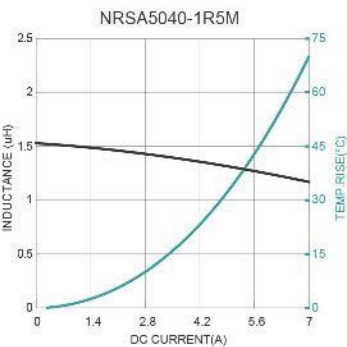
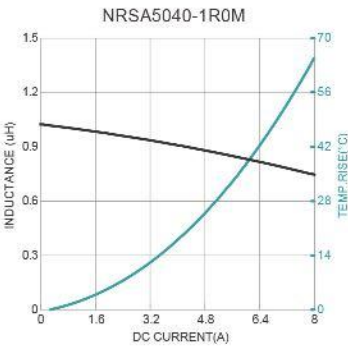
Land Pattern: [mm]

Electrical Properties

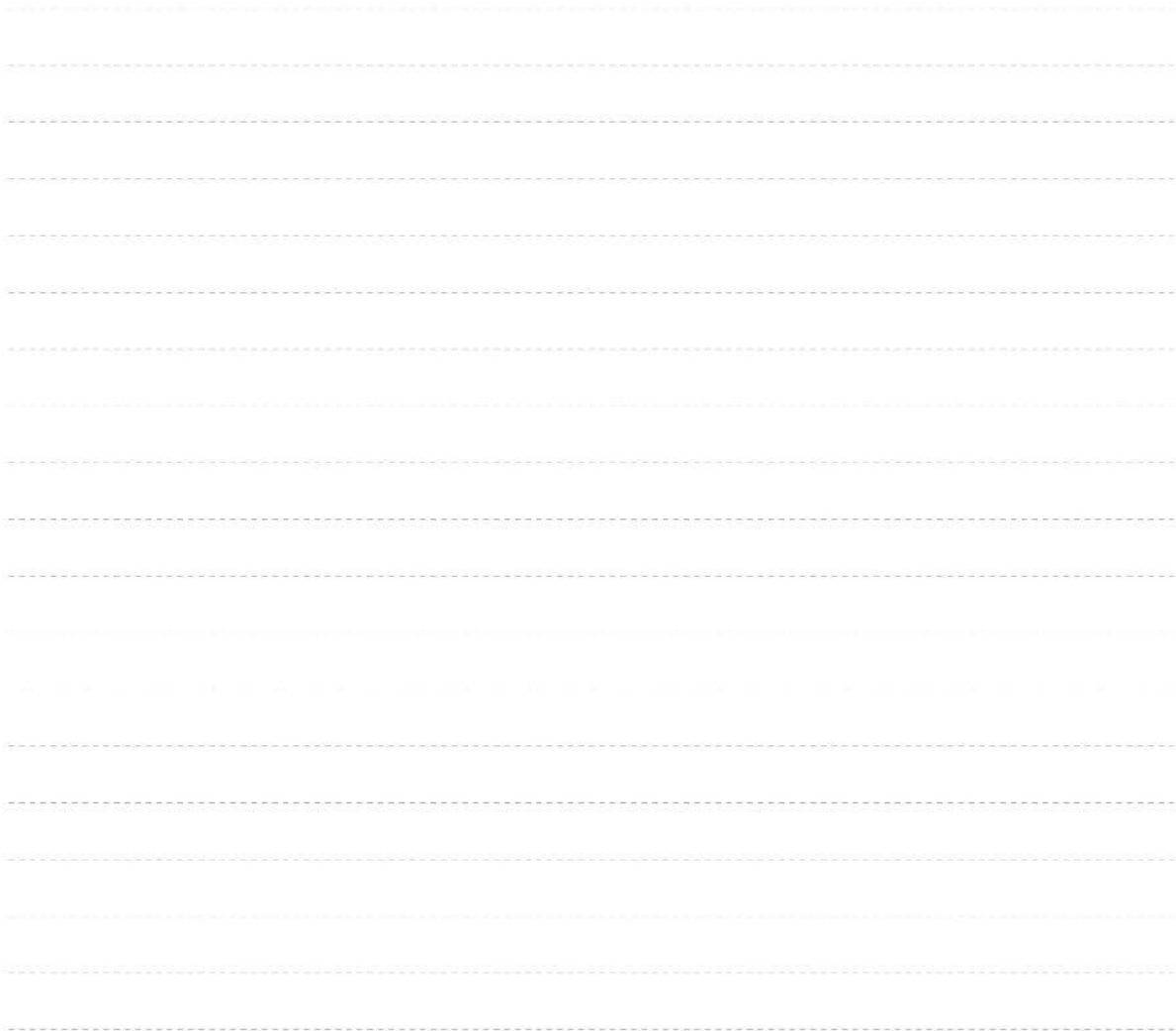
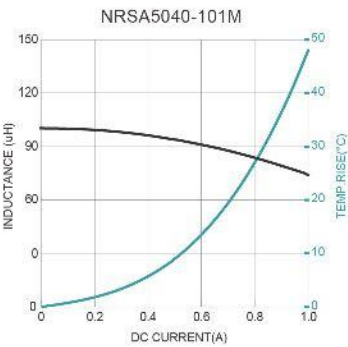
Part No	Inductance @100KHz/1V (μH)	Tolerance	Saturation Current Typ. (A)	Temperature Rise Current Typ. (A)	DC Resistance ±20% (mΩ)	E
NRSA5040-1R0M	1.0	±20%	7.50	5.00	12	3.9±0.2
NRSA5040-1R5M	1.5	±20%	6.50	4.50	15	3.9±0.2
NRSA5040-2R2M	2.2	±20%	5.70	3.80	21	3.9±0.2
NRSA5040-3R3M	3.3	±20%	4.40	3.50	24	3.9±0.2
NRSA5040-4R7M	4.7	±20%	3.90	3.20	32	3.9±0.2
NRSA5040-6R8M	6.8	±20%	3.30	2.50	43	3.9±0.2
NRSA5040-100M	10	±20%	2.52	2.20	56	3.9±0.2
NRSA5040-150M	15	±20%	2.00	1.80	80	3.8±0.2
NRSA5040-220M	22	±20%	1.62	1.50	123	3.8±0.2
NRSA5040-330M	33	±20%	1.30	1.20	180	3.8±0.2
NRSA5040-470M	47	±20%	1.10	1.00	270	3.8±0.2
NRSA5040-680M	68	±20%	0.90	0.80	400	3.8±0.2
NRSA5040-101M	100	±20%	0.75	0.72	560	3.8±0.2

Temperature Rise Current will cause the coil temperature rise approximately Δ140 °C
Saturation Current will cause Inductance to drop approximately 30% .

Typical Electrical Characteristics



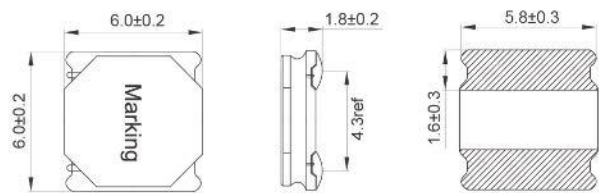
Typical Electrical Characteristics



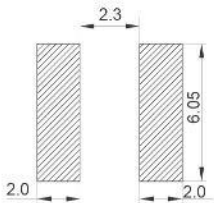
NRSA Series
SMD Power Inductors For Automotive
6020 Size



Dimensions: [mm]



Land Pattern: [mm]

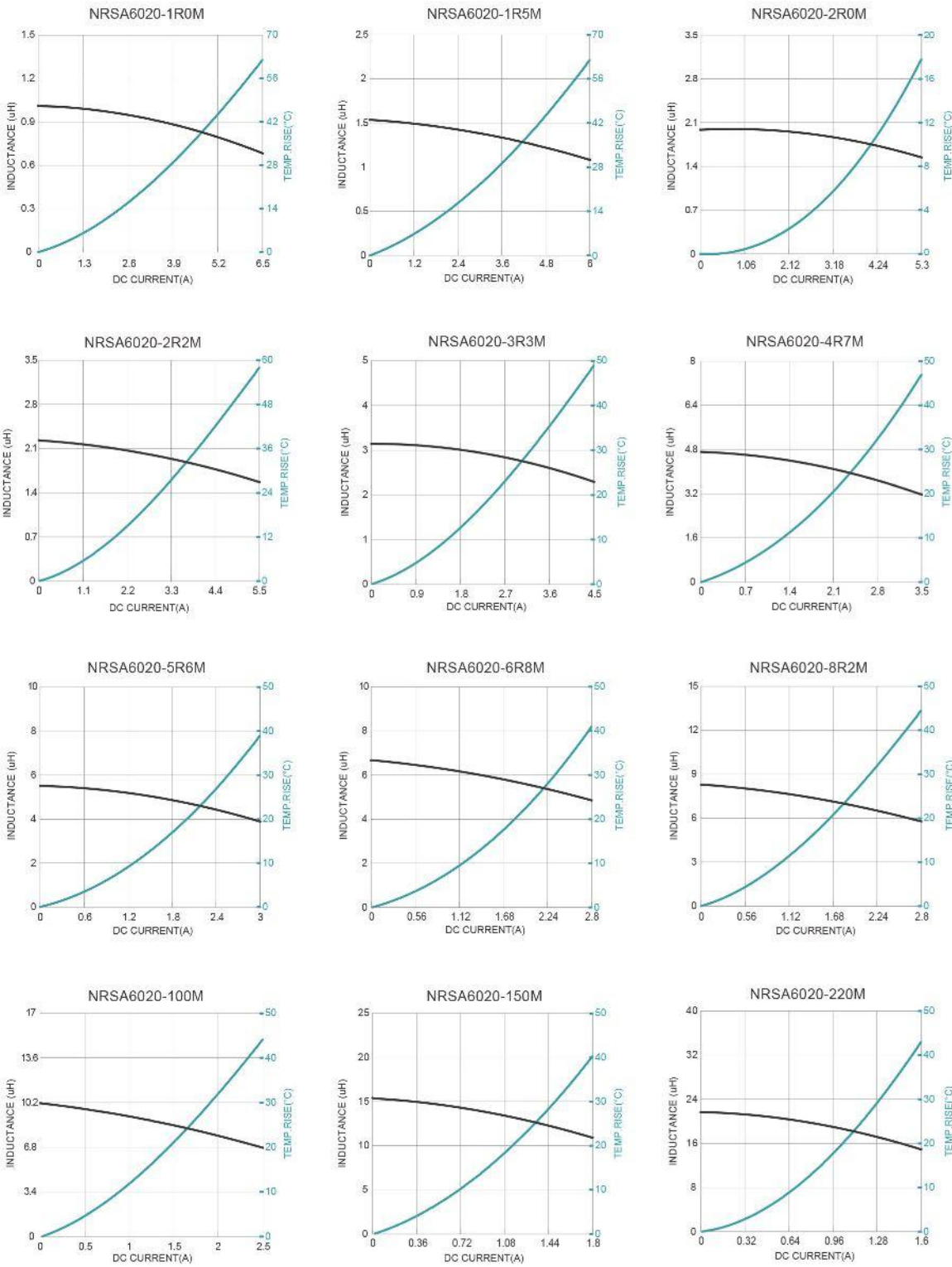


Electrical Properties

Part No	Inductance @ 100kHz/1V (μH)	Tolerance	Saturation Current Typ. (A)	Temperature Rise Current Typ. (A)	DC Resistance ±20% (mΩ)
NRSA6020-1R0M	1.0	±20%	6.20	4.50	19
NRSA6020-1R5M	1.5	±20%	5.50	3.80	22.5
NRSA6020-2R0M	2.0	±20%	5.30	3.65	25
NRSA6020-2R2M	2.2	±20%	5.00	3.50	29
NRSA6020-3R3M	3.3	±20%	4.00	3.30	35
NRSA6020-4R7M	4.7	±20%	3.00	2.80	54
NRSA6020-5R6M	5.6	±20%	2.70	2.60	59
NRSA6020-6R8M	6.8	±20%	2.60	2.50	78
NRSA6020-8R2M	8.2	±20%	2.40	2.30	103
NRSA6020-100M	10	±20%	2.10	2.10	106
NRSA6020-150M	15	±20%	1.50	1.60	138
NRSA6020-220M	22	±20%	1.30	1.40	204

Temperature Rise Current will cause the coil temperature rise approximately Δt40℃
Saturation Current will cause Inductance to drop approximately 30%.

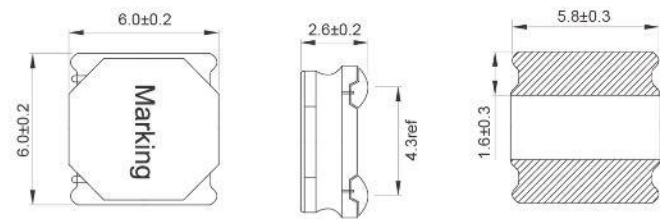
Typical Electrical Characteristics



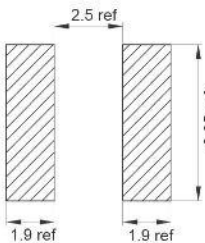
NRSA Series
SMD Power Inductors For Automotive
6028 Size



Dimensions: [mm]



Land Pattern: [mm]

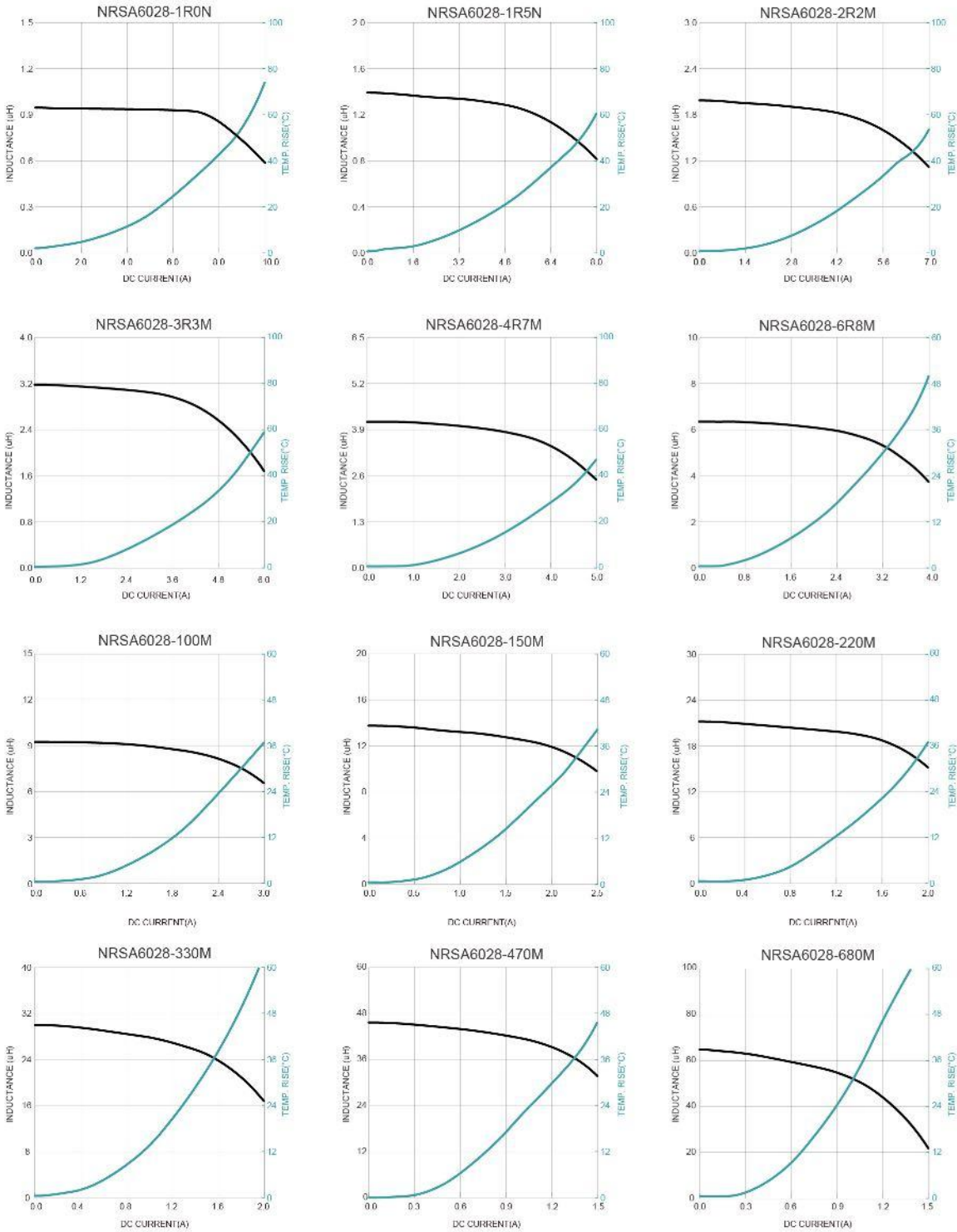


Electrical Properties

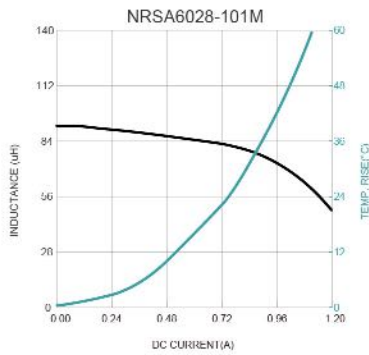
Part No	Inductance @ 100kHz/1V (μH)	Tolerance	Saturation Current Typ. (A)	Temperature Rise Current Typ. (A)	DC Resistance ±20% (mΩ)
NRSA6028-1R0N	1.0	±30%	5.75	5.20	10
NRSA6028-1R5N	1.5	±30%	5.30	4.95	14
NRSA6028-2R2M	2.2	±20%	5.00	4.50	18
NRSA6028-3R3M	3.3	±20%	4.30	3.60	24
NRSA6028-4R7M	4.7	±20%	3.20	3.10	30
NRSA6028-6R8M	6.8	±20%	2.85	2.50	47
NRSA6028-100M	10	±20%	2.10	2.00	65
NRSA6028-150M	15	±20%	2.00	1.80	98
NRSA6028-220M	22	±20%	1.60	1.50	138
NRSA6028-330M	33	±20%	1.40	1.30	200
NRSA6028-470M	47	±20%	1.15	1.06	280
NRSA6028-680M	68	±20%	1.00	0.81	420
NRSA6028-101M	100	±20%	0.80	0.72	605

Temperature Rise Current will cause the coil temperature rise approximately Δt40℃
Saturation Current will cause Inductance to drop approximately 30%.

Typical Electrical Characteristics



Typical Electrical Characteristics



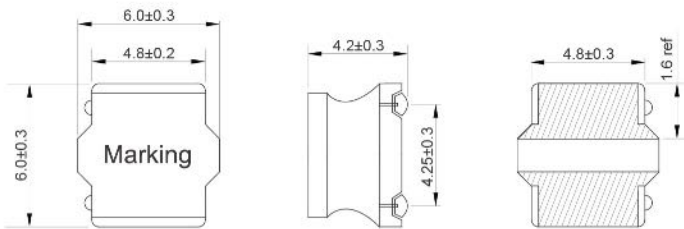
NRSA Series

SMD Power Inductors For Automotive

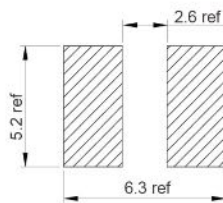
6045 Size



Dimensions: [mm]



Land Pattern: [mm]



Electrical Properties

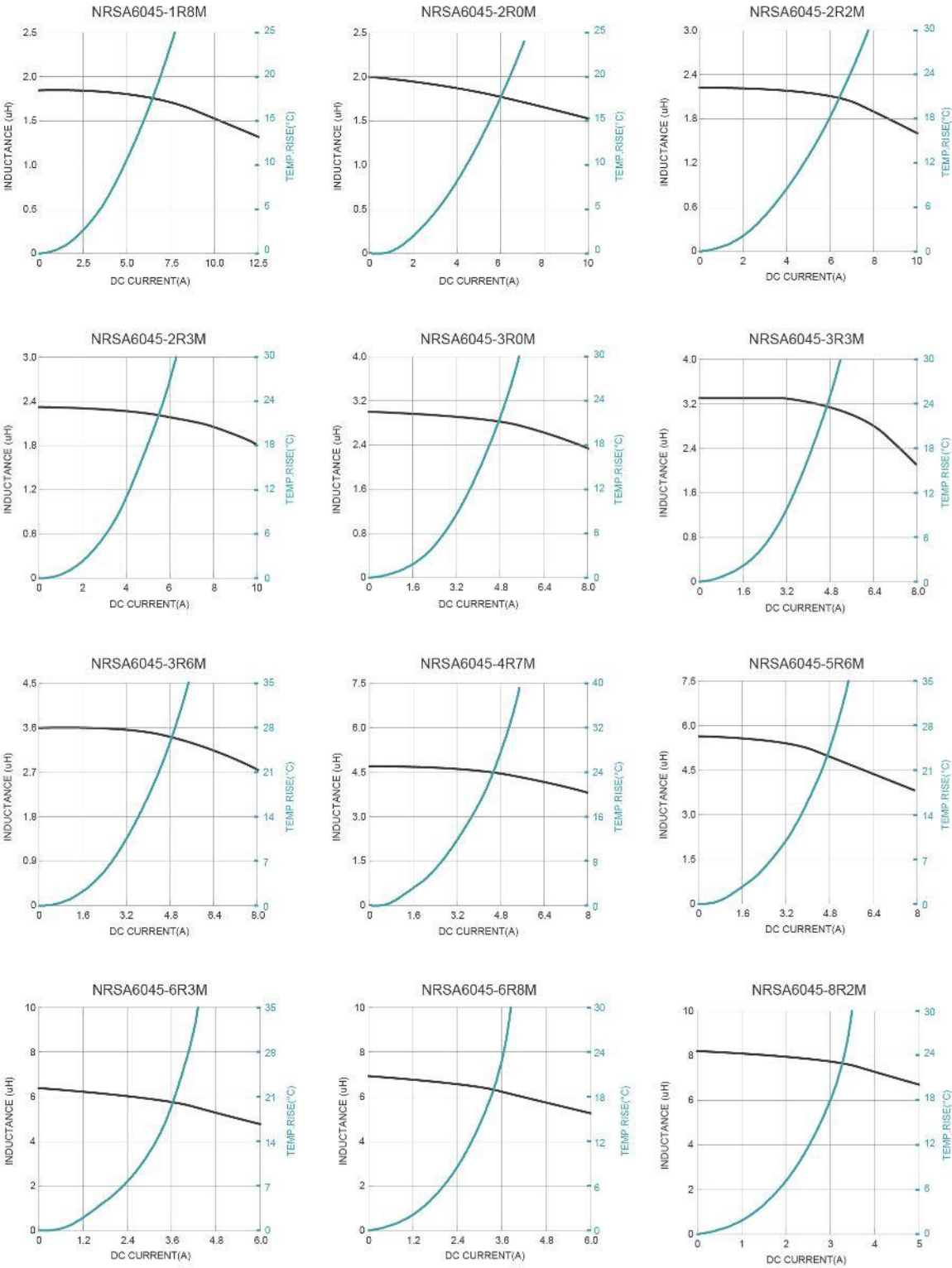
Part No	Inductance @100KHz/1V (μH)	Tolerance	Saturation Current Typ. (A)	Saturation Current Max. (A)	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	DC Resistance ±20% (mΩ)
NRSA6045-R47M	0.47	±20%	17.00	16.00	8.60	8.00	6.8
NRSA6045-R82M	0.82	±20%	14.50	13.50	8.20	7.50	8.5
NRSA6045-1R0M	1.0	±20%	13.50	12.50	8.00	7.30	10.0
NRSA6045-1R2M	1.2	±20%	12.50	11.50	7.50	7.00	10.5
NRSA6045-1R3M	1.3	±20%	12.50	11.50	7.50	7.00	10.5
NRSA6045-1R5M	1.5	±20%	12.00	11.00	7.00	6.60	11.7
NRSA6045-1R8M	1.8	±20%	11.00	10.00	6.80	6.20	12.0
NRSA6045-2R0M	2.0	±20%	10.50	9.50	6.50	5.80	13.5
NRSA6045-2R2M	2.2	±20%	9.50	8.55	6.00	5.30	15.0
NRSA6045-2R3M	2.3	±20%	9.30	8.20	5.80	5.00	16.0
NRSA6045-3R0M	3.0	±20%	8.00	7.50	5.20	4.60	20.0
NRSA6045-3R3M	3.3	±20%	7.80	7.30	5.00	4.50	21.0
NRSA6045-3R6M	3.6	±20%	7.40	6.90	4.90	4.30	22.5
NRSA6045-4R7M	4.7	±20%	6.80	6.20	4.50	4.00	26.0
NRSA6045-5R6M	5.6	±20%	6.40	5.70	4.10	3.70	31.0
NRSA6045-6R3M	6.3	±20%	5.90	5.30	3.80	3.50	33.0
NRSA6045-6R8M	6.8	±20%	5.70	5.15	3.60	3.30	34.0

Temperature Rise Current will cause the coil temperature rise approximately Δt40℃
Saturation Current will cause Inductance to drop approximately 30% .

