MDCA Series
SMD Power Inductor
Size 1365

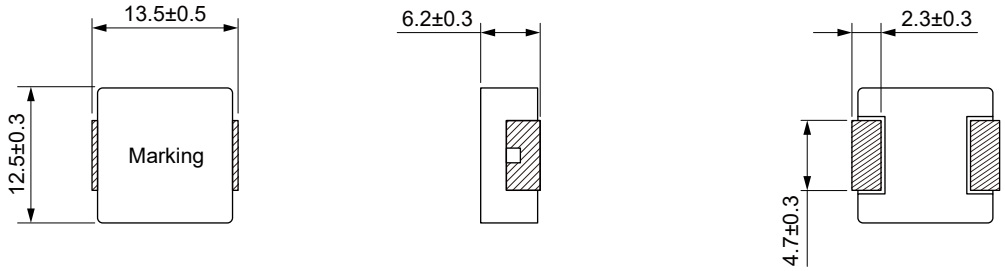
FEATURES

- Shielded construction.
- Capable of corresponding high frequency.
- Low loss realized with low DCR.
- High performance (Isat) realized by Carbonyl Powder.
- 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)
- Quantity:500pcs

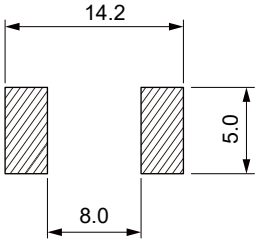
APPLICATION

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

Dimensions: [mm]



Land Pattern: [mm]

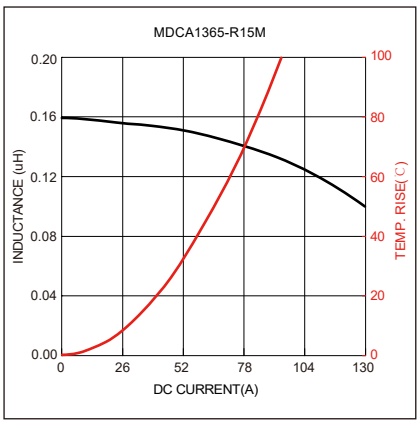


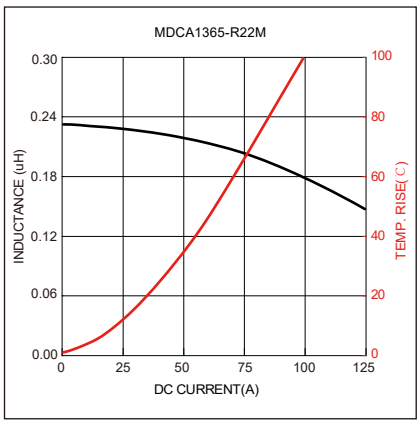
Electrical Properties:

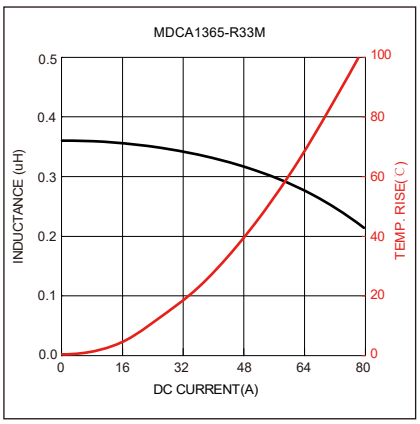
Part No	Inductance @ 100KHz/1V (μH)	Tolerance	Temperature Rise Current Typ. (A)	Saturation Current Typ. (A)	DC Resistance Typ. (mΩ)	DC Resistance Max. (mΩ)
MDCA1365-R15M	0.15	±20%	55.0	118.0	0.49	0.60
MDCA1365-R22M	0.22	±20%	53.0	112.0	0.47	0.60
MDCA1365-R33M	0.33	±20%	46.0	68.0	0.65	0.80
MDCA1365-R36M	0.36	±20%	45.0	66.0	0.70	0.90
MDCA1365-R47M	0.47	±20%	41.0	63.0	0.90	1.20
MDCA1365-R56M	0.56	±20%	37.0	58.0	1.05	1.20
MDCA1365-R68M	0.68	±20%	35.0	55.0	1.25	1.50
MDCA1365-R82M	0.82	±20%	33.0	50.0	1.50	1.90
MDCA1365-1R0M	1.00	±20%	30.0	48.0	1.70	2.30
MDCA1365-1R5M	1.50	±20%	27.0	45.0	2.50	3.00
MDCA1365-2R2M	2.20	±20%	22.0	37.0	3.80	4.20
MDCA1365-3R3M	3.30	±20%	18.0	30.0	5.70	6.80
MDCA1365-4R7M	4.70	±20%	13.5	28.0	7.00	8.40
MDCA1365-5R6M	5.60	±20%	12.5	23.0	8.50	10.0
MDCA1365-6R8M	6.80	±20%	11.5	18.0	9.50	11.5
MDCA1365-8R2M	8.20	±20%	10.5	16.0	12.0	15.5
MDCA1365-100M	10.0	±20%	10.0	15.5	13.2	16.5
MDCA1365-150M	15.0	±20%	9.0	13.0	23.2	28.0
MDCA1365-220M	22.0	±20%	9.0	12.0	32.5	37.0
MDCA1365-330M	33.0	±20%	8.0	11.0	48.0	58.0
MDCA1365-470M	47.0	±20%	6.5	9.5	76.0	90.0
MDCA1365-680M	68.0	±20%	4.8	7.8	110	130
MDCA1365-101M	100	±20%	4.2	5.5	145	165

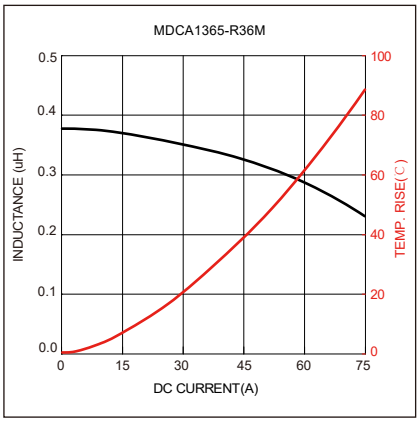
Saturation Current will cause L to drop approximately 30%
Temperature Rise Current: The actual value of DC current when the temperature rise is △T=40°C

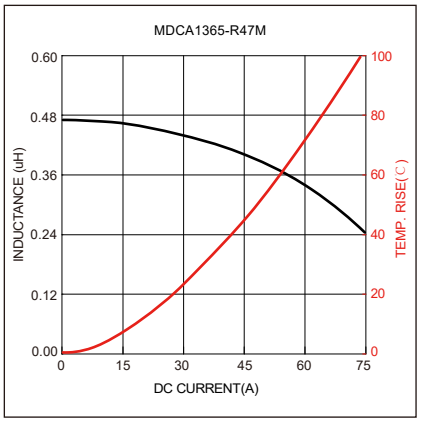
Typical Electrical Characteristics:

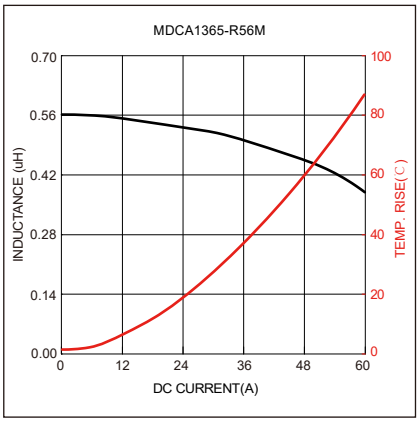


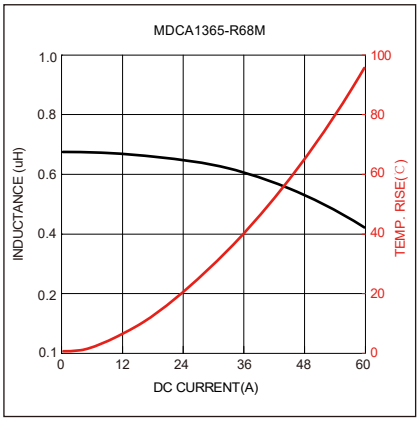


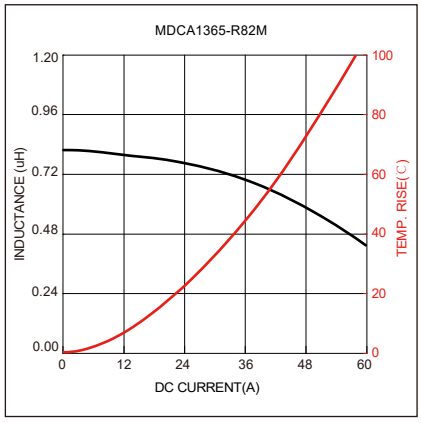


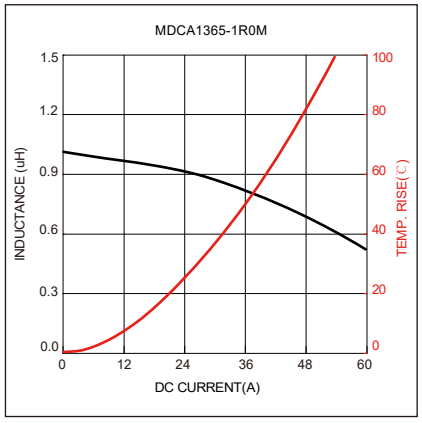

MDCA1365-R36M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0.5
0.4
0.3
0.2
0.1
0.0
100
80
60
40
20
0
0
15
30
45
60
75

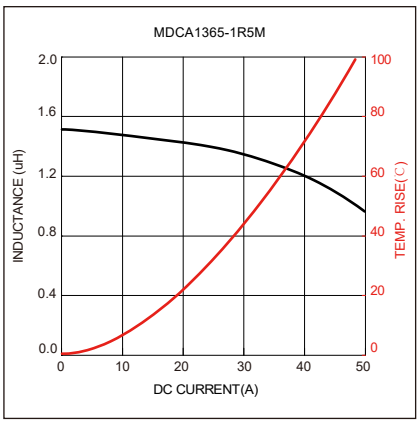

MDCA1365-R47M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0.60
0.48
0.36
0.24
0.12
0.00
100
80
60
40
20
0
0
15
30
45
60
75

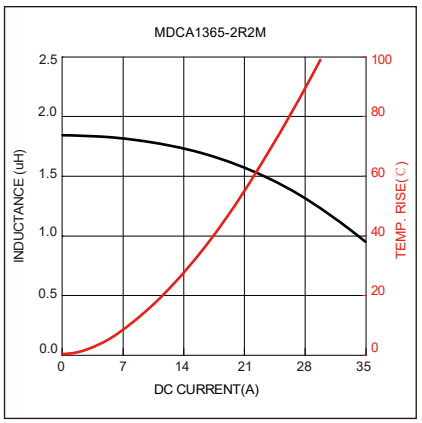

MDCA1365-R56M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
0.70
0.56
0.42
0.28
0.14
0.00
100
80
60
40
20
0
0
12
24
36
48
60

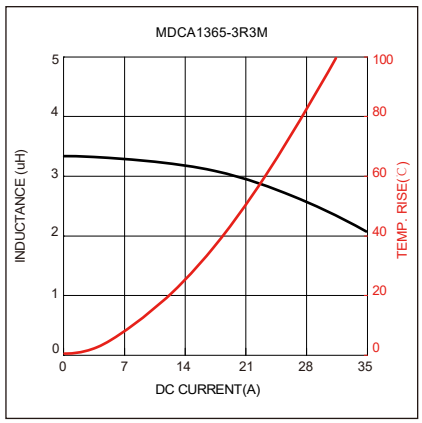

MDCA1365-R68M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
1.0
0.8
0.6
0.4
0.2
0.1
100
80
60
40
20
0
0
12
24
36
48
60