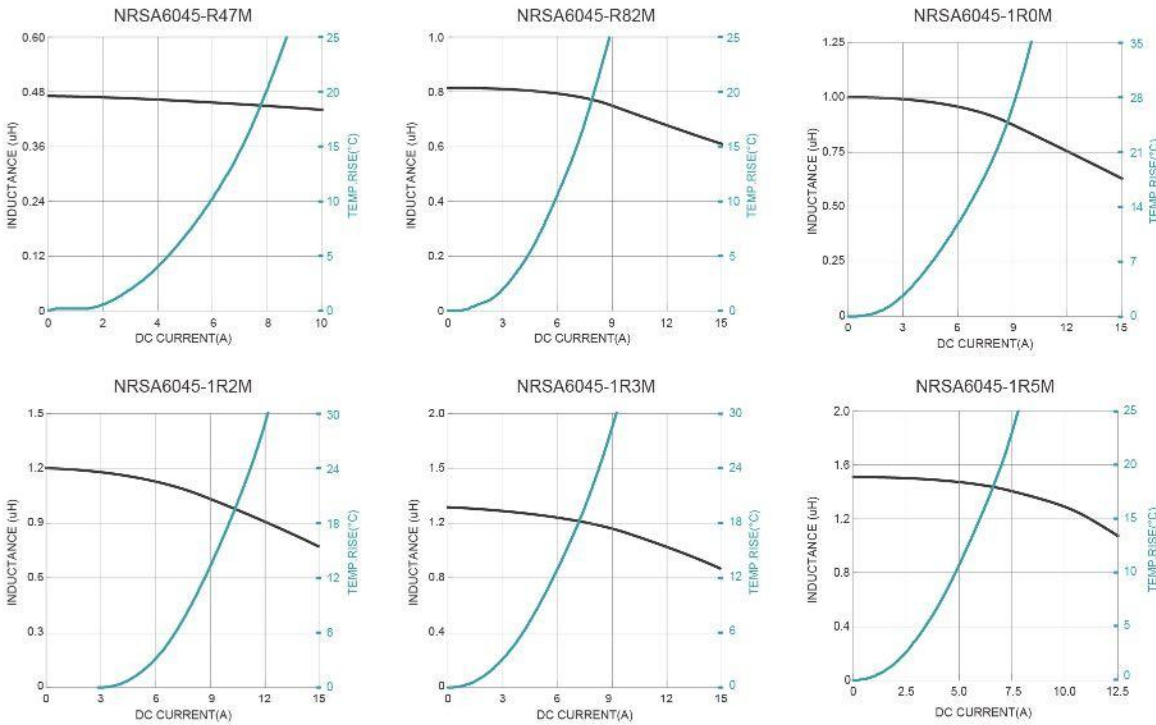
Part No	Inductance @100KHz/1V (μH)	Tolerance	Saturation Current Typ. (A)	Saturation Current Max. (A)	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	DC Resistance ±20% (mΩ)
NRSA6045-8R2M	8.2	±20%	5.10	4.50	3.40	2.90	46.0
NRSA6045-100M	10	±20%	4.60	4.20	3.20	2.60	52.0
NRSA6045-150M	15	±20%	3.80	3.30	2.80	2.20	71.0
NRSA6045-180M	18	±20%	3.40	2.90	2.60	2.10	80.0
NRSA6045-220M	22	±20%	3.30	2.70	2.30	1.90	96.0
NRSA6045-330M	33	±20%	2.50	2.10	1.80	1.50	145
NRSA6045-470M	47	±20%	2.00	1.75	1.60	1.20	200
NRSA6045-560M	56	±20%	1.80	1.65	1.40	1.00	230
NRSA6045-680M	68	±20%	1.60	1.52	1.10	0.92	305
NRSA6045-820M	82	±20%	1.50	1.40	0.98	0.88	365
NRSA6045-101M	100	±20%	1.33	1.25	0.92	0.82	456
NRSA6045-121M	120	±20%	1.20	1.10	0.85	0.79	500
NRSA6045-181M	180	±20%	1.00	0.90	0.68	0.60	745
NRSA6045-221M	220	±20%	0.88	0.77	0.60	0.50	900

Temperature Rise Current will cause the coil temperature rise approximately Δt40℃
Saturation Current will cause Inductance to drop approximately 30%.

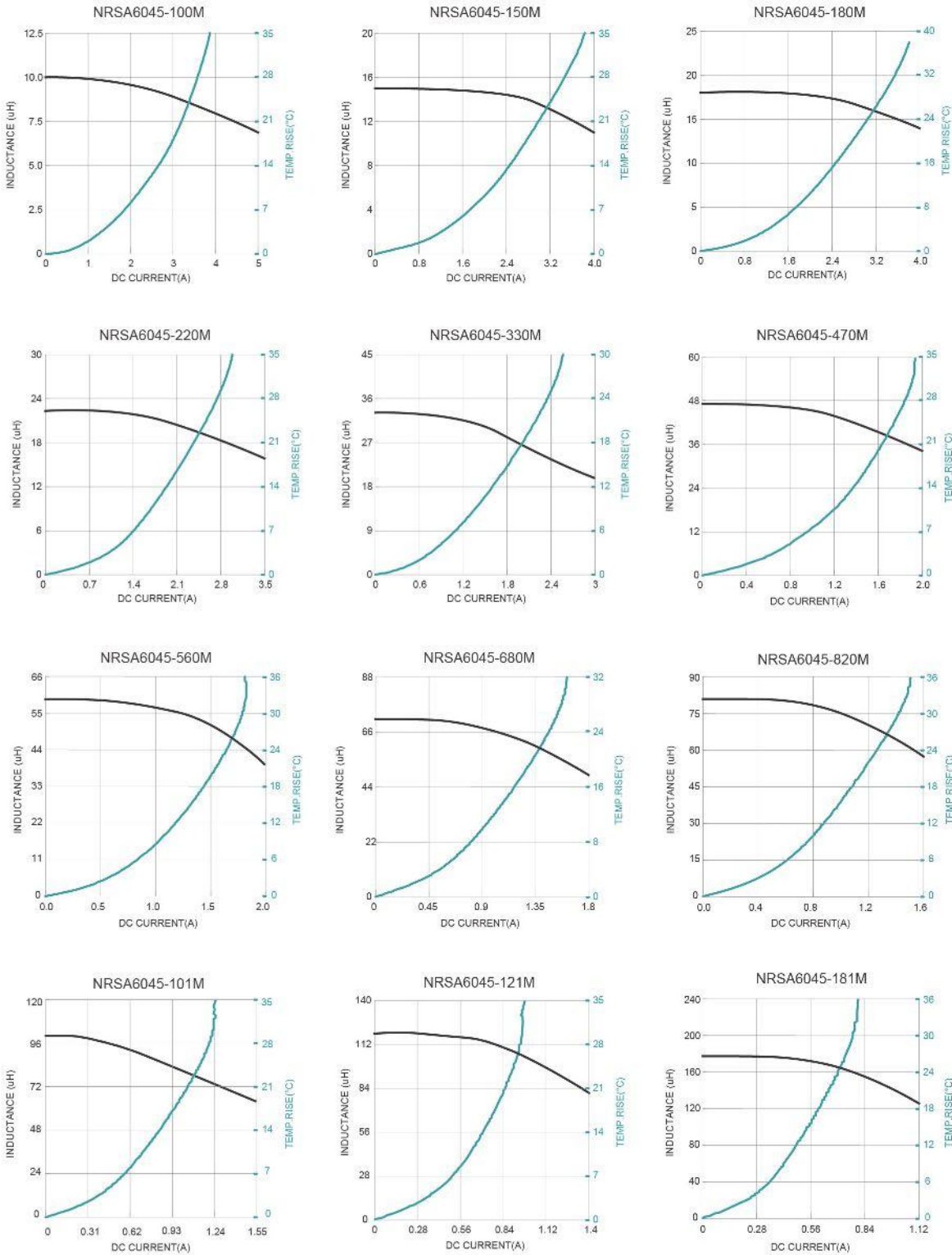
Typical Electrical Characteristics



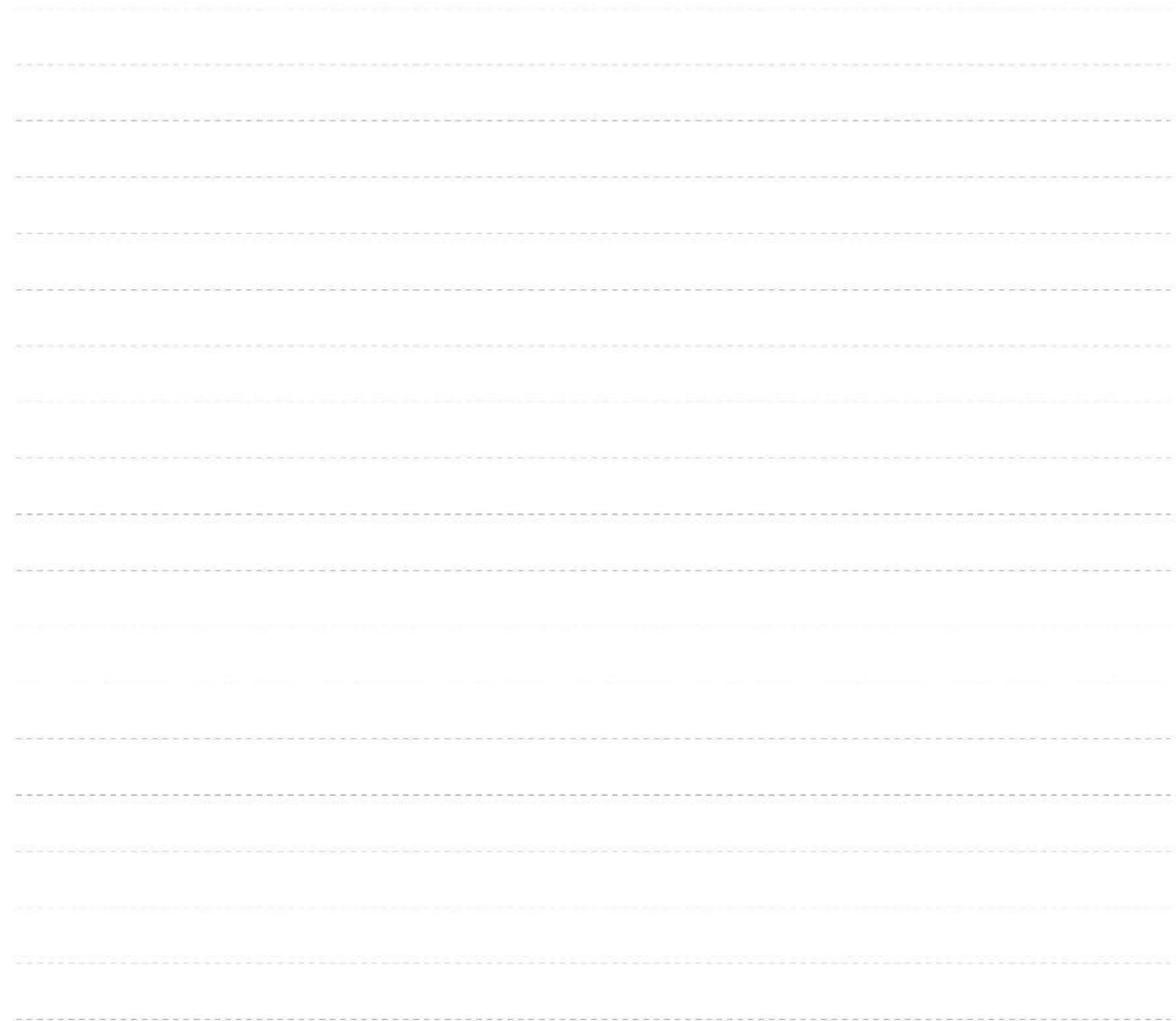
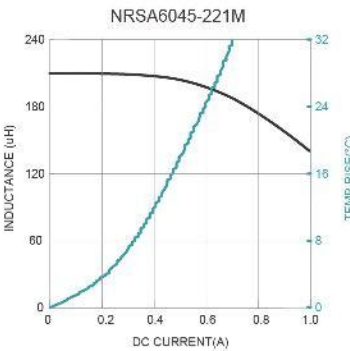
Typical Electrical Characteristics



Typical Electrical Characteristics



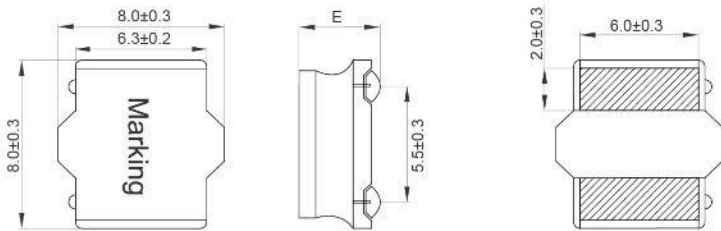
Typical Electrical Characteristics



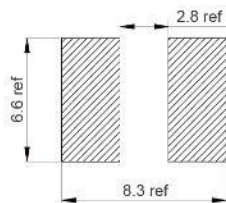
NRSA Series
SMD Power Inductors For Automotive
8040 Size



Dimensions: [mm]



Land Pattern: [mm]