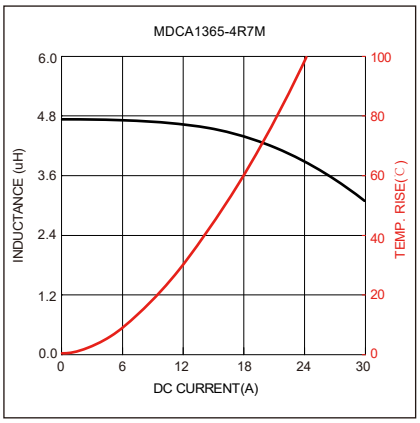

MDCA1365-R82M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
1.20
0.96
0.72
0.48
0.24
0.00
100
80
60
40
20
0
0
12
24
36
48
60

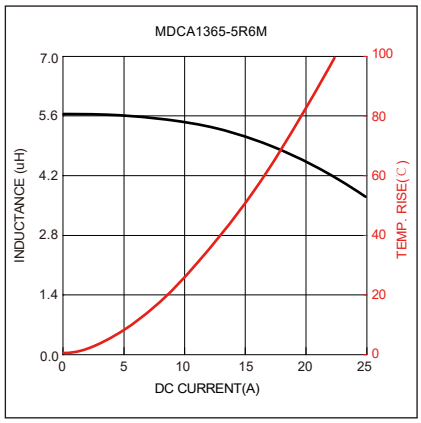

MDCA1365-1R0M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
1.5
1.2
0.9
0.6
0.3
0.0
100
80
60
40
20
0
0
12
24
36
48
60

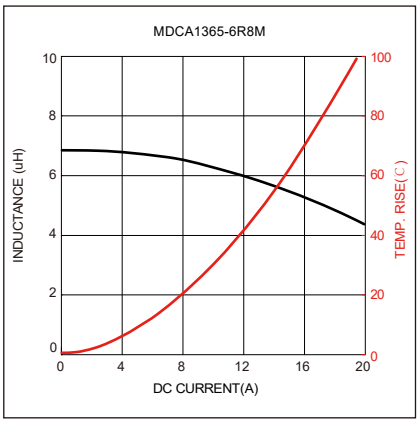

MDCA1365-1R5M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
2.0
1.6
1.2
0.8
0.4
0.0
100
80
60
40
20
0
0
10
20
30
40
50

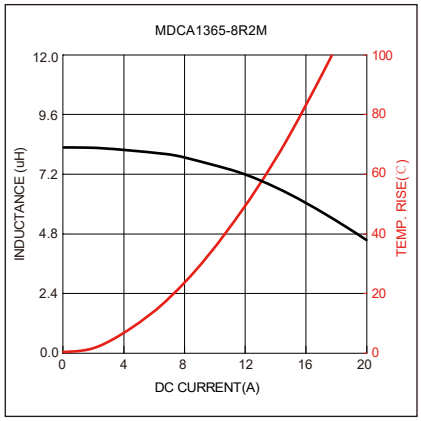

MDCA1365-2R2M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
2.5
2.0
1.5
1.0
0.5
0.0
100
80
60
40
20
0
0
7
14
21
28
35

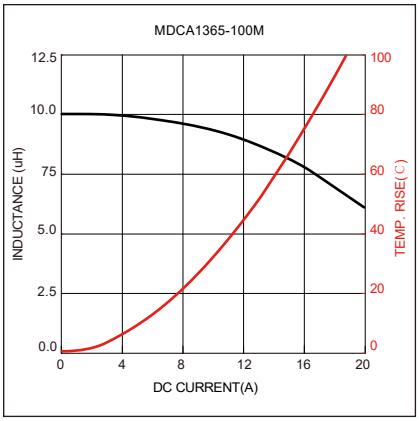

MDCA1365-3R3M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
5
4
3
2
1
0
100
80
60
40
20
0
0
7
14
21
28
35

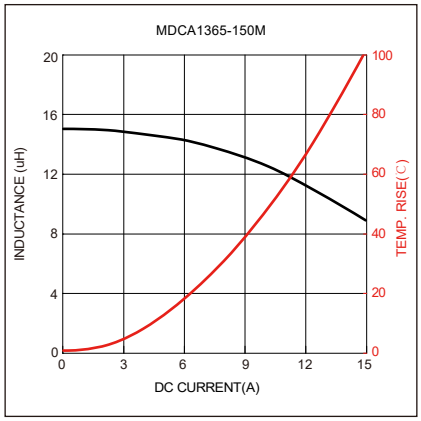

MDCA1365-4R7M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
6.0
4.8
3.6
2.4
1.2
0.0
100
80
60
40
20
0
0
6
12
18
24
30