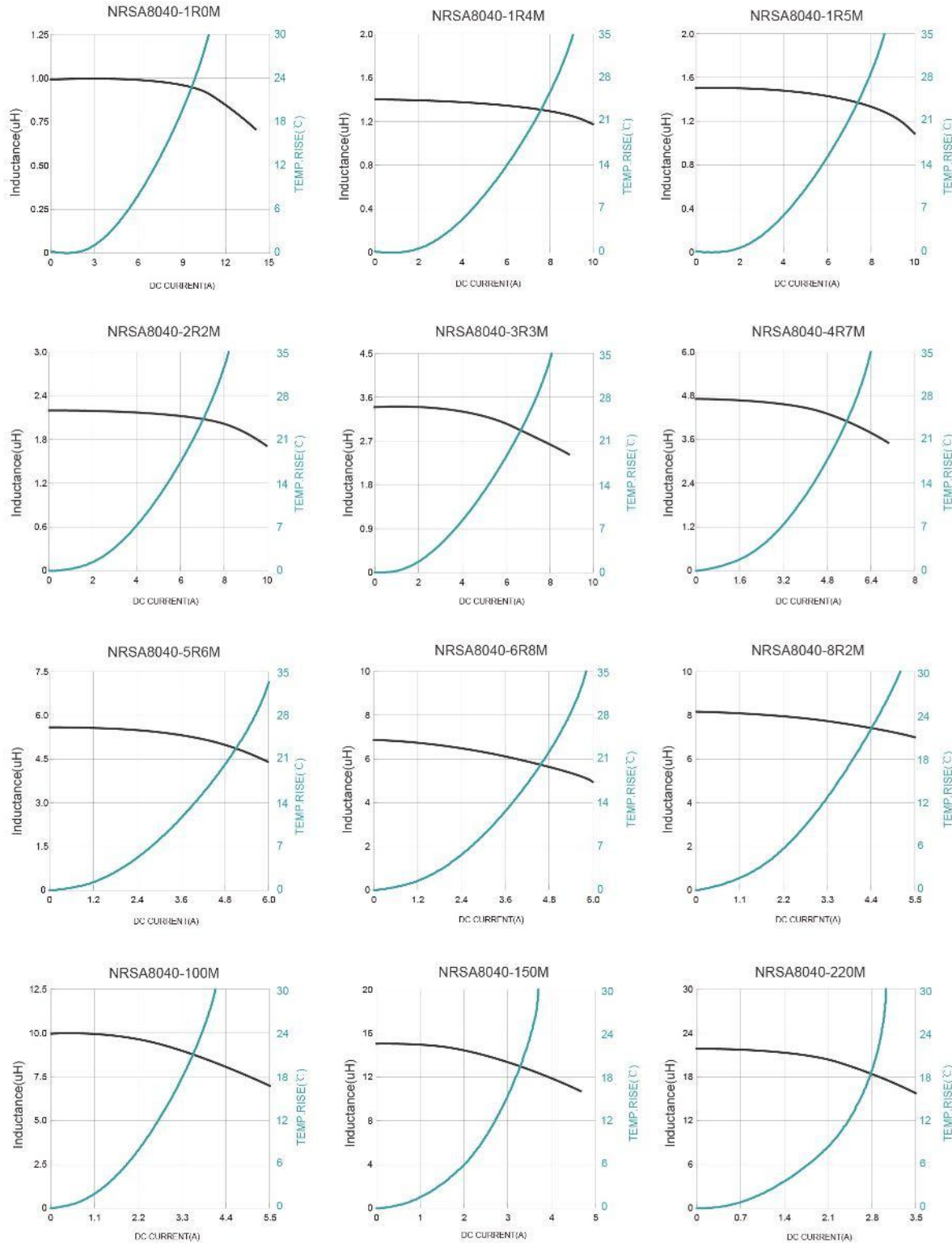


Electrical Properties

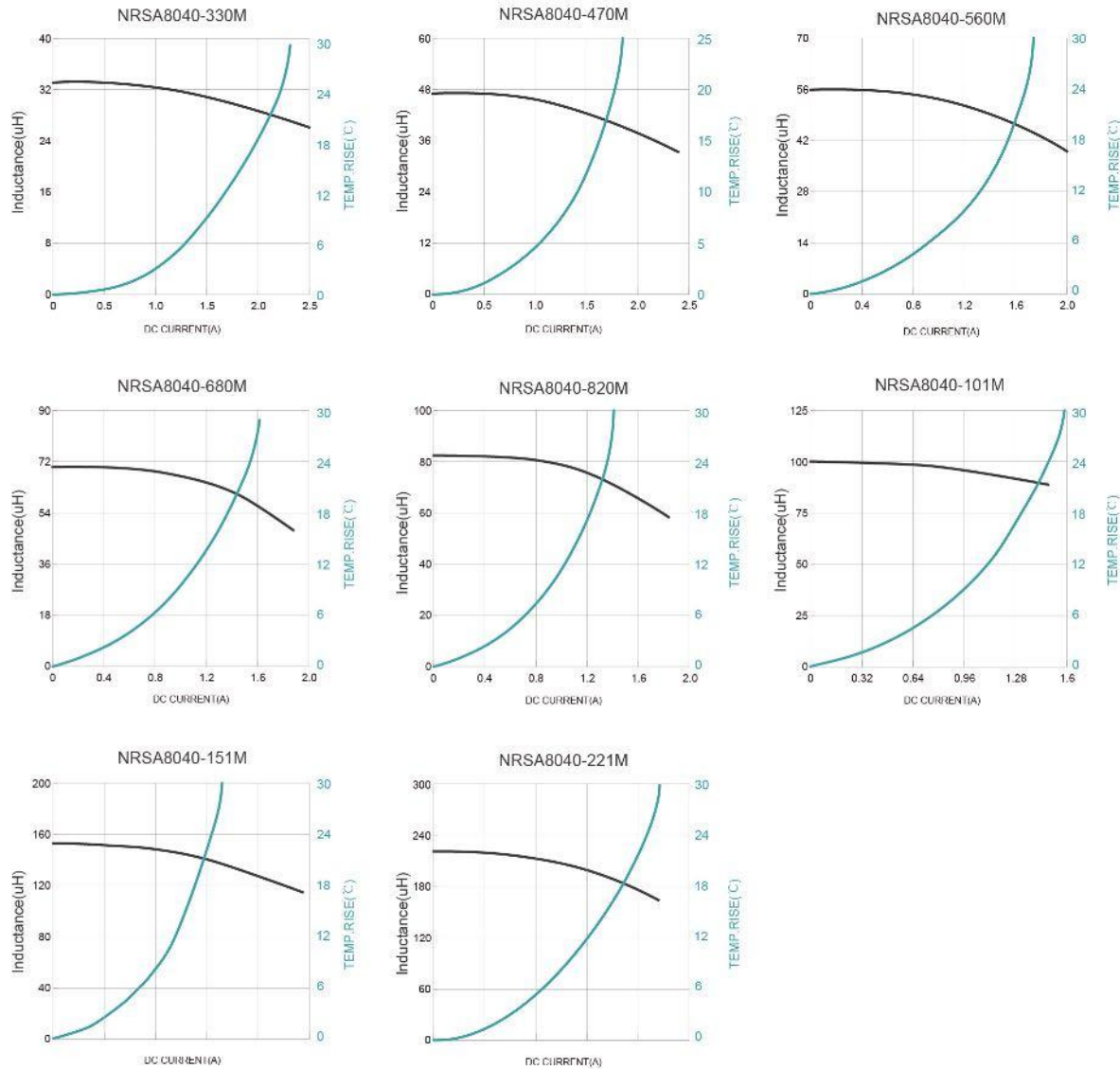
Part No	L@100KHz/1V (μH)	Tolerance	I _{SAT} Typ. (A)	I _{SAT} Max. (A)	I _R Typ. (A)	I _R Max. (A)	R _{DC} ±20% (mΩ)	E
NRSA8040-1R0M	1.0	±20%	13.8	13.0	8.50	8.00	8.20	4.2 Max
NRSA8040-1R4M	1.4	±20%	11.8	11.2	8.20	7.80	10.0	4.2 Max
NRSA8040-1R5M	1.5	±20%	11.5	11.0	8.00	7.70	10.0	4.2 Max
NRSA8040-2R2M	2.2	±20%	9.80	9.20	7.40	6.90	11.5	4.2 Max
NRSA8040-3R3M	3.3	±20%	8.00	7.50	6.60	6.20	15.0	4.2 Max
NRSA8040-4R7M	4.7	±20%	6.70	6.00	5.80	5.30	19.5	4.2 Max
NRSA8040-5R6M	5.6	±20%	6.20	5.80	5.40	5.20	22.0	4.2 Max
NRSA8040-6R8M	6.8	±20%	5.60	5.10	5.10	5.00	25.0	4.2 Max
NRSA8040-8R2M	8.2	±20%	5.30	4.60	4.80	4.50	30.0	4.2 Max
NRSA8040-100M	10	±20%	5.00	4.30	4.60	4.20	33.0	4.2 Max
NRSA8040-150M	15	±20%	4.00	3.60	3.60	3.20	50.0	3.7±0.3
NRSA8040-220M	22	±20%	3.10	2.80	2.90	2.45	73.0	3.7±0.3
NRSA8040-330M	33	±20%	2.60	2.10	2.30	2.10	100	3.7±0.3
NRSA8040-470M	47	±20%	2.20	1.90	2.00	1.70	135	3.7±0.3
NRSA8040-560M	56	±20%	1.90	1.60	1.72	1.60	160	3.7±0.3
NRSA8040-680M	68	±20%	1.75	1.50	1.65	1.50	205	3.7±0.3
NRSA8040-820M	82	±20%	1.60	1.40	1.40	1.30	230	3.7±0.3
NRSA8040-101M	100	±20%	1.45	1.20	1.20	1.10	300	3.7±0.3
NRSA8040-151M	150	±20%	1.20	1.03	0.98	0.90	410	3.7±0.3
NRSA8040-221M	220	±20%	0.99	0.90	0.85	0.76	610	3.7±0.3

Temperature Rise Current will cause the coil temperature rise approximately Δt40℃
Saturation Current will cause Inductance to drop approximately 30%.

Typical Electrical Characteristics



Typical Electrical Characteristics



MDA Series
SMD Low Profile High Current
Molded Inductor

FEATURES

- Shielded construction
- Capable of corresponding high frequency
- Low loss realized with low DCR
- High performance (Isat) realized by metal dust core
- Ultra low buzz noise, due to composite construction
- 100% Lead(Pb)-Free and RoHS compliant
- AEC-Q200 qualified
- Operating temperature:-55 to +155 °C

APPLICATION

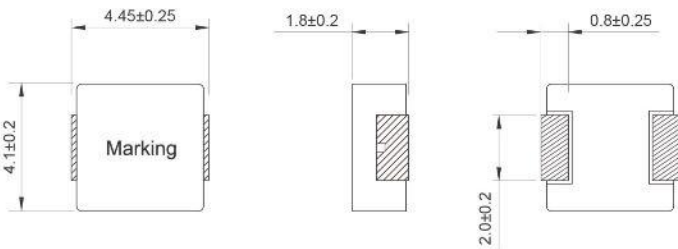
- Noise filter for various drive circuitry requiring high temp. operation and peak current handling capability.
- Boost-Converter
- Buck-Converter DC/DC



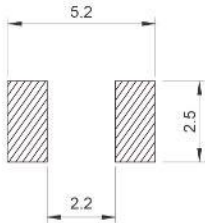
MDA Series
SMD Low Profile High Current Molded Inductor
4020 Size



Dimensions: [mm]



Land Pattern: [mm]

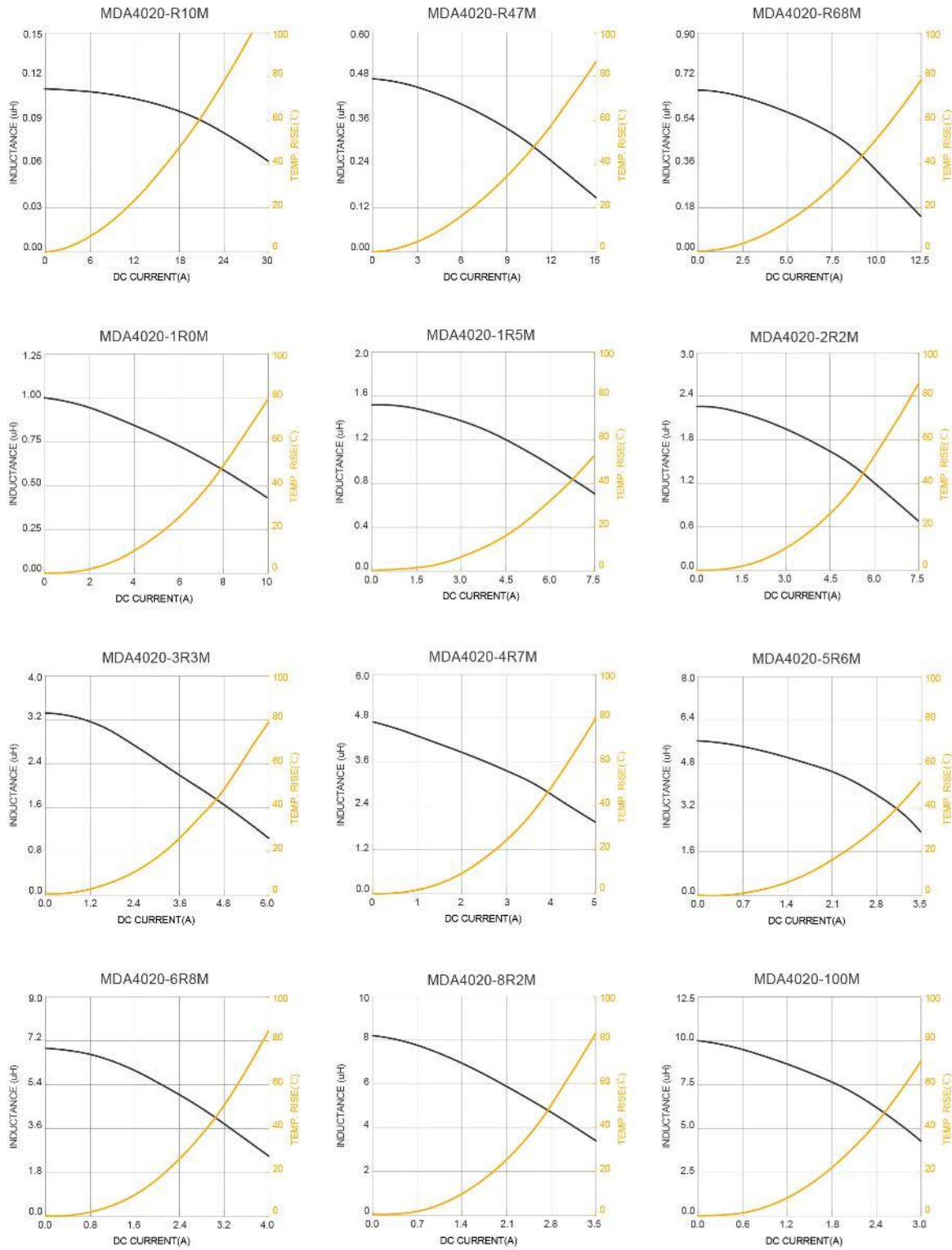


Electrical Properties

Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDA4020-R10M	0.10	±20%	16.0	14.0	26.0	22.0	2.90	3.20
MDA4020-R47M	0.47	±20%	10.0	9.0	9.0	8.0	9.50	11.0
MDA4020-R68M	0.68	±20%	9.0	8.0	7.6	6.6	11.6	13.5
MDA4020-1R0M	1.00	±20%	7.5	6.5	5.5	5.0	19.0	22.0
MDA4020-1R5M	1.50	±20%	6.7	5.8	5.2	4.8	27.0	31.0
MDA4020-2R2M	2.20	±20%	5.5	5.0	4.5	4.0	41.0	48.0
MDA4020-3R3M	3.30	±20%	4.5	3.5	3.1	2.7	65.0	75.0
MDA4020-4R7M	4.70	±20%	3.8	3.2	2.8	2.5	84.0	95.0
MDA4020-5R6M	5.60	±20%	3.2	2.8	2.6	2.3	97.0	115
MDA4020-6R8M	6.80	±20%	2.9	2.5	2.4	2.1	131	157
MDA4020-8R2M	8.20	±20%	2.6	2.3	2.2	2.0	140	168
MDA4020-100M	10.0	±20%	2.4	2.2	2.1	1.9	165	215

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

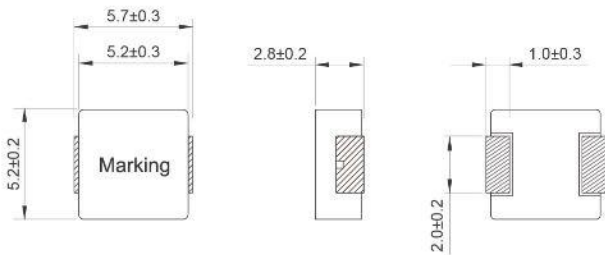
Typical Electrical Characteristics



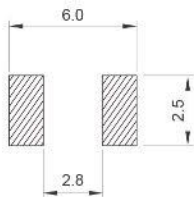
MDA Series
SMD Low Profile High Current Molded Inductor
5030 Size



Dimensions: [mm]



Land Pattern: [mm]

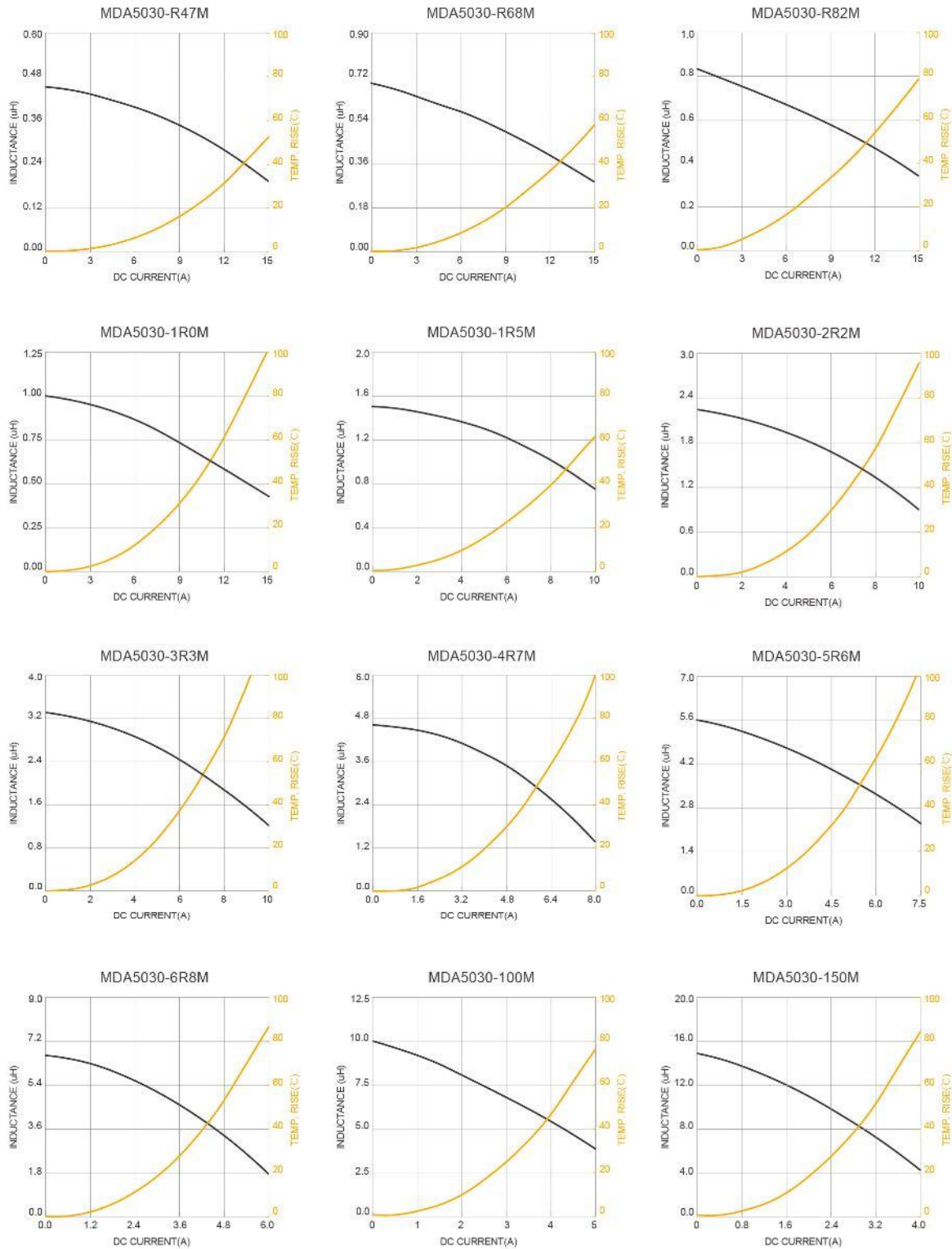


Electrical Properties

Part No	Inductance @ 100kHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDA5030-R47M	0.47	±20%	13.5	12.0	10.0	9.0	5.20	6.00
MDA5030-R68M	0.68	±20%	12.5	11.0	9.0	8.0	7.40	8.50
MDA5030-R82M	0.82	±20%	10.0	9.0	8.8	7.7	8.00	9.20
MDA5030-1R0M	1.00	±20%	9.0	8.0	8.5	7.5	10.5	12.0
MDA5030-1R5M	1.50	±20%	8.0	7.0	7.5	6.5	13.6	15.7
MDA5030-2R2M	2.20	±20%	7.0	6.5	6.5	5.8	21.6	25.0
MDA5030-3R3M	3.30	±20%	6.3	5.8	6.0	5.3	28.0	33.0
MDA5030-4R7M	4.70	±20%	5.5	4.8	5.3	4.6	38.0	44.0
MDA5030-5R6M	5.60	±20%	5.0	4.3	4.6	4.0	50.0	58.0
MDA5030-6R8M	6.80	±20%	4.3	3.7	3.5	3.1	57.0	66.0
MDA5030-100M	10.0	±20%	3.8	3.4	2.5	2.1	88.0	103.0
MDA5030-150M	15.0	±20%	2.9	2.5	2.2	1.7	140.0	170.0

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



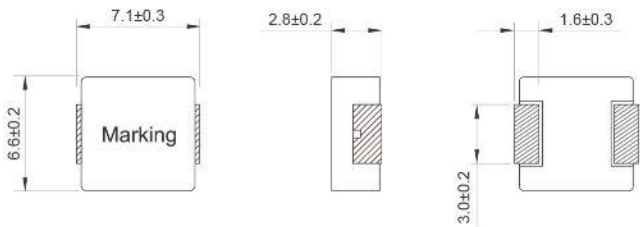
MDA Series

SMD Low Profile High Current Molded Inductor

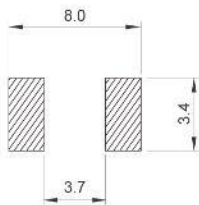
7030 Size



Dimensions: [mm]



Land Pattern: [mm]



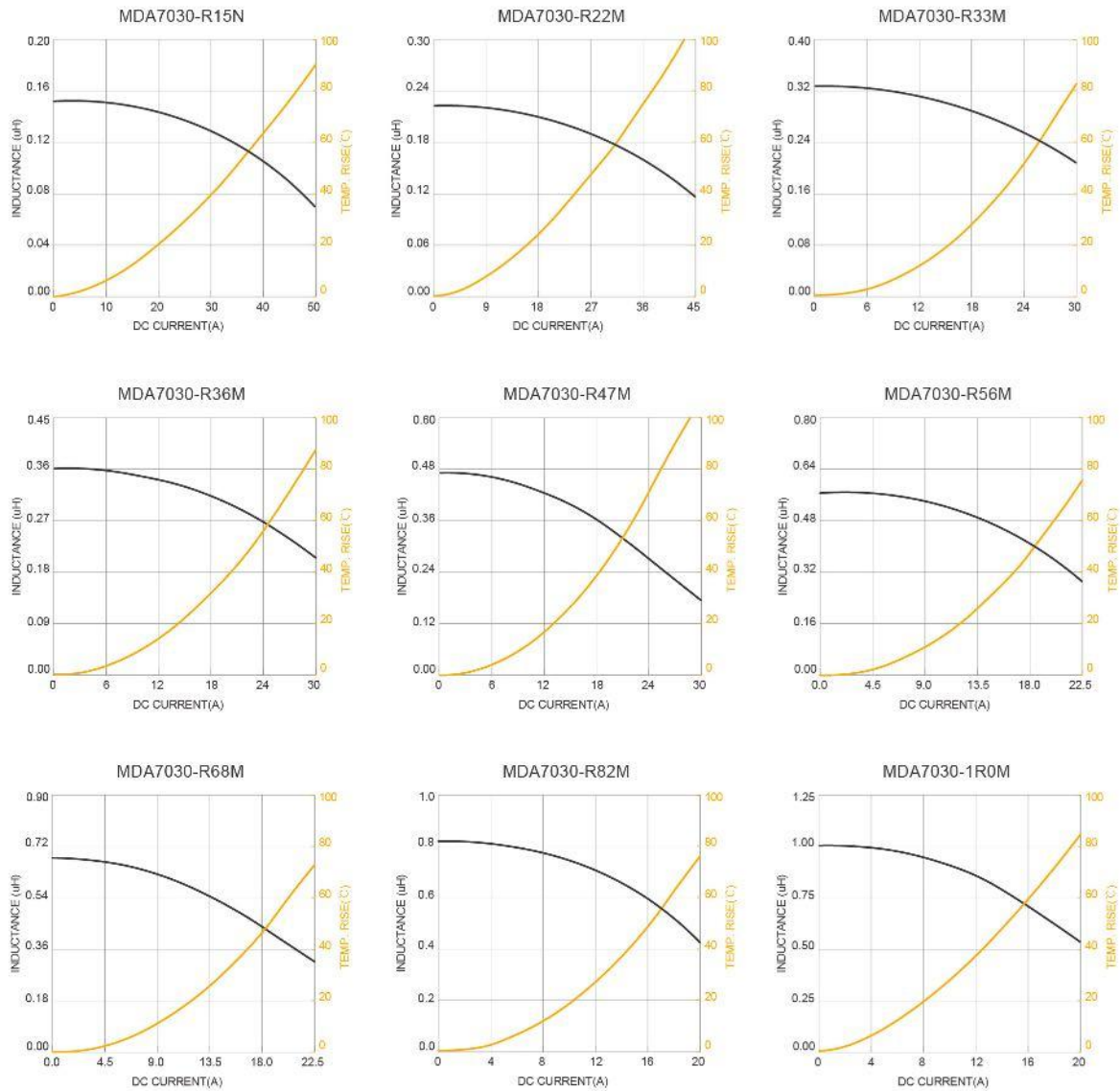
Electrical Properties

Part No	Inductance @ 100kHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDA7030-R15N	0.15	±30%	30.0	25.0	40.0	36.0	1.70	2.10
MDA7030-R22M	0.22	±20%	23.0	21.0	34.0	32.0	2.00	2.50
MDA7030-R33M	0.33	±20%	21.0	20.0	25.0	22.0	2.80	3.40
MDA7030-R36M	0.36	±20%	20.0	18.0	24.0	21.0	3.30	3.90
MDA7030-R47M	0.47	±20%	18.0	16.0	20.0	18.0	3.40	4.00
MDA7030-R56M	0.56	±20%	16.5	15.0	18.0	16.0	3.90	4.50
MDA7030-R68M	0.68	±20%	16.0	14.5	17.0	15.0	4.70	5.30
MDA7030-R82M	0.82	±20%	14.0	13.0	16.0	14.0	5.40	6.00
MDA7030-1R0M	1.00	±20%	12.0	11.0	15.0	13.5	6.70	7.40
MDA7030-1R2M	1.20	±20%	10.0	9.5	14.0	12.5	7.70	9.50
MDA7030-1R5M	1.50	±20%	10.0	9.0	14.0	12.0	10.2	12.1
MDA7030-2R2M	2.20	±20%	8.0	7.5	10.0	9.0	13.5	15.0
MDA7030-3R3M	3.30	±20%	6.5	6.0	9.5	8.5	19.0	22.0
MDA7030-4R7M	4.70	±20%	5.5	5.0	6.5	5.5	28.0	33.0
MDA7030-5R6M	5.60	±20%	5.5	5.0	6.0	5.2	39.0	42.0
MDA7030-6R8M	6.80	±20%	4.5	4.2	6.0	5.0	43.0	50.0

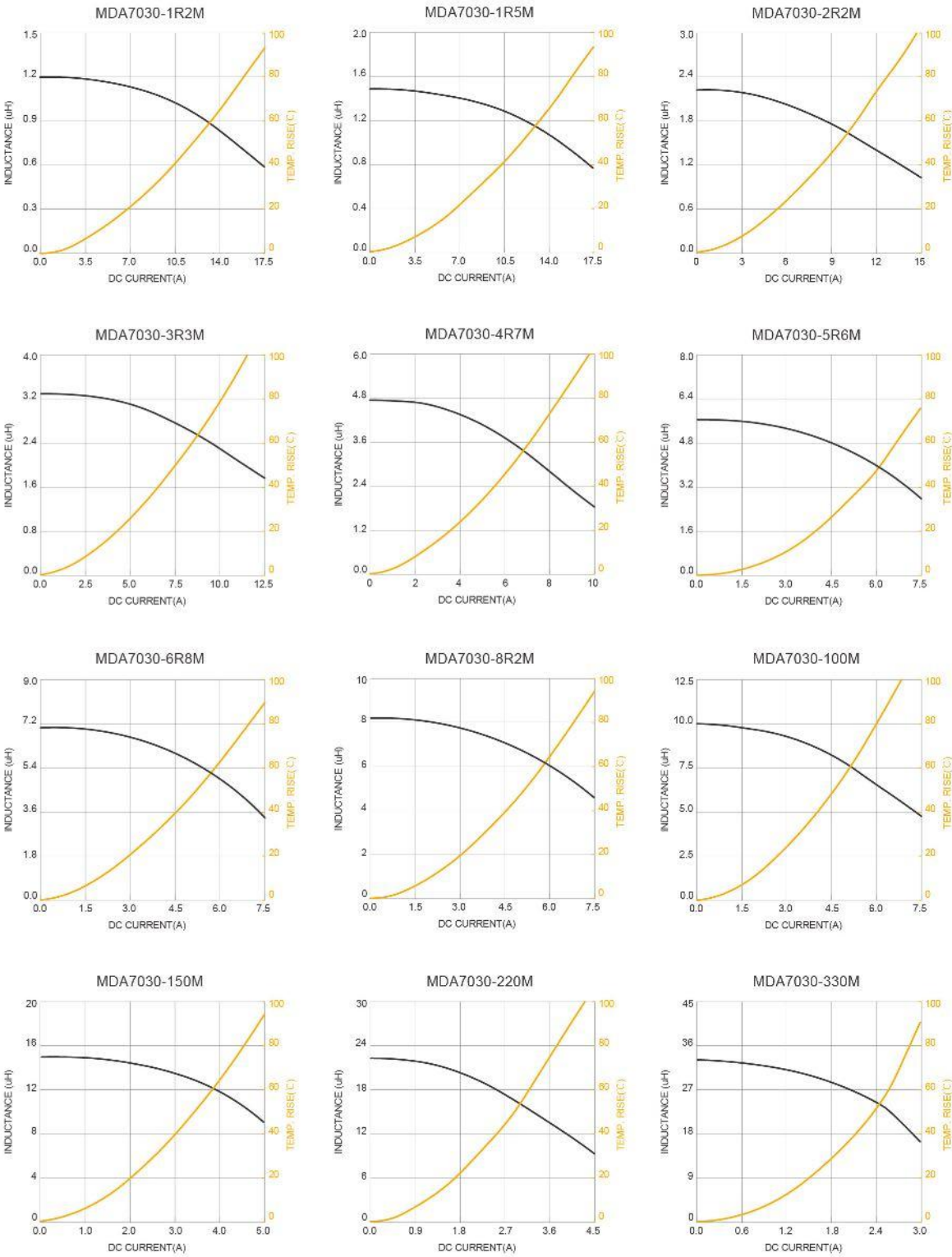
Part No	Inductance @ 100kHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDA7030-8R2M	8.20	±20%	4.5	4.0	6.0	4.7	54.0	60.0
MDA7030-100M	10.0	±20%	4.0	3.5	5.5	4.5	62.0	68.0
MDA7030-150M	15.0	±20%	3.0	2.5	4.5	4.0	110	140
MDA7030-220M	22.0	±20%	2.5	2.0	3.0	2.5	150	190
MDA7030-330M	33.0	±20%	2.1	1.8	2.5	2.0	215	258
MDA7030-470M	47.0	±20%	1.5	1.2	2.0	1.6	318	385

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



Typical Electrical Characteristics



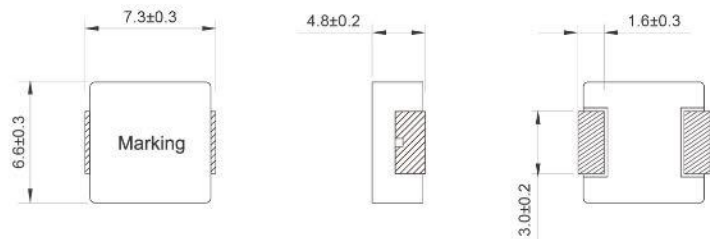
MDA Series

SMD Low Profile High Current Molded Inductor

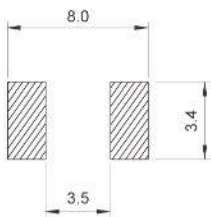
7050 Size



Dimensions: [mm]



Land Pattern: [mm]

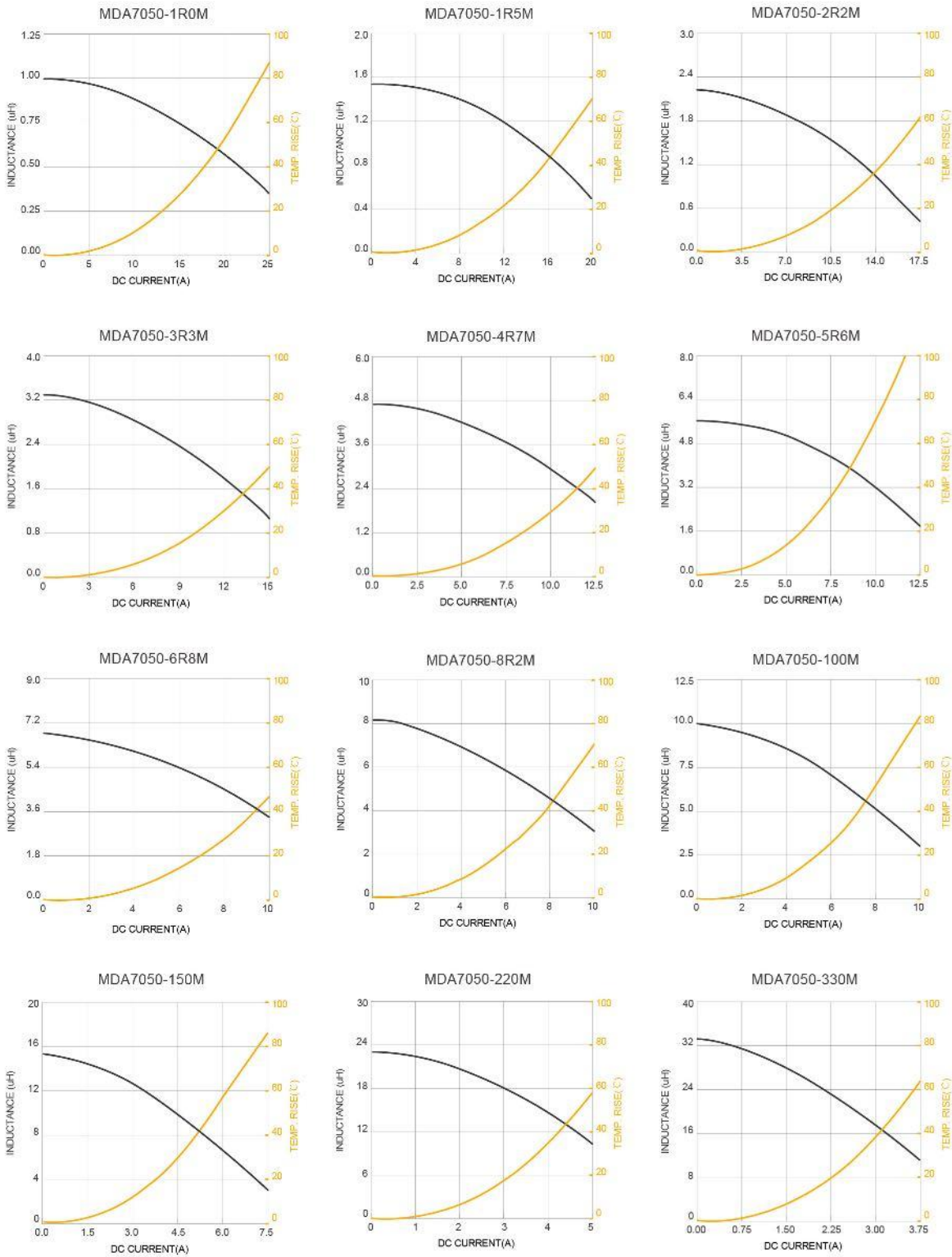


Electrical Properties

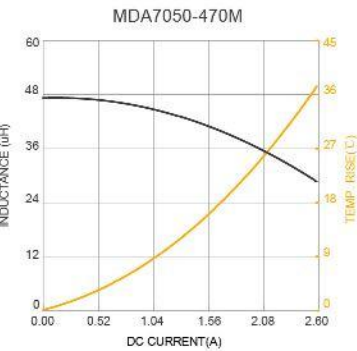
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDA7050-1R0M	1.00	±20%	17.0	15.0	16.0	13.0	5.60	6.20
MDA7050-1R5M	1.50	±20%	15.0	13.0	13.0	10.5	6.60	7.30
MDA7050-2R2M	2.20	±20%	14.0	12.0	10.0	8.5	10.0	11.5
MDA7050-3R3M	3.30	±20%	13.0	11.0	9.5	8.0	14.0	16.2
MDA7050-4R7M	4.70	±20%	11.0	9.5	8.8	7.5	20.8	24.0
MDA7050-5R6M	5.60	±20%	10.0	8.5	8.0	7.2	28.0	33.0
MDA7050-6R8M	6.80	±20%	9.0	8.0	7.6	7.0	30.0	36.0
MDA7050-8R2M	8.20	±20%	7.5	6.5	6.5	6.0	38.5	45.0
MDA7050-100M	10.0	±20%	7.0	6.0	6.0	5.7	44.0	53.0
MDA7050-150M	15.0	±20%	5.0	4.0	4.0	3.2	73.0	85.0
MDA7050-220M	22.0	±20%	4.2	3.6	3.6	3.1	122	142
MDA7050-330M	33.0	±20%	3.0	2.5	2.3	1.8	142	170
MDA7050-470M	47.0	±20%	2.6	2.0	1.8	1.5	275	320

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



Typical Electrical Characteristics



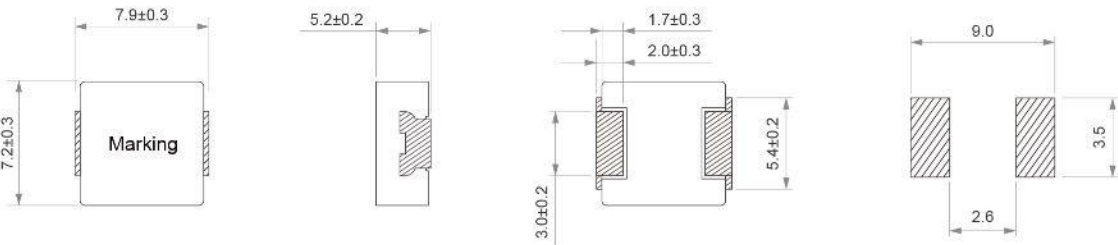
MDA HT Series

SMD Low Profile High Current Molded Inductor

7054 Size



Dimensions: [mm]



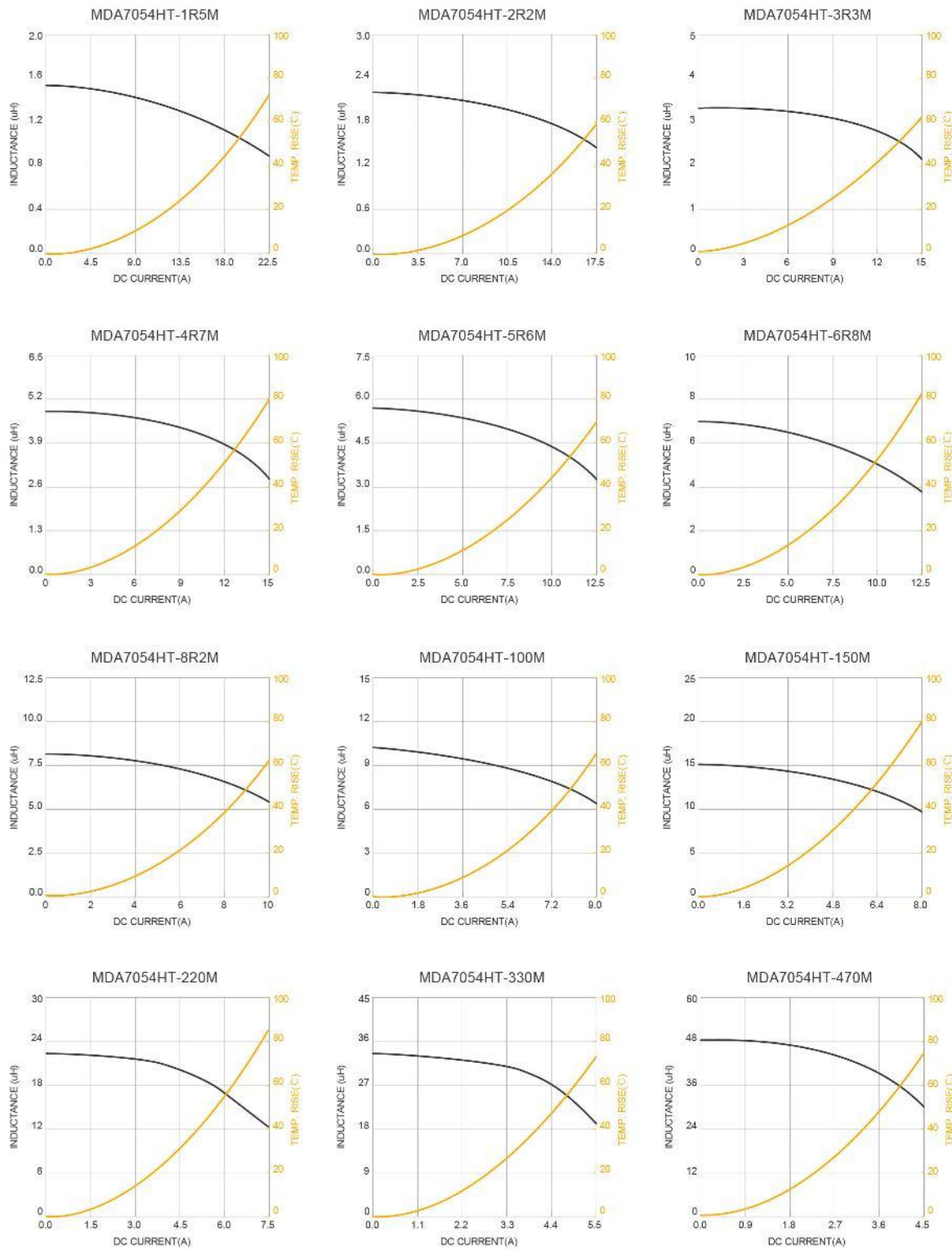
Land Pattern: [mm]

Electrical Properties

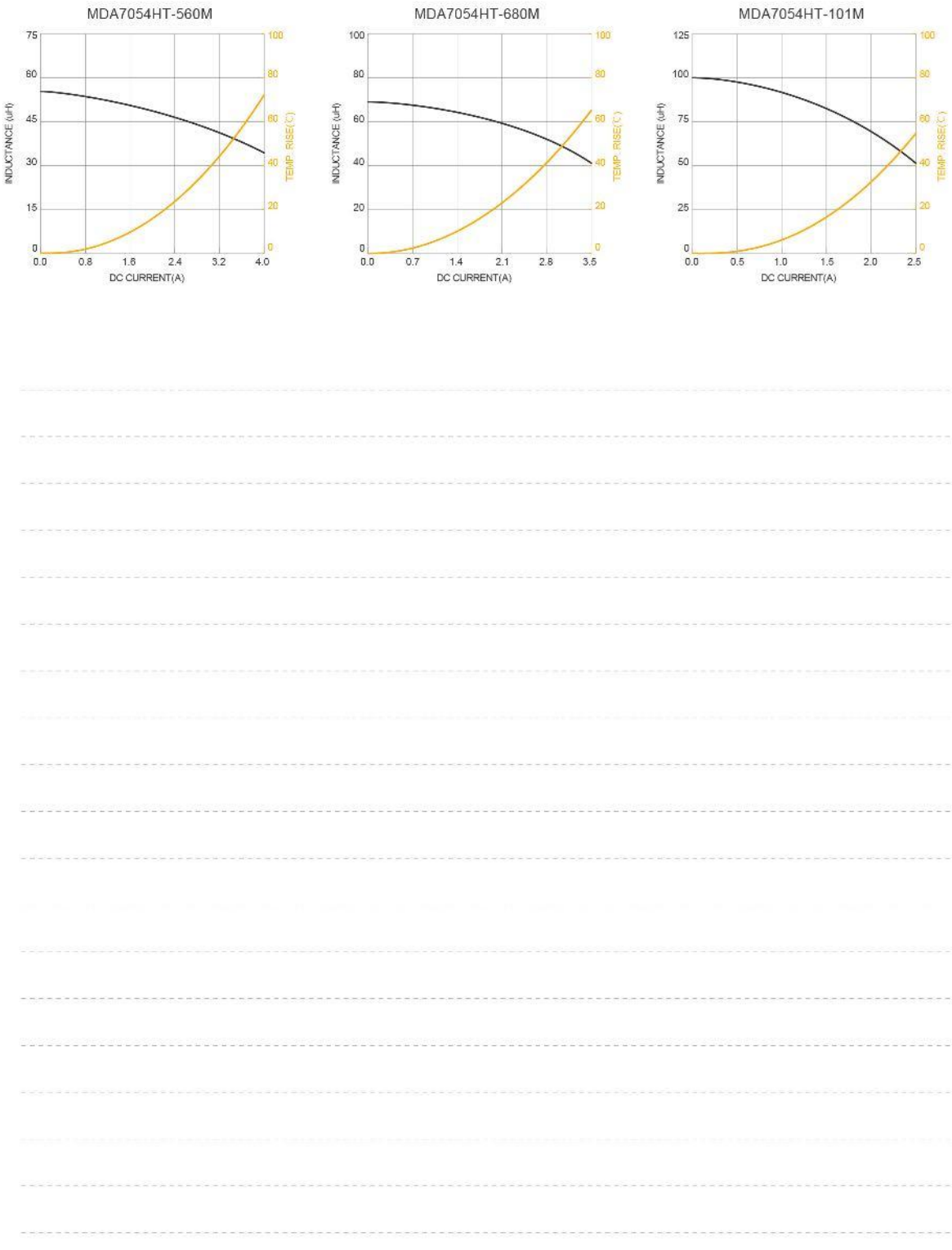
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDA7054HT-1R5M	1.50	±20%	11.5	10.3	16.4	14.0	6.30	7.30
MDA7054HT-2R2M	2.20	±20%	9.80	8.70	15.0	12.7	9.90	11.4
MDA7054HT-3R3M	3.30	±20%	8.00	7.20	13.5	11.6	13.4	15.4
MDA7054HT-4R7M	4.70	±20%	7.00	6.30	13.2	11.2	18.2	20.9
MDA7054HT-5R6M	5.60	±20%	6.50	5.60	10.6	9.20	20.0	24.0
MDA7054HT-6R8M	6.80	±20%	6.20	5.50	10.2	8.70	23.1	26.6
MDA7054HT-8R2M	8.20	±20%	5.80	5.00	9.20	7.70	27.8	31.9
MDA7054HT-100M	10.0	±20%	5.20	4.70	8.10	6.90	33.0	38.0
MDA7054HT-150M	15.0	±20%	3.80	3.40	7.00	5.90	60.0	66.0
MDA7054HT-220M	22.0	±20%	3.30	3.00	6.30	5.40	85.0	93.5
MDA7054HT-330M	33.0	±20%	3.20	2.80	4.90	4.20	111.0	127.6
MDA7054HT-470M	47.0	±20%	2.50	2.20	4.20	3.50	156.0	171.6
MDA7054HT-560M	56.0	±20%	2.20	2.00	3.30	2.80	190.5	209.3
MDA7054HT-680M	68.0	±20%	2.00	1.80	2.80	2.40	222.0	255.0
MDA7054HT-101M	100	±20%	1.80	1.60	2.40	2.00	303.0	348.0

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



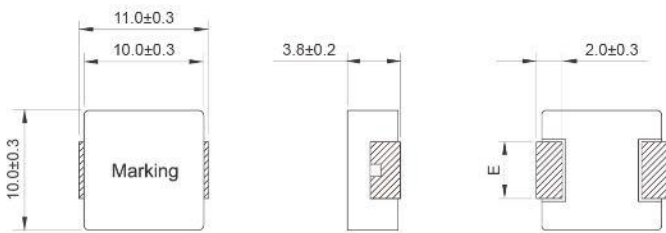
Typical Electrical Characteristics



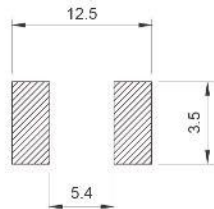
MDA Series
SMD Low Profile High Current Molded Inductor
1040 Size



Dimensions: [mm]



Land Pattern: [mm]