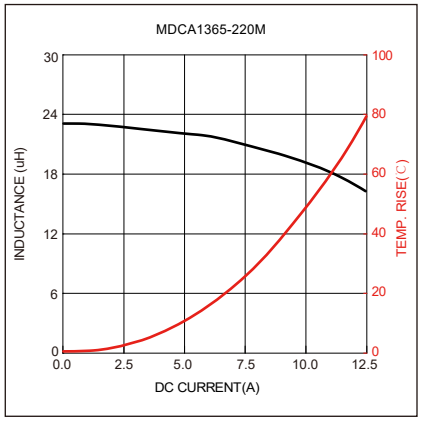

MDCA1365-5R6M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
7.0
5.6
4.2
2.8
1.4
0.0
100
80
60
40
20
0
0
5
10
15
20
25

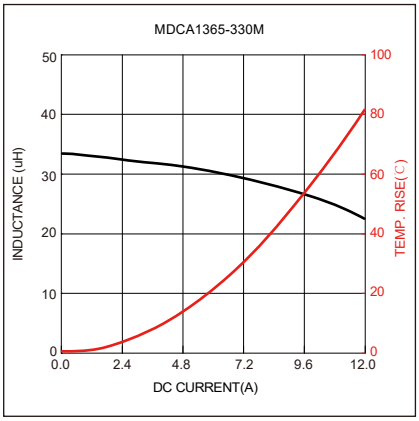

MDCA1365-6R8M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
10
8
6
4
2
0
100
80
60
40
20
0
0
4
8
12
16
20

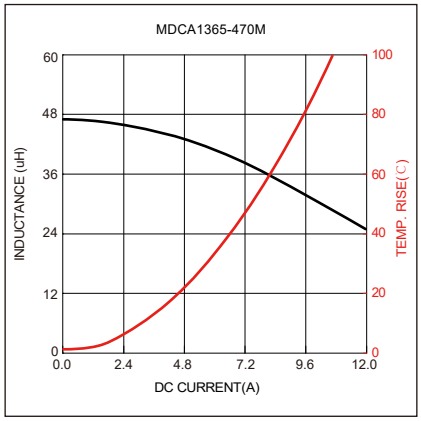

MDCA1365-8R2M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
12.0
9.6
7.2
4.8
2.4
0.0
100
80
60
40
20
0
0
4
8
12
16
20

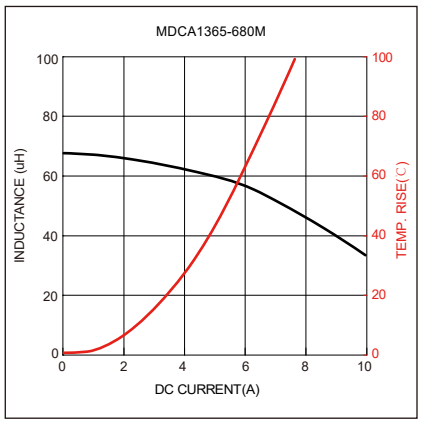

MDCA1365-100M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
12.5
10.0
7.5
5.0
2.5
0.0
100
80
60
40
20
0
0
4
8
12
16
20

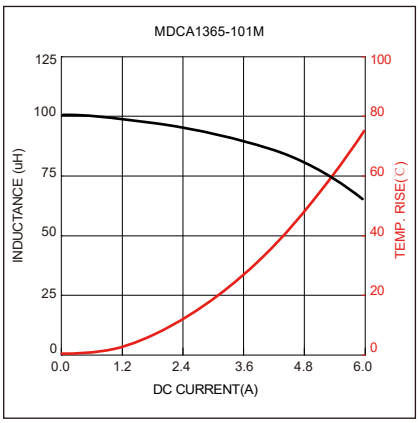

MDCA1365-150M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
20
16
12
8
4
0
100
80
60
40
20
0
0
3
6
9
12
15