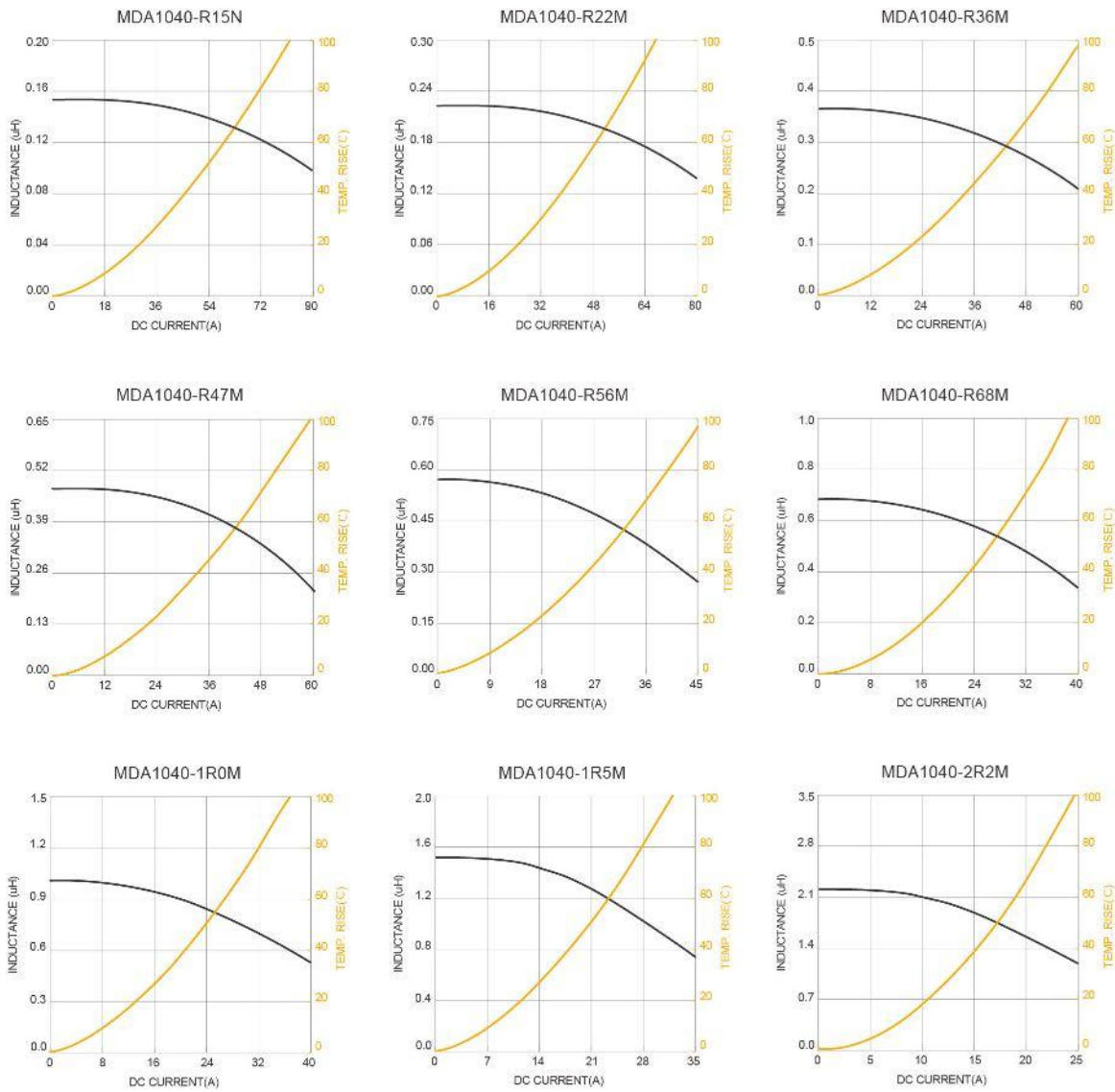
Electrical Properties

Part No	Inductance @ 100kHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDA1040-R15N	0.15	±30%	44.0	38.0	82.0	75.0	0.50	0.60	3.0±0.3
MDA1040-R22M	0.22	±20%	36.0	33.0	70.0	60.0	0.72	0.83	3.0±0.3
MDA1040-R36M	0.36	±20%	33.0	29.0	51.0	45.0	1.05	1.18	3.0±0.3
MDA1040-R47M	0.47	±20%	32.0	28.0	46.0	40.0	1.30	1.50	3.0±0.3
MDA1040-R56M	0.56	±20%	25.0	23.0	34.0	29.0	1.60	1.80	2.5±0.3
MDA1040-R68M	0.68	±20%	23.0	20.0	31.0	28.0	1.90	2.20	2.5±0.3
MDA1040-1R0M	1.00	±20%	20.0	18.0	29.0	26.0	2.90	3.25	2.5±0.3
MDA1040-1R5M	1.50	±20%	17.5	16.0	26.0	22.0	3.70	4.20	2.5±0.3
MDA1040-2R2M	2.20	±20%	15.0	13.0	20.0	16.0	5.80	6.70	3.0±0.3
MDA1040-3R3M	3.30	±20%	11.0	10.0	17.5	14.0	10.5	11.8	3.0±0.3
MDA1040-4R7M	4.70	±20%	8.80	8.0	15.2	13.0	15.8	19.0	3.0±0.3
MDA1040-5R6M	5.60	±20%	8.00	7.2	14.1	11.5	19.0	22.8	3.0±0.3
MDA1040-6R8M	6.80	±20%	7.80	6.8	12.2	11.0	22.0	24.5	3.0±0.3
MDA1040-8R2M	8.20	±20%	7.60	6.5	9.50	8.5	25.0	28.0	3.0±0.3
MDA1040-100M	10.0	±20%	7.50	6.1	8.60	7.5	27.0	30.0	3.0±0.3

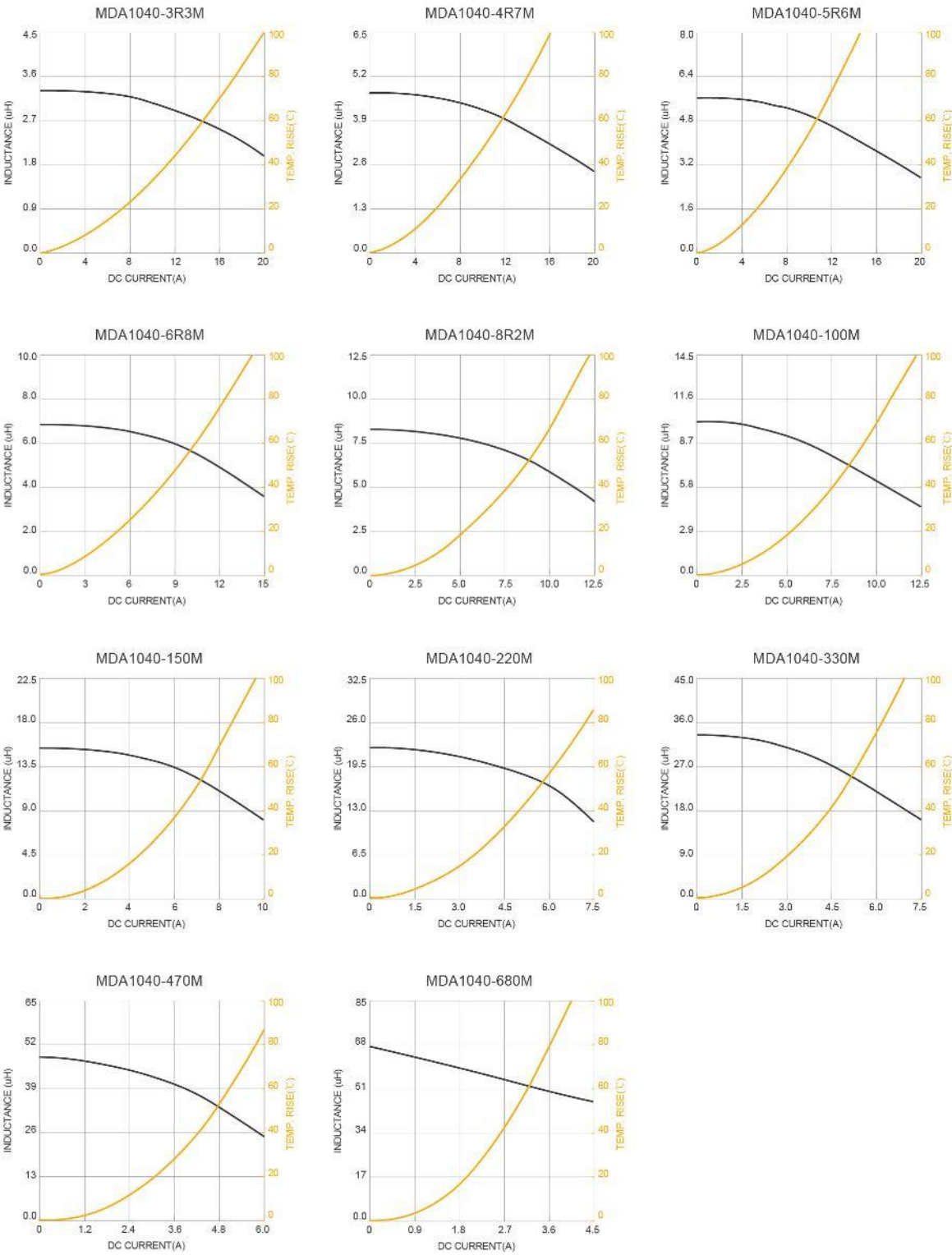
Part No	Inductance @ 100kHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDA1040-150M	15.0	±20%	6.25	5.0	7.00	6.0	41.0	45.0	3.0±0.3
MDA1040-220M	22.0	±20%	5.00	4.1	6.20	5.5	58.0	66.0	3.0±0.3
MDA1040-330M	33.0	±20%	4.40	3.5	5.50	5.0	84.0	91.0	3.0±0.3
MDA1040-470M	47.0	±20%	3.50	3.0	4.00	3.7	125	143	3.0±0.3
MDA1040-680M	68.0	±20%	2.60	2.4	3.20	3.0	192	210	3.0±0.3

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



Typical Electrical Characteristics



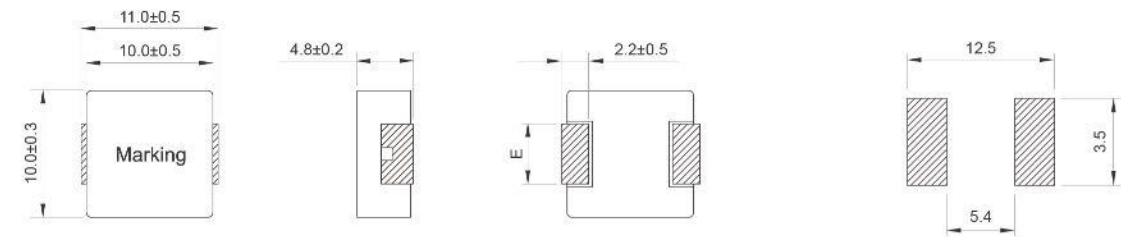
MDA Series

SMD Low Profile High Current Molded Inductor

1050 Size



Dimensions: [mm]



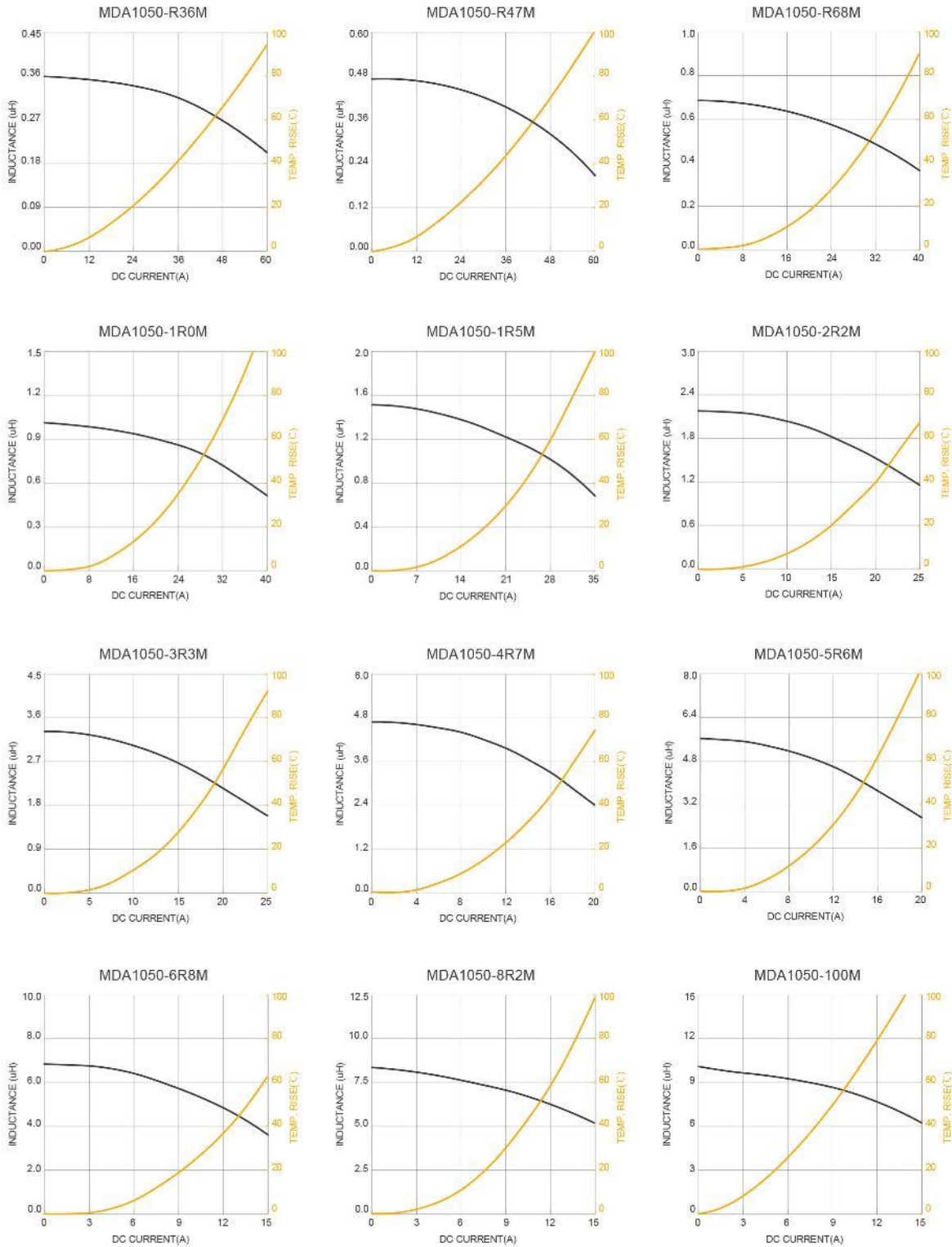
Land Pattern: [mm]

Electrical Properties

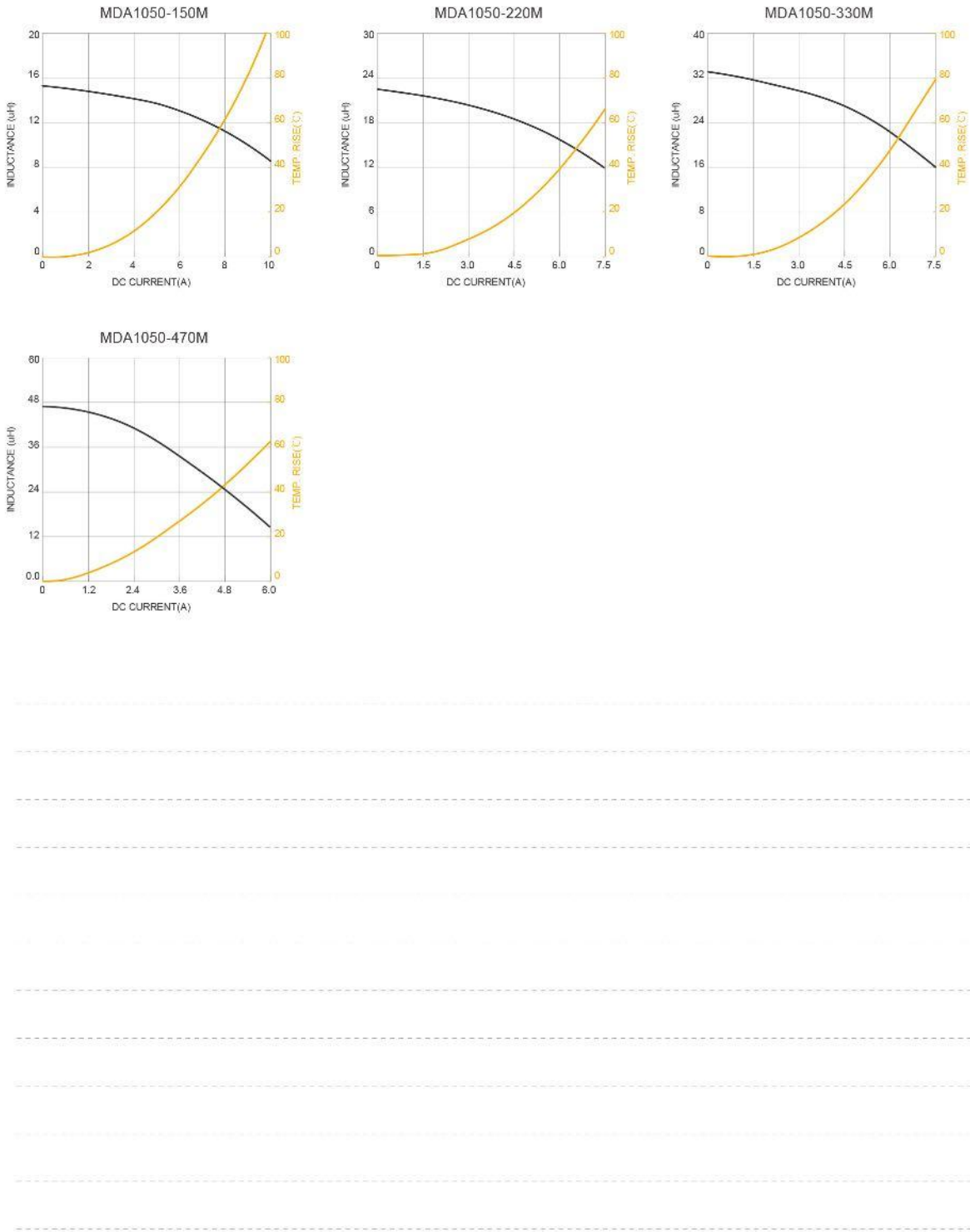
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDA1050-R36M	0.36	±20%	34.0	30.0	52.0	46.0	0.82	0.92	3.0±0.3
MDA1050-R47M	0.47	±20%	33.0	29.0	46.0	40.0	1.15	1.32	3.0±0.3
MDA1050-R68M	0.68	±20%	28.0	25.0	35.0	32.0	1.60	1.90	2.5±0.3
MDA1050-1R0M	1.00	±20%	25.0	23.0	33.0	30.0	2.60	3.00	2.5±0.3
MDA1050-1R5M	1.50	±20%	23.0	21.0	27.0	24.0	3.40	3.80	2.5±0.3
MDA1050-2R2M	2.20	±20%	19.5	17.5	20.0	18.0	5.10	5.60	3.0±0.3
MDA1050-3R3M	3.30	±20%	17.0	15.0	17.5	15.5	8.10	9.10	3.0±0.3
MDA1050-4R7M	4.70	±20%	15.0	13.0	16.0	14.0	9.30	10.5	3.0±0.3
MDA1050-5R6M	5.60	±20%	13.0	11.0	15.0	12.5	12.8	14.4	3.0±0.3
MDA1050-6R8M	6.80	±20%	12.0	10.0	14.0	12.0	15.0	17.3	3.0±0.3
MDA1050-8R2M	8.20	±20%	10.0	8.5	13.5	11.5	16.1	18.8	3.0±0.3
MDA1050-100M	10.0	±20%	7.6	7.2	13.0	11.0	18.9	21.8	3.0±0.3
MDA1050-150M	15.0	±20%	6.5	6.0	8.5	7.5	32.0	39.0	3.0±0.3
MDA1050-220M	22.0	±20%	6.0	5.5	6.0	5.5	44.0	54.0	3.0±0.3
MDA1050-330M	33.0	±20%	5.5	5.0	5.8	5.2	74.0	86.0	3.0±0.3
MDA1050-470M	47.0	±20%	4.5	4.0	4.0	3.5	106	127	3.0±0.3

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



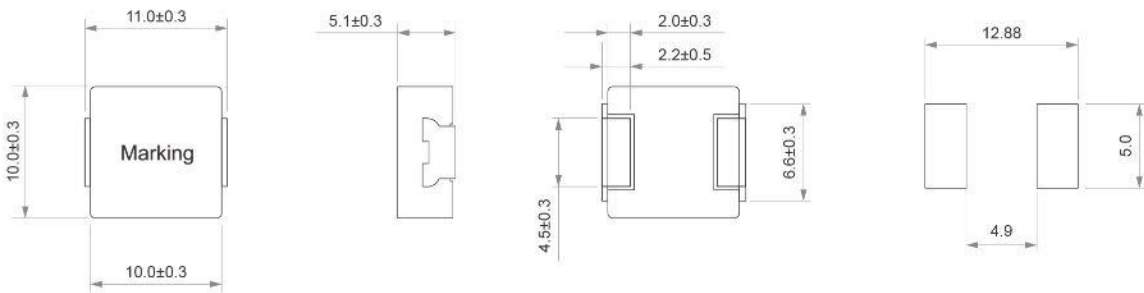
Typical Electrical Characteristics



MDA HT Series
SMD Low Profile High Current Molded Inductor
1054 Size



Dimensions: [mm]



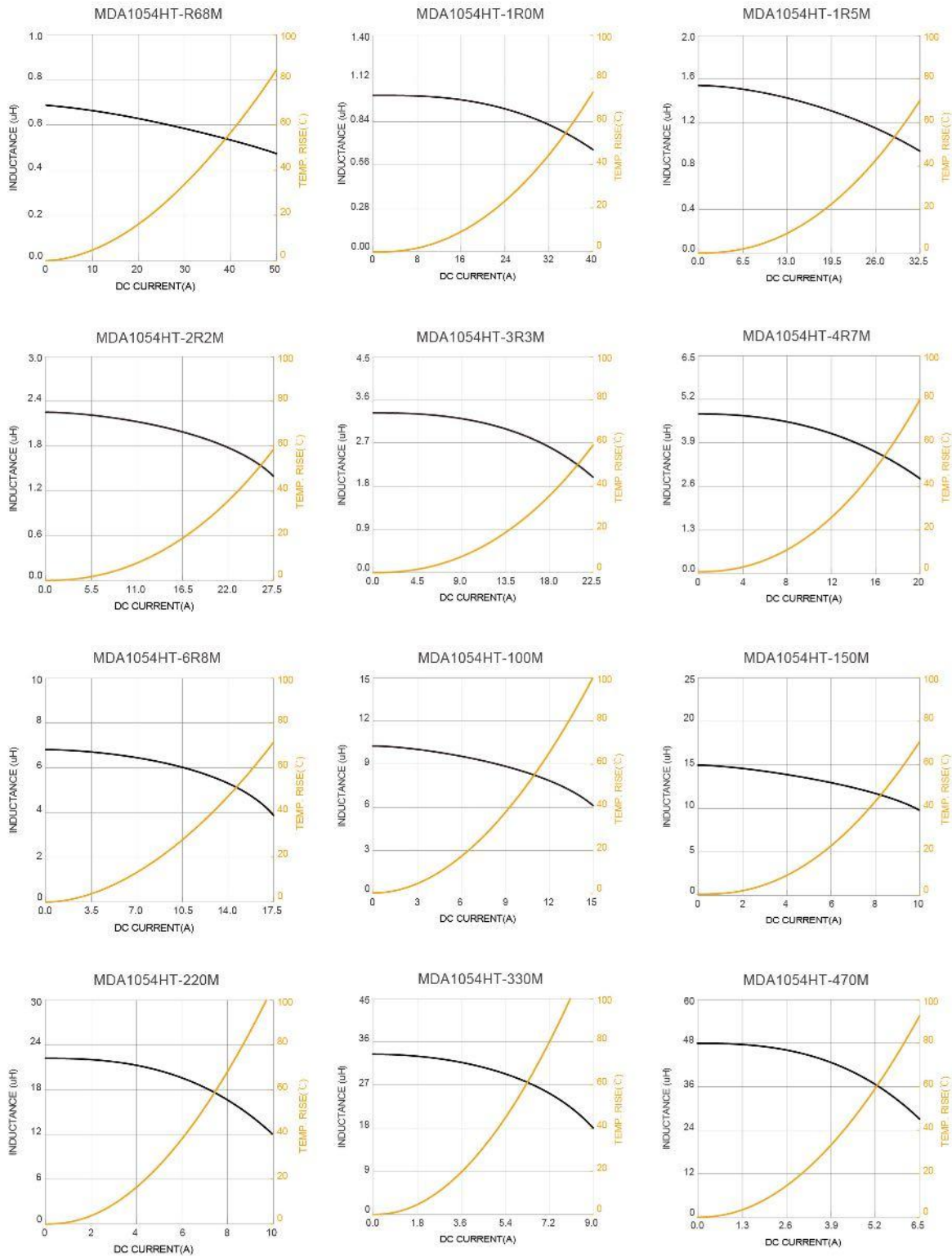
Land Pattern: [mm]

Electrical Properties

Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDA1054HT-R68M	0.68	±20%	32.0	28.8	46.0	39.4	1.80	2.22
MDA1054HT-1R0M	1.00	±20%	30.0	27.0	37.0	31.7	2.30	2.76
MDA1054HT-1R5M	1.50	±20%	25.0	22.3	27.0	23.0	3.60	4.20
MDA1054HT-2R2M	2.20	±20%	23.0	20.7	25.0	21.4	4.10	4.90
MDA1054HT-3R3M	3.30	±20%	18.7	16.8	19.0	16.3	6.20	7.40
MDA1054HT-4R7M	4.70	±20%	14.5	13.0	15.7	13.5	9.00	10.0
MDA1054HT-6R8M	6.80	±20%	12.3	10.8	13.3	11.4	12.4	14.0
MDA1054HT-100M	10.0	±20%	9.00	7.80	12.8	10.9	22.0	24.2
MDA1054HT-150M	15.0	±20%	7.60	6.80	9.20	7.90	27.3	31.3
MDA1054HT-220M	22.0	±20%	6.00	5.40	8.80	7.50	43.5	50.0
MDA1054HT-330M	33.0	±20%	4.80	4.30	7.60	6.50	66.0	75.3
MDA1054HT-470M	47.0	±20%	4.20	3.60	4.90	4.20	89.0	103

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



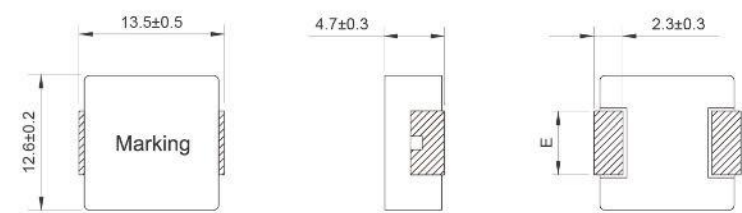
MDA Series

SMD Low Profile High Current Molded Inductor

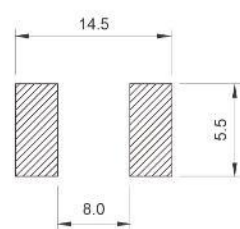
1350 Size



Dimensions: [mm]



Land Pattern: [mm]

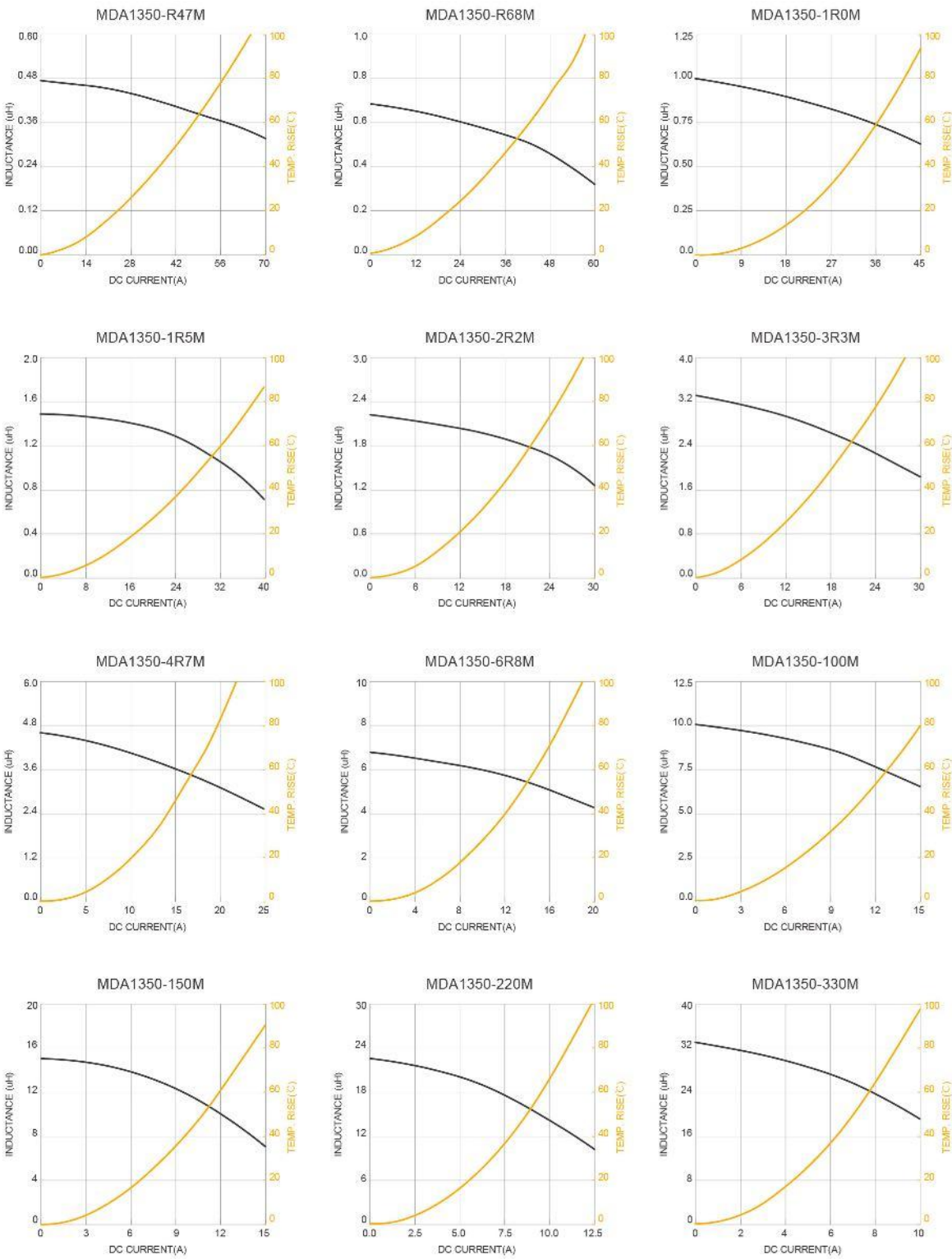


Electrical Properties

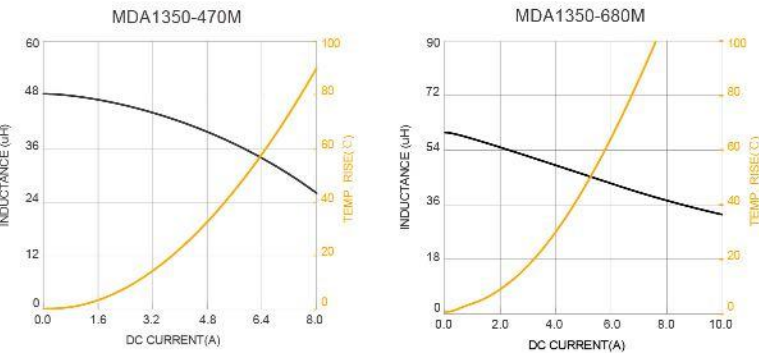
Part No	Inductance @ 100kHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDA1350-R47M	0.47	±20%	38.0	34.0	65.0	58.0	0.77	0.90	4.0±0.3
MDA1350-R68M	0.68	±20%	34.0	31.0	50.0	42.0	1.30	1.55	4.0±0.3
MDA1350-1R0M	1.00	±20%	30.0	27.0	40.0	34.0	1.60	1.90	4.0±0.3
MDA1350-1R5M	1.50	±20%	25.0	22.0	31.0	28.0	3.20	3.80	4.7±0.3
MDA1350-2R2M	2.20	±20%	17.0	15.5	26.0	23.0	4.10	4.80	4.7±0.3
MDA1350-3R3M	3.30	±20%	15.5	14.0	23.0	20.5	6.00	7.00	4.7±0.3
MDA1350-4R7M	4.70	±20%	14.0	12.5	18.5	16.0	8.80	10.2	4.7±0.3
MDA1350-6R8M	6.80	±20%	12.0	11.0	16.5	15.0	13.0	16.0	4.7±0.3
MDA1350-100M	10.0	±20%	10.0	9.0	13.0	10.5	19.2	20.9	4.7±0.3
MDA1350-150M	15.0	±20%	9.40	8.2	11.0	9.2	30.0	36.0	4.7±0.3
MDA1350-220M	22.0	±20%	8.00	7.0	8.50	7.5	42.0	52.0	4.7±0.3
MDA1350-330M	33.0	±20%	6.00	5.2	7.30	6.5	66.0	80.0	4.7±0.3
MDA1350-470M	47.0	±20%	5.20	4.3	6.00	5.2	78.0	94.0	4.7±0.3
MDA1350-680M	68.0	±20%	4.30	3.4	5.00	4.0	95.0	132.0	4.7±0.3

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



Typical Electrical Characteristics



MDA Series

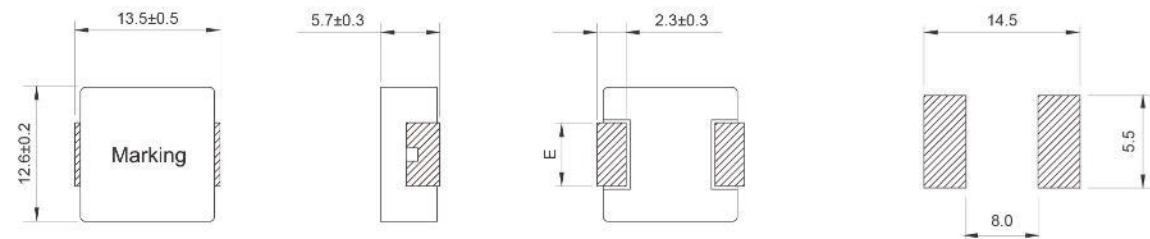
SMD Low Profile High Current Molded Inductor

1360 Size



Dimensions: [mm]

Land Pattern: [mm]

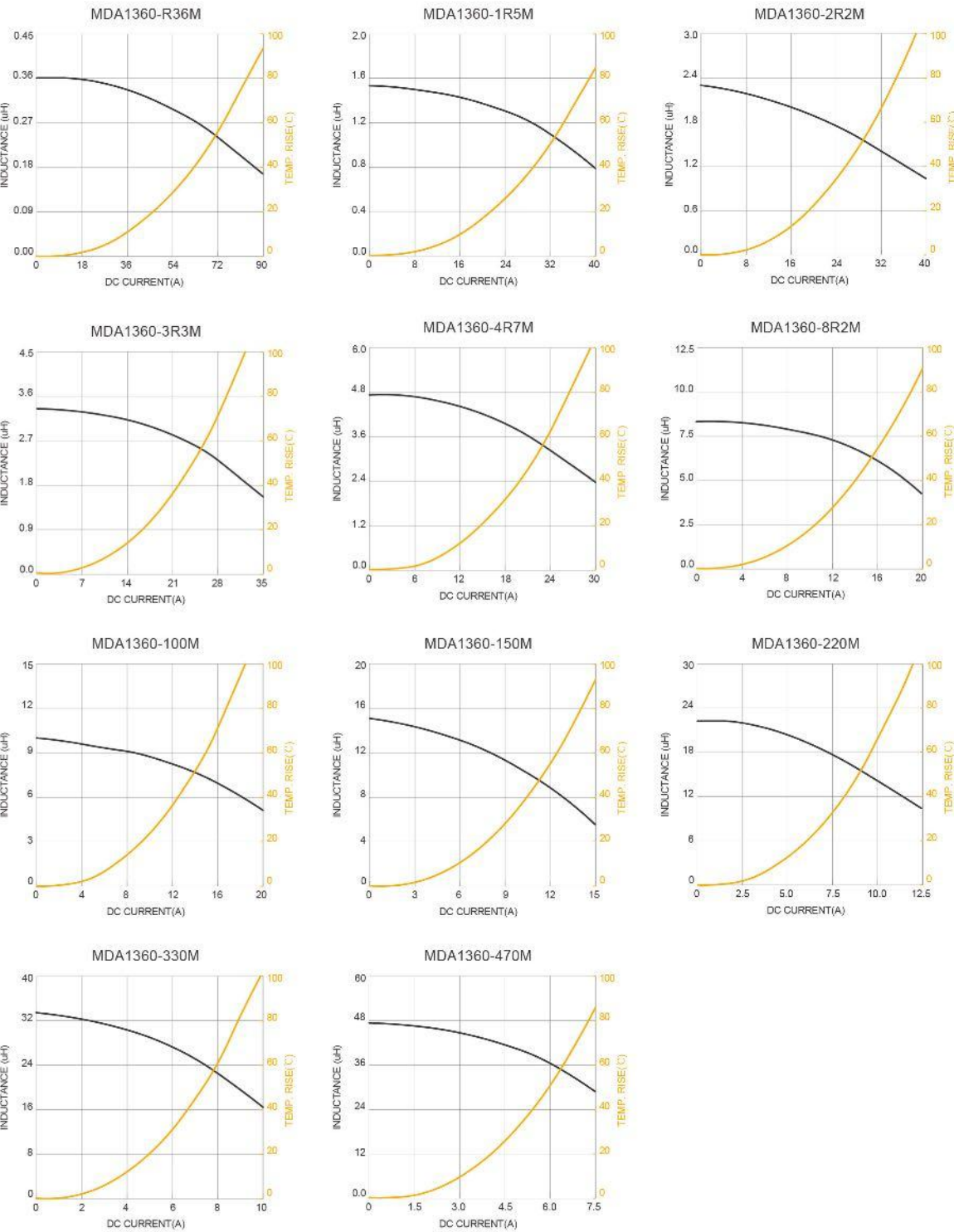


Electrical Properties

Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDA1360-R36M	0.36	±20%	60.0	50.0	70.0	60.0	0.65	0.80	4.7±0.3
MDA1360-1R5M	1.50	±20%	28.0	24.0	32.0	27.0	2.40	3.00	4.0±0.3
MDA1360-2R2M	2.20	±20%	25.0	21.0	28.0	24.0	3.70	4.30	4.7±0.3
MDA1360-3R3M	3.30	±20%	21.0	18.0	28.0	24.0	5.30	6.50	4.7±0.3
MDA1360-4R7M	4.70	±20%	19.0	16.0	23.0	19.5	7.00	8.40	4.7±0.3
MDA1360-8R2M	8.20	±20%	13.5	12.0	17.0	15.5	13.5	16.0	4.7±0.3
MDA1360-100M	10.0	±20%	12.0	10.5	16.0	14.5	15.5	18.6	4.7±0.3
MDA1360-150M	15.0	±20%	10.0	8.5	10.0	9.0	24.0	29.0	4.7±0.3
MDA1360-220M	22.0	±20%	8.0	7.0	9.0	8.0	31.2	37.5	4.7±0.3
MDA1360-330M	33.0	±20%	6.5	5.5	7.8	6.7	56.0	68.0	4.7±0.3
MDA1360-470M	47.0	±20%	5.2	4.5	6.7	5.5	76.0	88.0	4.7±0.3

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



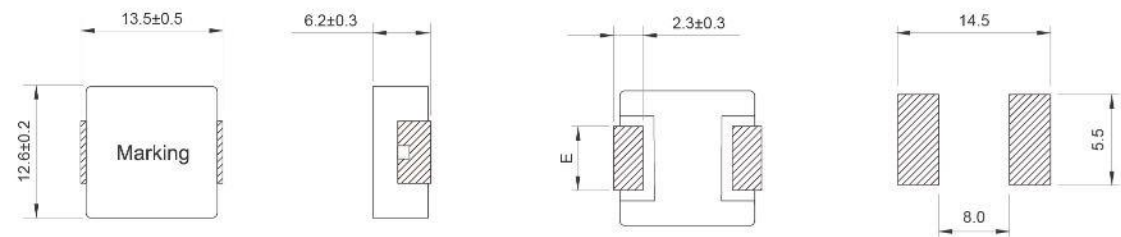
MDA Series

SMD Low Profile High Current Molded Inductor

1365 Size



Dimensions: [mm]



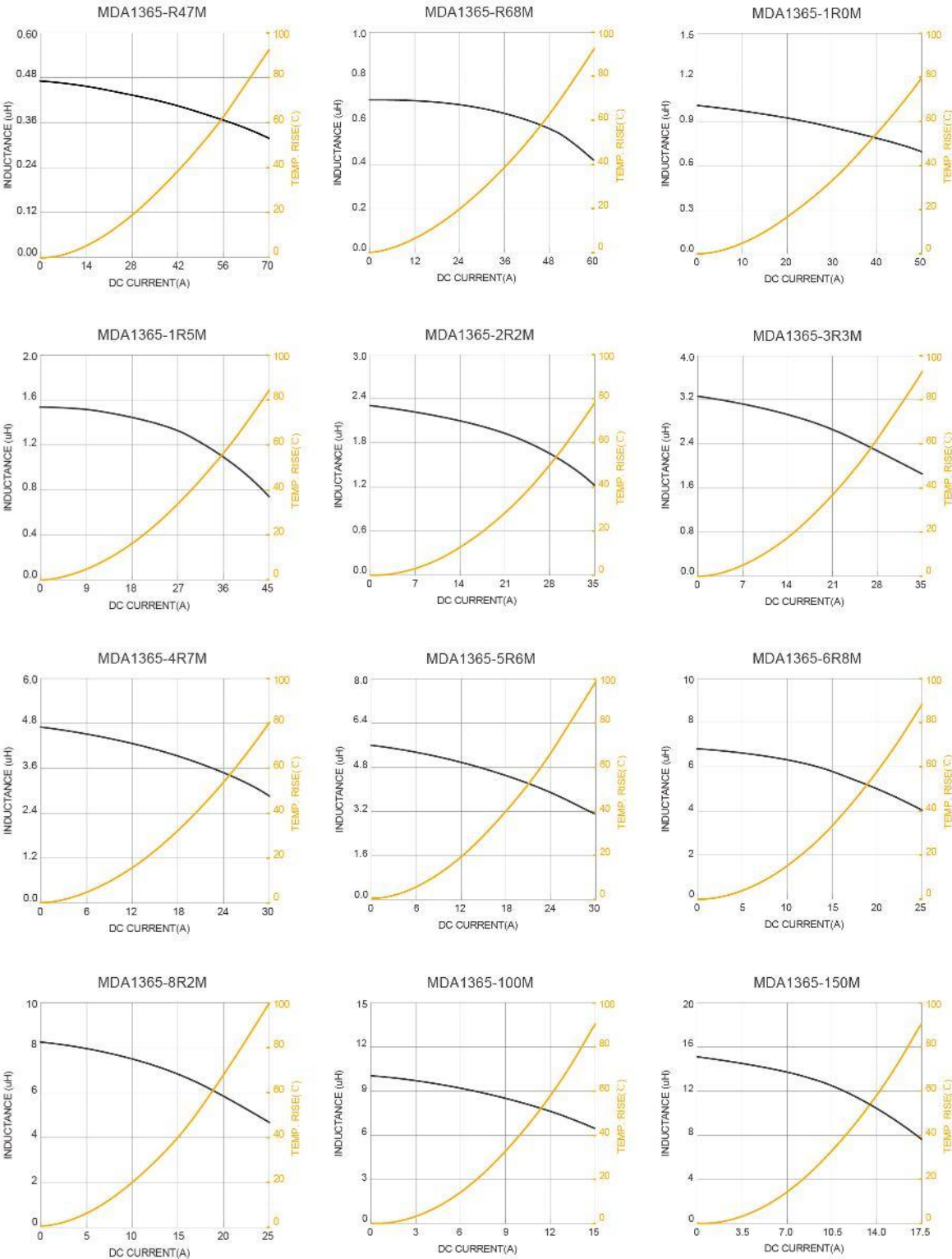
Land Pattern: [mm]