MDCA1365-220M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
30
24
18
12
6
0
100
80
60
40
20
0
0.0
2.5
5.0
7.5
10.0
12.5

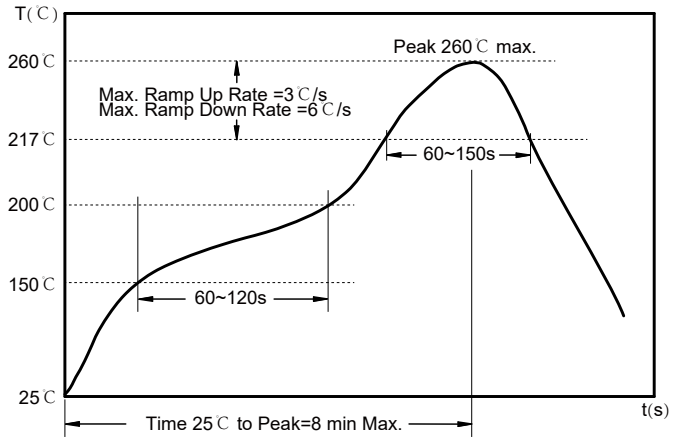

MDCA1365-330M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
50
40
30
20
10
0
100
80
60
40
20
0
0.0
2.4
4.8
7.2
9.6
12.0


MDCA1365-470M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
60
48
36
24
12
0
100
80
60
40
20
0
0.0
2.4
4.8
7.2
9.6
12.0


MDCA1365-680M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
100
80
60
40
20
0
100
80
60
40
20
0
0
2
4
6
8
10


MDCA1365-101M
INDUCTANCE (uH)
TEMP. RISE(℃)
DC CURRENT(A)
125
100
75
50
25
0
100
80
60
40
20
0
0.0
1.2
2.4
3.6
4.8
6.0

Soldering Reflow:



Preheat condition: 150 ~200℃/ 60~120 sec.

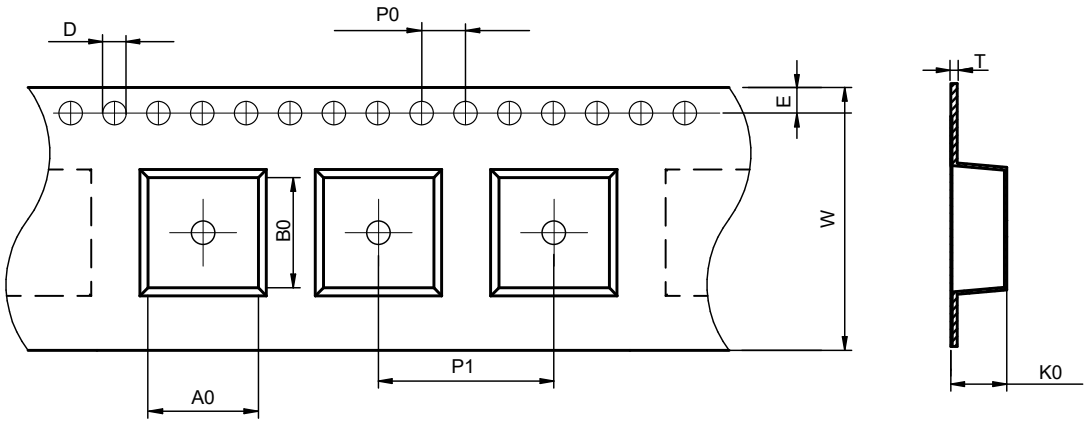
Allowed time above 217℃: 60~150 sec.

Max temperature: 260℃.

Allowed Reflow time: 2x max.

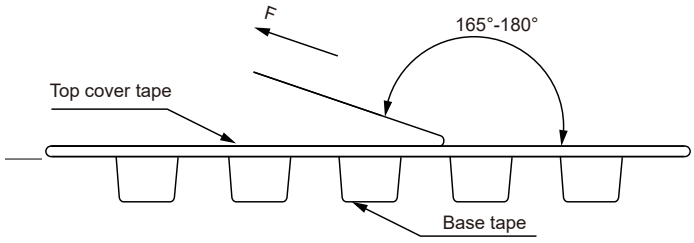
Packaging Information:

Tape Dimension:



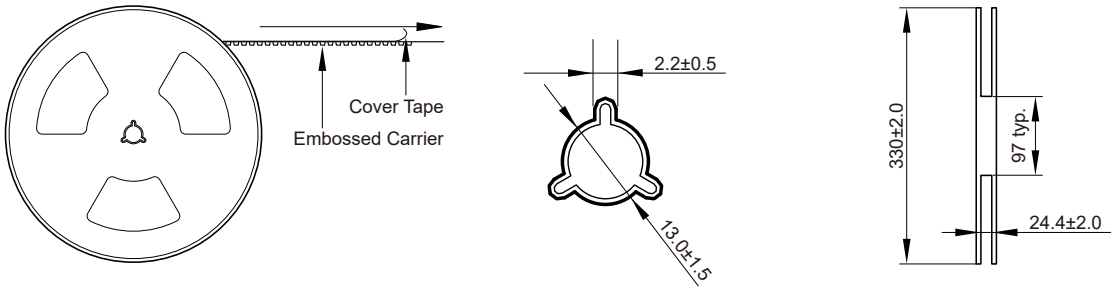
Series	A0 (mm)	B0 (mm)	D (mm)	P0 (mm)	P1 (mm)	W (mm)	K0 (mm)	E (mm)	T (mm)
MDCA1365	13.0 typ.	14.0 typ.	1.5±0.1	4.0±0.1	16.0±0.1	24.0±0.3	6.9 typ.	1.75±0.1	0.40 typ.

Peel force of top cover tape:

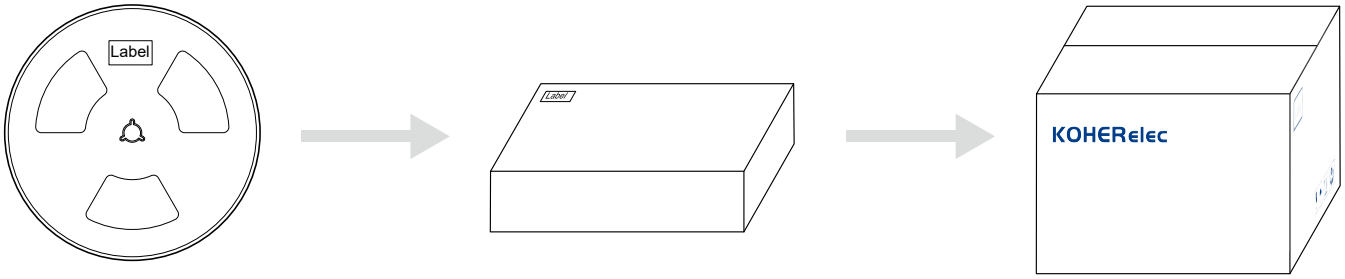


The peel force of top cover tape shall be between 0.1 to 1.3 N

Reel Dimension： [mm]



Packaging Quantity:



500 Pcs/Reel

2 Reel /Inner box(1000 Pcs)

2 Inner box/Carton box(2K Pcs)

Cautions and Warnings:

Storage Conditions：

- The storage period is within 12 months after the completion of production. Be sure to follow the storage conditions (temperature: -5 to 35°C, humidity: 75% RH Max).If the storage period elapses, the soldering of the terminal electrodes may deteriorate.The warranty period is one year.
- Product should not be exposed to environment with high temperature, high humidity, dust, corrosive gas and etc.
- Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
- Please always handle products carefully to prevent any damage caused by dropping down or inappropriate removing.

Operation Instructions:

- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- Before soldering, be sure to preheat components.The preheating temperature should be set so that the temperature difference between the solder temperature and chip temperature does not exceed 150°C.
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications.If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- Generally, Koher might not be familiar with either customer's specific application or actual requests as customer does.As a result customer shall be responsible for checking and confirming whether Koher product with the performance described in the product specification is suitable for using in customer's particular application or not.