Electrical Properties

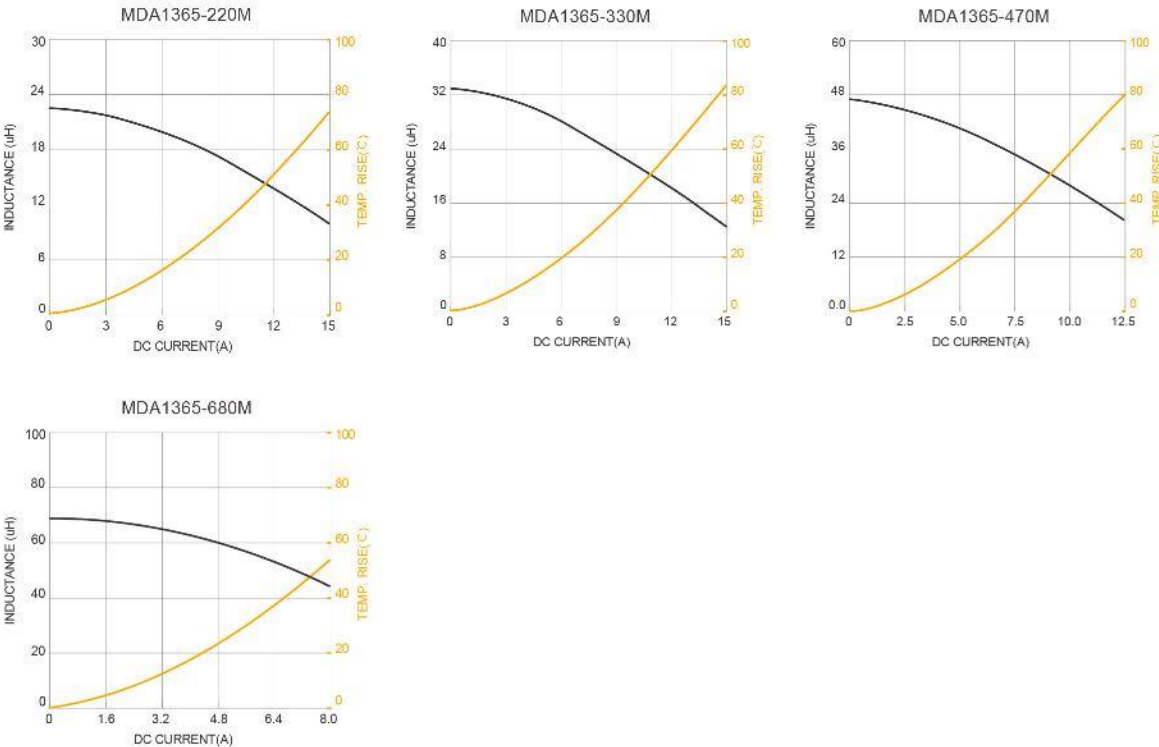
Part No	Inductance @ 100KHz/1V (uH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)	E
MDA1365-R47M	0.47	±20%	42.0	35.0	68.0	58.0	0.88	1.02	4.7±0.3
MDA1365-R68M	0.68	±20%	36.5	33.0	55.0	46.0	1.25	1.50	4.0±0.3
MDA1365-1R0M	1.00	±20%	33.0	29.0	45.0	36.0	1.50	1.80	4.0±0.3
MDA1365-1R5M	1.50	±20%	29.0	25.0	35.0	30.0	2.20	2.60	4.0±0.3
MDA1365-2R2M	2.20	±20%	25.0	21.0	28.5	24.0	3.70	4.20	4.7±0.3
MDA1365-3R3M	3.30	±20%	22.0	19.0	27.0	22.5	5.30	6.20	4.7±0.3
MDA1365-4R7M	4.70	±20%	20.0	17.0	25.0	21.0	6.80	8.00	4.7±0.3
MDA1365-5R6M	5.60	±20%	18.0	15.0	23.0	19.5	8.30	9.80	4.7±0.3
MDA1365-6R8M	6.80	±20%	16.5	14.0	21.0	18.0	9.80	11.3	4.7±0.3
MDA1365-8R2M	8.20	±20%	15.0	12.5	19.0	17.0	12.0	13.8	4.7±0.3
MDA1365-100M	10.0	±20%	13.0	11.0	17.0	15.0	13.0	15.8	4.7±0.3
MDA1365-150M	15.0	±20%	11.0	9.5	13.5	12.0	22.0	26.0	4.7±0.3
MDA1365-220M	22.0	±20%	10.0	8.0	10.0	9.0	31.0	35.0	4.7±0.3
MDA1365-330M	33.0	±20%	9.00	6.5	9.00	8.0	46.0	55.0	4.7±0.3
MDA1365-470M	47.0	±20%	8.00	5.7	7.60	6.8	58.0	67.0	4.7±0.3
MDA1365-680M	68.0	±20%	5.80	4.8	6.00	5.0	82.0	100.0	4.7±0.3

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



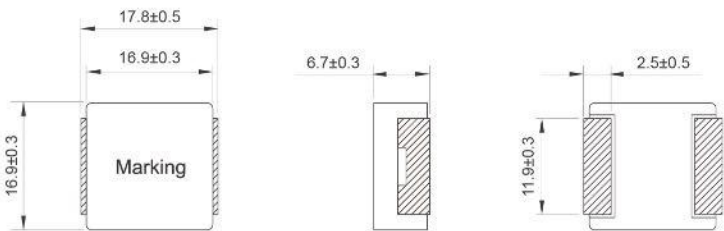
Typical Electrical Characteristics



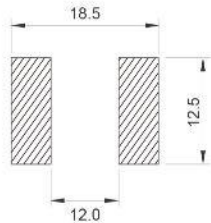
MDA Series
SMD Low Profile High Current Molded Inductor
1870 Size



Dimensions: [mm]



Land Pattern: [mm]

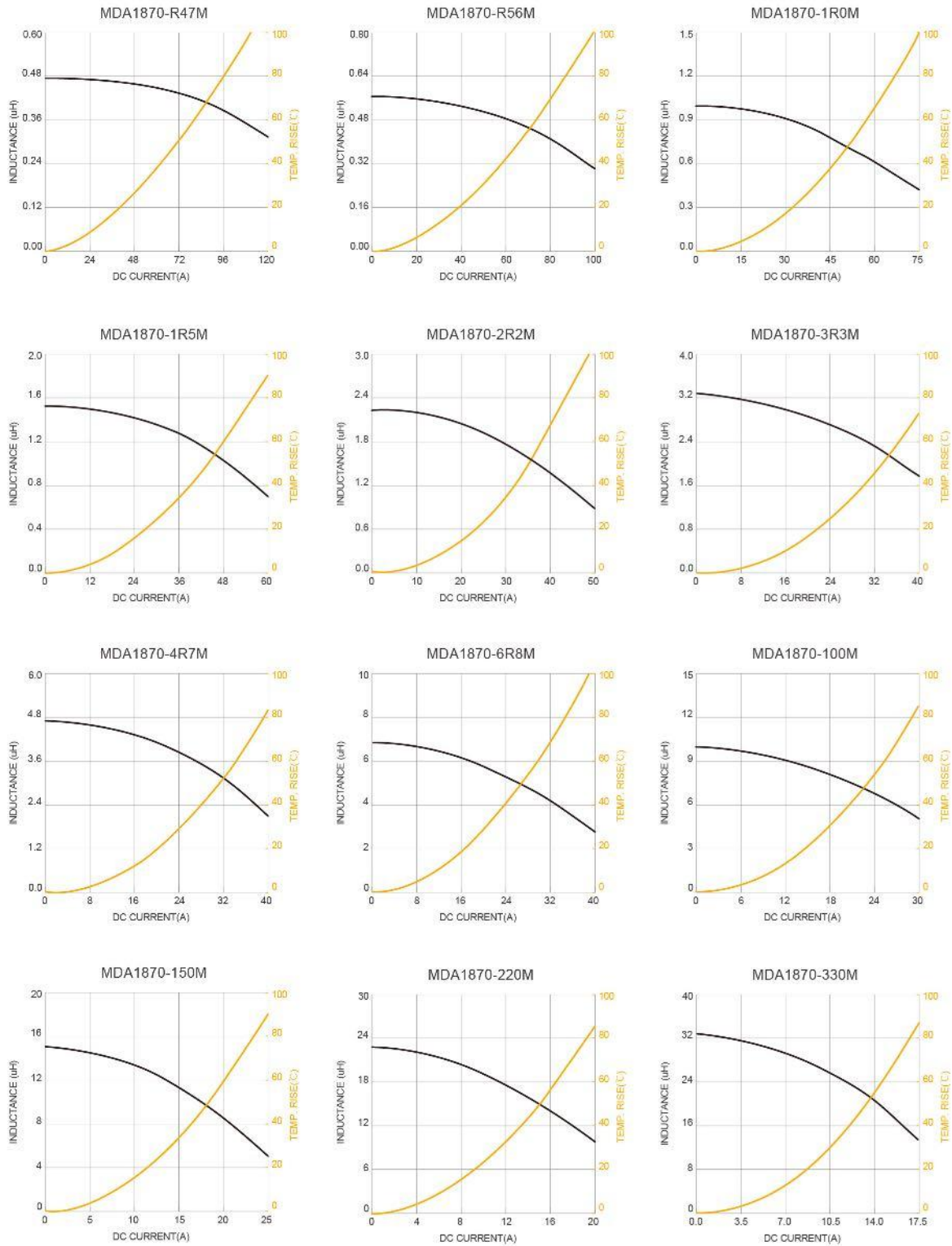


Electrical Properties

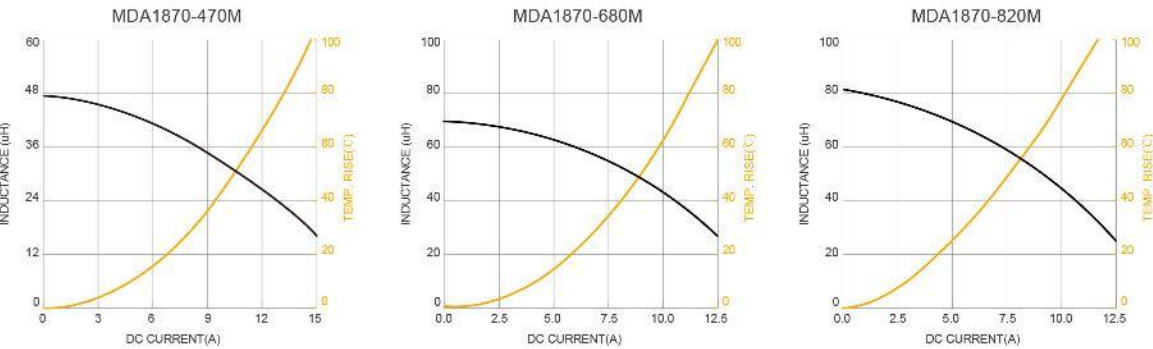
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDA1870-R47M	0.47	±20%	60.0	55.0	110	100	0.70	0.90
MDA1870-R56M	0.56	±20%	56.0	50.0	80.0	70.0	0.81	0.97
MDA1870-1R0M	1.00	±20%	46.0	42.0	50.0	45.0	1.06	1.30
MDA1870-1R5M	1.50	±20%	39.0	35.0	46.0	40.0	1.50	1.80
MDA1870-2R2M	2.20	±20%	32.0	30.0	35.0	32.0	1.80	2.20
MDA1870-3R3M	3.30	±20%	30.0	28.0	32.0	29.0	2.70	3.30
MDA1870-4R7M	4.70	±20%	28.0	26.0	29.0	26.0	3.70	4.50
MDA1870-6R8M	6.80	±20%	24.0	22.0	25.0	22.0	6.00	7.20
MDA1870-100M	10.0	±20%	21.0	19.0	22.0	19.0	9.20	10.6
MDA1870-150M	15.0	±20%	16.0	14.0	16.0	14.0	12.8	15.5
MDA1870-220M	22.0	±20%	13.5	11.5	13.5	11.5	20.5	24.0
MDA1870-330M	33.0	±20%	12.0	10.0	12.0	10.0	32.0	37.0
MDA1870-470M	47.0	±20%	9.5	8.0	9.5	8.0	40.0	47.0
MDA1870-680M	68.0	±20%	8.0	6.5	8.5	7.2	66.0	76.0
MDA1870-820M	82.0	±20%	6.5	5.7	8.0	6.5	69.0	83.0

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



Typical Electrical Characteristics



MDTA Series

SMD Low Profile High Current Molded Inductor

FEATURES

- High current, low DCR,high efficiency
- Very low acoustic noise and very low leakage flux noise
- AEC-Q200 qualified
- 100% Lead(Pb)-Free and RoHS compliant
- Operating temperature: -55 to +155 °C (including self-temperature rise)

APPLICATION

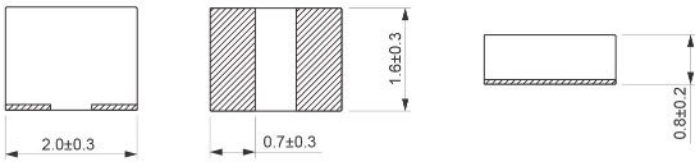
- ADAS
- Headlamps, tail lamps and interior lighting
- HVAC
- Doors, window liti and seat control
- Audio subsystem
- Digital instrument cluster
- In-Vehicle Infotainment and navigation



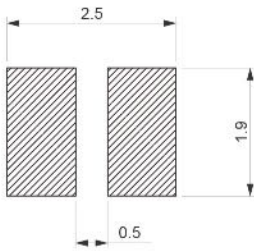
MDTA Series
SMD Low Profile High Current Molded Inductor
20161A Size



Dimensions: [mm]



Land Pattern: [mm]

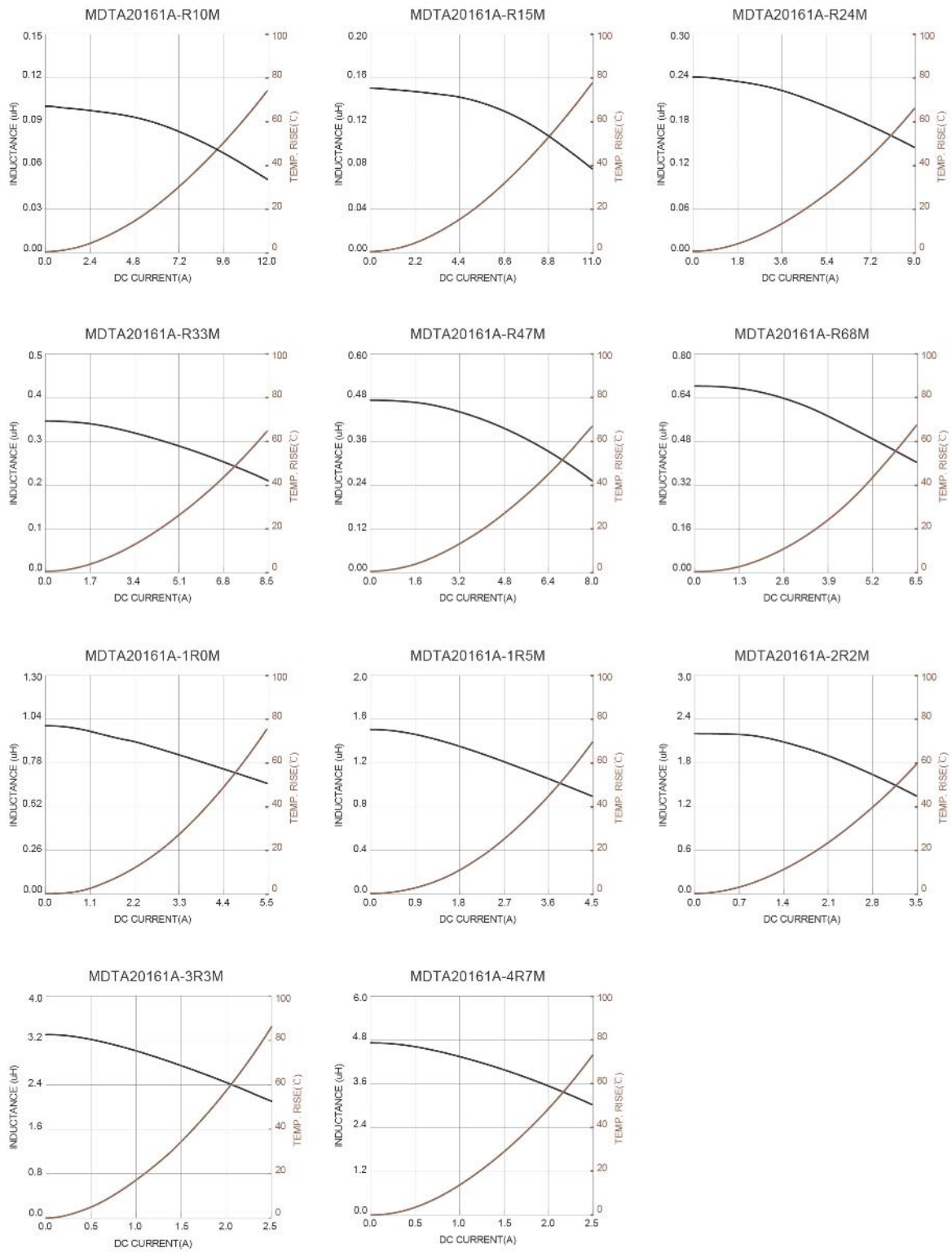


Electrical Properties

Part No	Inductance @100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDTA20161A-R10M	0.10	±20%	8.5	8.0	9.0	8.4	8	14
MDTA20161A-R15M	0.15	±20%	7.6	7.0	8.7	8.0	10	16
MDTA20161A-R24M	0.24	±20%	6.8	6.2	7.3	7.0	15	18
MDTA20161A-R33M	0.33	±20%	6.5	6.0	7.0	6.5	17	20
MDTA20161A-R47M	0.47	±20%	6.0	5.5	6.3	5.5	19	22
MDTA20161A-R68M	0.68	±20%	5.0	4.5	5.2	4.7	24	31
MDTA20161A-1R0M	1.00	±20%	4.0	3.7	4.8	4.2	38	46
MDTA20161A-1R5M	1.50	±20%	3.4	3.0	3.5	3.1	80	96
MDTA20161A-2R2M	2.20	±20%	2.8	2.5	3.0	2.8	120	138
MDTA20161A-3R3M	3.30	±20%	1.7	1.5	2.3	2.0	140	170
MDTA20161A-4R7M	4.70	±20%	1.6	1.4	2.0	1.8	190	220

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

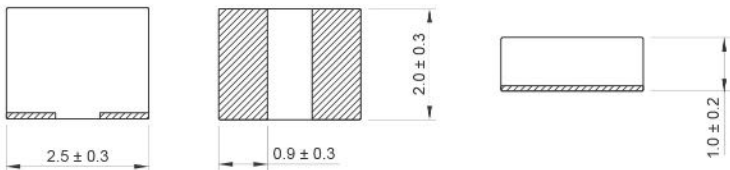
Typical Electrical Characteristics



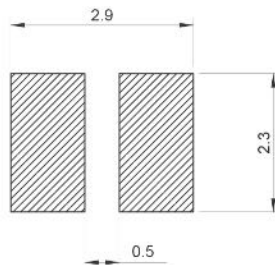
MDTA Series
SMD Low Profile High Current Molded Inductor
25201B Size



Dimensions: [mm]



Land Pattern: [mm]

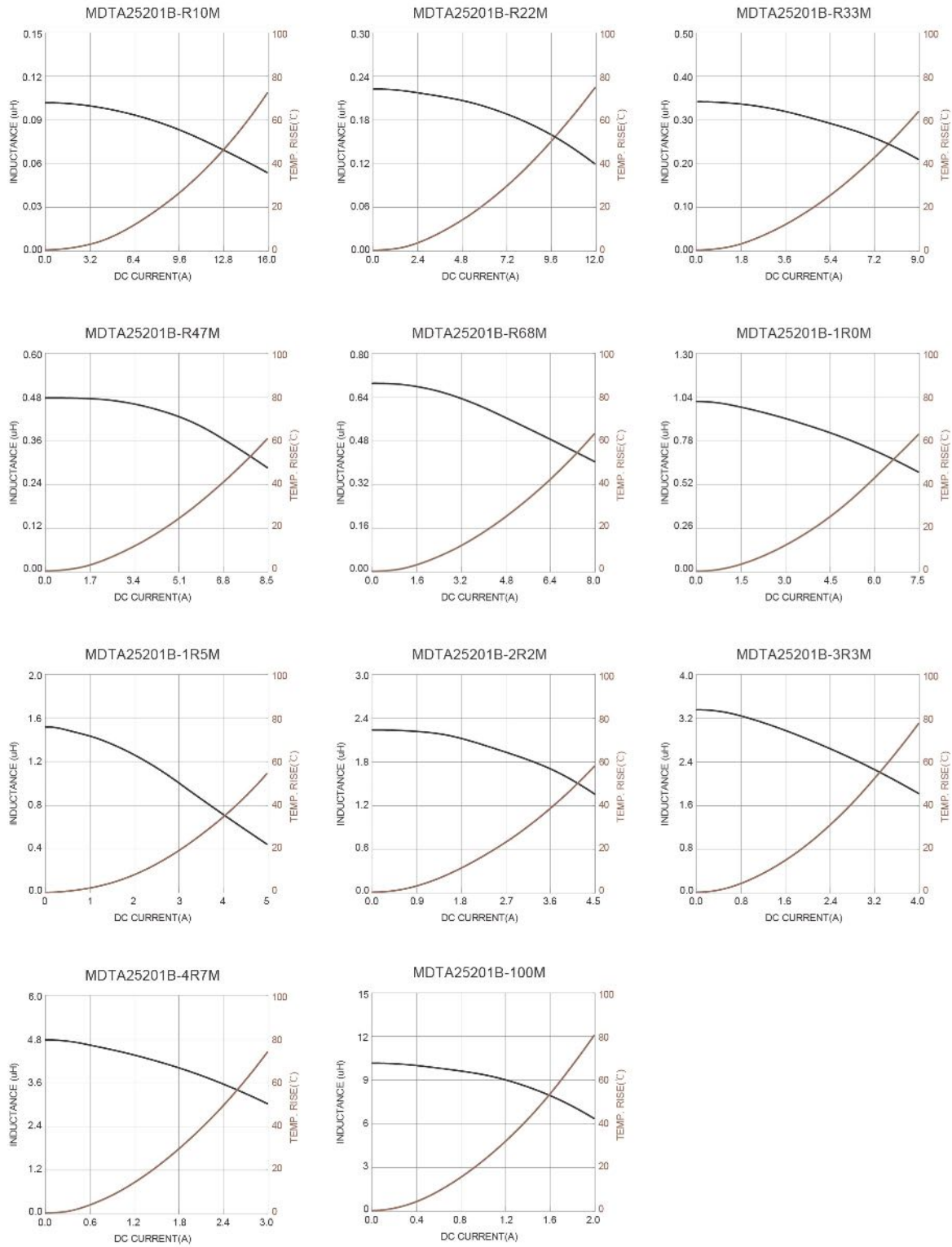


Electrical Properties

Part No	Inductance @100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDTA25201B-R10M	0.10	±20%	12.0	8.0	12.0	10.0	4.0	7.0
MDTA25201B-R22M	0.22	±20%	8.2	7.6	9.6	9.0	9.0	10.8
MDTA25201B-R33M	0.33	±20%	7.0	6.4	8.0	7.5	10.0	12.0
MDTA25201B-R47M	0.47	±20%	6.7	6.0	7.4	6.8	16.0	20.0
MDTA25201B-R68M	0.68	±20%	6.1	5.5	6.5	6.0	19.0	23.0
MDTA25201B-1R0M	1.00	±20%	5.7	5.2	5.8	5.3	31.0	37.0
MDTA25201B-1R5M	1.50	±20%	4.6	4.2	4.7	4.4	27.0	32.0
MDTA25201B-2R2M	2.20	±20%	3.7	3.3	4.0	3.3	52.0	60.0
MDTA25201B-3R3M	3.30	±20%	2.8	2.5	3.0	2.7	80.0	97.0
MDTA25201B-4R7M	4.70	±20%	2.3	2.0	2.8	2.2	170.0	204.0
MDTA25201B-100M	10.0	±20%	1.2	1.05	1.6	1.45	330.0	400.0

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



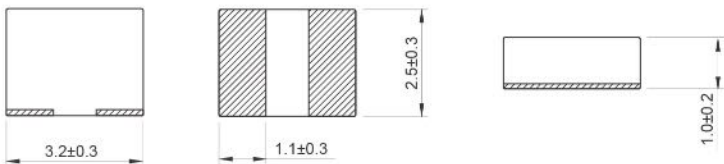
MDTA Series

SMD Low Profile High Current Molded Inductor

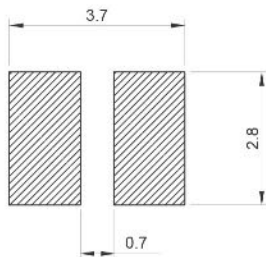
32251B Size



Dimensions: [mm]



Land Pattern: [mm]

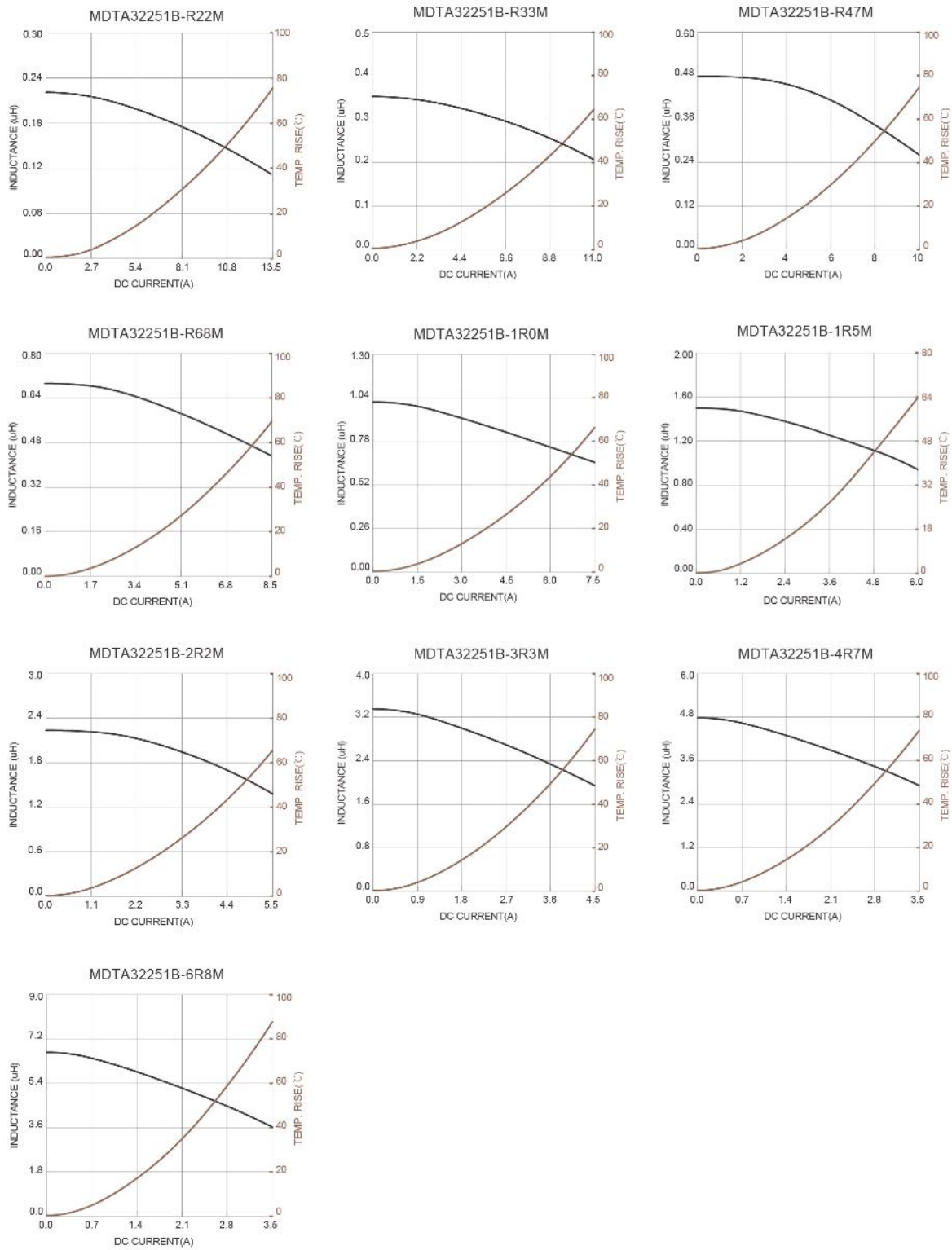


Electrical Properties

Part No	Inductance @100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDTA32251B-R22M	0.22	±20%	9.5	9.0	9.3	8.7	7.4	8.5
MDTA32251B-R33M	0.33	±20%	8.5	8.0	9.2	8.6	9.0	12
MDTA32251B-R47M	0.47	±20%	7.1	6.6	8.3	7.5	17	19
MDTA32251B-R68M	0.68	±20%	6.3	5.8	7.4	6.9	19	24
MDTA32251B-1R0M	1.0	±20%	5.7	5.2	6.6	5.8	26	30
MDTA32251B-1R5M	1.5	±20%	4.6	4.0	5.3	5.0	40	50
MDTA32251B-2R2M	2.2	±20%	4.2	3.7	4.9	4.4	58	70
MDTA32251B-3R3M	3.3	±20%	3.2	2.8	3.5	3.1	75	95
MDTA32251B-4R7M	4.7	±20%	2.5	2.0	2.9	2.5	115	135
MDTA32251B-6R8M	6.8	±20%	2.2	1.8	2.7	2.3	177	210

Saturation Current will cause Inductance to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

Typical Electrical Characteristics



DMMA Series

Molded Inductor

FEATURES

- Low loss realized with low DCR.
- High performance realized by metal dust core.
- Ultra low buzz noise, due to composite construction.
- 100% Lead(Pb)-Free and RoHS compliant.
- AEC-Q200 qualified
- Operating temperature:-55 to +125 °C (including self-temperature rise)

APPLICATION

- Automotive applications



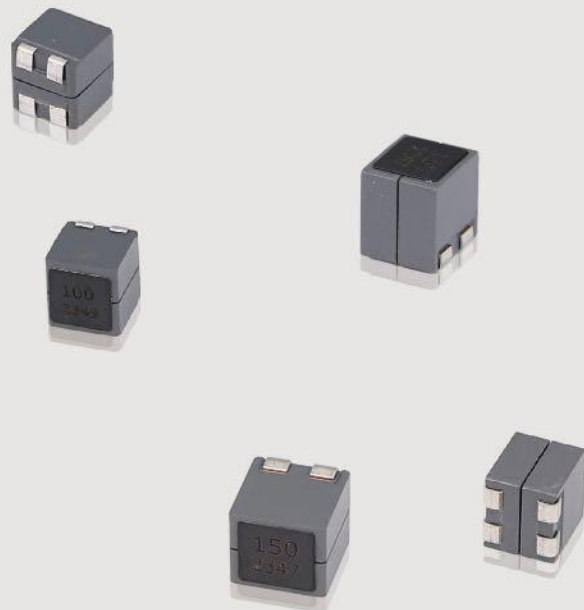
DMMA 7078

P137



DMMA 1094

P138



DMMA Series

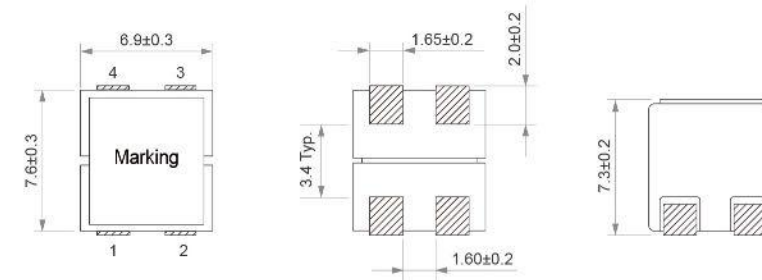
Molded Inductor

7078

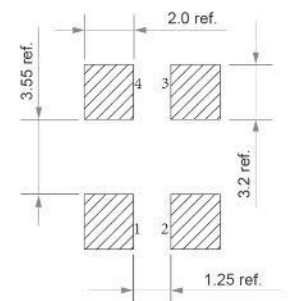
Size



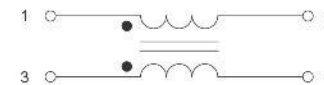
Dimensions: [mm]



Land Pattern: [mm]



Schematic



Electrical Properties

Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Max. (mΩ)
DMMA7078-1R0M	1.0	±20%	9.8	8.8	19.3	16.5	6.5
DMMA7078-3R3M	3.3	±20%	5.7	5.1	13.0	11.1	19.2
DMMA7078-100M	10.0	±20%	3.5	3.2	6.8	5.8	49.0
DMMA7078-150M	15.0	±20%	2.7	2.4	6.0	5.1	90.0
DMMA7078-220M	22.0	±20%	2.2	2.0	4.3	3.7	134

Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

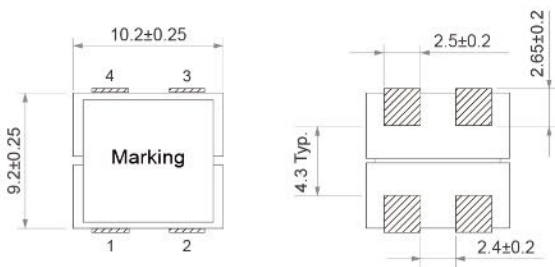
DMMA Series

Molded Inductor

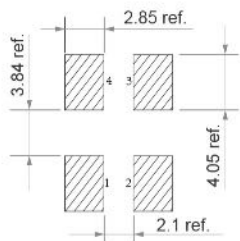
1094 Size



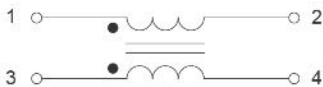
Dimensions: [mm]



Land Pattern: [mm]



Schematic



Electrical Properties

Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Temperature Rise Current Max. (A)	Saturation Current Typ. (A)	Saturation Current Max. (A)	DC Resistance Max. (mΩ)
DMMA1094-3R3M	3.3	±20%	9.0	8.0	26.0	23.4	8.6
DMMA1094-100M	10.0	±20%	5.8	5.2	12.0	10.0	22.0
DMMA1094-150M	15.0	±20%	4.5	4.0	9.0	7.7	40.8
DMMA1094-220M	22.0	±20%	3.6	3.2	8.5	7.3	56.0

Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is ΔT=40°C

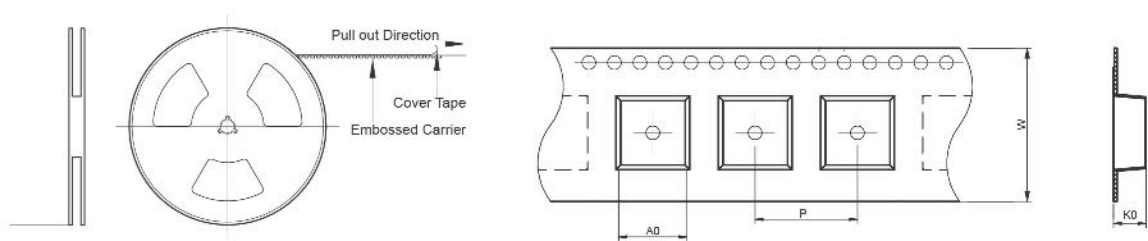
可靠性测试

Reliability Test

NO	Stress Tests	Reference	Additional Requirements
1	High Temperature Exposure (Storage)	MIL-STD-202 Method 108	1000 hrs. at rated operating temperature(e.g. 155°C part can be stored for 1000 hrs. @155°C Same applies for 150°C and 125°C. Unpowered.Measurement at 24±2 hours after test conclusion
2	Temperature Cycling	JESD22 Method JA-104	1000 cycles (-55°C to +155°C). Note: If 125°C part or 150°C part the 1000 cycles will be at that temperature. Measurement at 24±2 hours after test conclusion. 30min maximum dwell time at each temperature extreme. 1 min. maximum transition time.
3	Biased Humidity	MIL-STD-202 Method 103	1000 hours 85±2°C/85%±3% RH. Unpowered. Measurement at 24±4 hours after test conclusion.
4	High Temperature Operational Life	MIL-PRF-27	1000 hrs. @ 155°C. If 150°C or 125°C part will be tested at that temperature. Measurement at 24±4 hours after test conclusion
5	External Visual	MIL-STD-883 Method 2009	Inspect device construction,marking and workmanship. Electrical Test not required
6	Physical Dimension	JESD22 Method JB-100	Verify physical dimensions to the applicable device detail specification.Note: User(s) and Suppliers spec. Electrical Test not required.
7	Resistance to Solvents	MIL-STD-202 Method 215	Note: Add Aqueous wash chemical. OKEM Clean or equivalent. Do not use banned solvents.
8	Mechanical Shock	MIL-STD-202 Method 213	Figure 1 of Method 213 Condition C
9	Vibration	MIL-STD-202 Method 204	5g's for 20 minutes, 12 cycles each of 3 orientations Note: Test from 10-2000 Hz
10	Resistance to Soldering Heat	MIL-STD-202 Method 210	Condition B No pre-heat of samples. Note: Single Wave Solder- Procedure 2 for SMD and Procedure1for Leaded with solder within 1.5mm of device body.
11	Thermal Shock	MIL-STD-202 Method 107	-55°C/+155°C.Note: Number of cycles required is 300. Maximum transfer time is 20 seconds. Dwell time is 15 minutes. Below 155°C use Condition A for maximum temperature.
12	ESD	AEC-Q200-002 or ISO/DIS 10605	
13	Solderability	J-STD-002	For both Leaded & SMD. Electrical Test not required. Maanification 50X. Conditions: Leaded: Method A @235°C, categorv 3. SMD: a) Method B. 4 hrs @ 155°C dry heat @235°C b) Method B @215°C categorv 3 c) Method D category 3 @260°C
14	Electrical Characterization	User Spec	Parametrically test per lot and sample size requirements. summary to show Min. Max, Mean and Standard deviation at room as well as Min and Max operating temperatures.
15	Flammability	UL-94	V-0 or V-1 Acceptable
16	Board Flex	AEC-Q200-005	60 sec minimum holding time
17	Terminal Strength(SMD)	AEC-Q200-006	Run through IR reflow for 3 times With the component mounted on a PCB with the device to be tested, apply a 17.7 N (1.8 Kg) force to the side of a device being tested. This force shall be applied for 60 +1 seconds. Also the force shall be applied gradually as not to apply a shock to the component being tested

包装信息

Packing Information



Size	A (mm)	W (mm)	A0 (mm)	P (mm)	K0 (mm)	Quantity (pcs)/Real
FBA0402	178±2	8±0.3	0.62±0.03	4±0.1	0.60±0.03	10000
FBA0603	178±2	8±0.3	0.96±0.05	4±0.1	0.95±0.05	4000
FBA0805	178±2	8±0.3	1.3±0.05	4±0.1	0.95±0.05	4000
FBA1206	178±2	8±0.3	1.75±0.1	4±0.1	1.25±0.1	3000
FBHA0402	178±2	8±0.3	0.62±0.03	4±0.1	0.60±0.03	10000
FBHA0603	178±2	8±0.3	0.96±0.05	4±0.1	0.95±0.05	4000
FBHA0805	178±2	8±0.3	1.3±0.05	4±0.1	0.95±0.05	4000
FBHA1206	178±2	8±0.3	1.75±0.1	4±0.1	1.25±0.1	3000
FBHA1806	178±2	12±0.3	1.75±0.1	4±0.1	1.75±0.1	2000
FBHA1812	178±2	12±0.3	3.45±0.1	8±0.1	1.60±0.1	1000
FBHA0402S	178±2	8±0.3	0.62±0.03	4±0.1	0.60±0.03	10000
FBHA0603S	178±2	8±0.3	0.96±0.05	4±0.1	0.95±0.05	4000
FBHA0805S	178±2	8±0.3	1.3±0.05	4±0.1	0.95±0.05	4000
FBHA1206S	178±2	8±0.3	1.75±0.1	4±0.1	1.25±0.1	3000
ACMA3225	178±2	8±0.3	2.88±0.1	4±0.1	2.5±0.1	2000
ACMA4532	178±2	8±0.3	3.6±0.1	8±0.1	3±0.1	500
ACMV3225	330±2	12±0.3	2.7±0.1	4±0.1	2.8±0.1	5000
ACMV4532	330±2	12±0.3	3.5±0.1	8±0.1	3.1±0.1	2500
BCMA2012	178±2.0	8.0±0.3	1.50±0.1	4.0±0.1	1.45±0.1	2000
BCMA3216	178±2.0	8.0±0.3	1.88±0.1	4.0±0.1	2.1±0.1	2000
BCMA3225	178±2.0	8.0±0.3	2.88±0.1	4.0±0.1	2.50±0.1	2000
BCMA4532	178±2.0	12.0±0.3	3.6±0.1	4.0±0.1	3.0±0.1	500
BCMA5020	330±2.0	12.0±0.3	5.65±0.1	8.0±0.1	2.7±0.1	2500
BCMA7060	330±2.0	16.0±0.3	6.25±0.1	12.0±0.1	3.6±0.1	1500
BCMA9250	330±2.0	16.0±0.3	6.5 typ	12.0±0.1	5.2 ref.	1000

Size	A (mm)	W (mm)	A0 (mm)	P (mm)	K0 (mm)	Quantity (pcs)/Real
BCMA9070	330±2.0	24.0±0.3	7.6±0.1	16.0±0.1	5.10±0.1	800
BCMA1009	330±2.0	24±0.3	8.6±0.1	12±0.1	5.4±0.1	1000
BCMA1211	330±2.0	24±0.3	11.3±0.1	16±0.1	6.6±0.1	500
MDA4020	330±2.0	12.0±0.3	4.5±0.1	8.0±0.1	2.3±0.1	3000
MDA5030	330±2.0	12.0±0.3	5.5±0.1	8.0±0.1	3.3±0.1	2000
MDA7030	330±2.0	16.0±0.3	7.0±0.1	12.0±0.1	3.3±0.1	1000
MDA7050	330±2.0	16.0±0.3	6.9±0.1	12.0±0.1	5.4±0.1	800
MDA1040	330±2.0	24±0.3	10.4±0.1	16±0.1	4.3±0.1	500
MDA1050	330±2.0	24±0.3	10.4±0.1	16±0.1	5.4±0.1	500
MDA1350	330±2.0	24±0.3	13.1±0.1	16±0.1	5.4±0.1	500
MDA1360	330±2.0	24±0.3	13.1±0.1	16±0.1	6.3±0.1	500
MDA1365	330±2.0	24.0±0.3	13.1±0.1	16±0.1	6.8±0.1	500
MDA1870	330±2.0	32.0±0.3	17.5±0.1	24±0.1	7.3±0.1	200
MDA7054HT	330±2.0	16.0±0.3	7.6±0.1	12.0±0.1	5.7±0.1	500
MDA1054HT	330±2.0	24.0±0.3	10.4±0.1	16±0.1	5.7±0.1	500
MDTA20161A	178±2.0	8±0.3	1.9±0.1	4±0.1	1.2±0.1	3000
MDTA25201B	178±2.0	8±0.3	2.4±0.1	4±0.1	1.4±0.1	3000
MDTA32251B	178±2.0	8±0.3	2.9±0.1	4±0.1	1.4±0.1	3000
DMMA7078	330±2.0	24.0±0.3	8.1±0.1	12.0±0.1	7.8±0.1	500
DMMA1094	330±2.0	24.0±0.3	9.6±0.1	16.0±0.1	11.25±0.1	300
NRSA2520B	180±2.0	8.0±0.1	2.4±0.1	4.0±0.1	1.4±0.1	2000
NRSA3012B	178±2.0	8.0±0.1	3.3±0.1	4.0±0.1	1.4±0.1	2000
NRSA3015B	178±2.0	8.0±0.3	3.2±0.1	4.0±0.1	1.7±0.1	2000
NRSA4014B	330±2.0	12.0±0.3	4.25±0.1	8.0±0.1	1.4±0.1	4500
NRSA4018B	330±2.0	12.0±0.3	4.3±0.1	8.0±0.1	2.25±0.1	3000
NRSA4030	330±2.0	12.0±0.3	4.25±0.1	8.0±0.1	3.25±0.1	2000
NRSA5020	330±2.0	12.0±0.3	5.3±0.1	8.0±0.1	2.3±0.1	2500
NRSA5040	330±2.0	12.0±0.3	5.3±0.1	8.0±0.1	4.2±0.1	1500
NRSA6020	330±2.0	16.0±0.3	6.4±0.1	12.0±0.1	2.3±0.1	2000
NRSA6028	330±2.0	16.0±0.3	6.4±0.1	8.0±0.1	3.3±0.1	2000
NRSA6045	330±2.0	16.0±0.3	6.4±0.1	12.0±0.1	4.7±0.1	1000
NRSA8040	330±2.0	16.0±0.3	8.55±0.1	12.0±0.1	4.4±0.1	1000