

MOLDING POWER INDUCTORS

1. Features

- High rated current
- Frequency up to 3 MHz
- 125°C maximum total temperature operation
- Low core loss
- Ultra low buzz noise due to molding construction
- Halogen Free & ROHS compliant

2. Applications

- Laptop and PCs
- Switch and servers
- Base stations
- DC/DC converters
- Battery powered devices
- SSD modules



3. Product Identification

<u>CG</u>	<u>D</u>	<u>M</u>	<u>060630</u>	<u>A</u>	<u>4R7</u>	<u>M</u>	<u>T</u>
↓	↓	↓	↓	↓	↓	↓	↓
1	2	3	4	5	6	7	8

1: 中磁尚善CMSS品牌 Brand:CG

2: 产品类型product symbol:

D: 一体成型电感Molded Choke inductor

3: 产品系列: 一体成型合金电感Molding Alloy inductor

M: 一体成型式大电流功率电感系列

4: 尺寸Dimensions: (L*W*T) 7.1*6.6*3.0mm

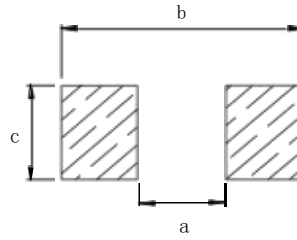
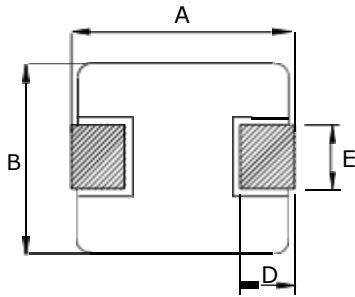
5: 材料代码 material code: Alloy Powder-A

6: 电感量Inductance: 4R7=4.7uH

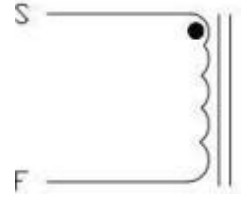
7: 公差范围Tolerance: M±20%

8: 包装packing: 编带包装Tape&Reel: T

4. Dimensions (unit:mm)



Recommend Land Pattern



SCHEMATIC DRAWING

series	A	B	C	D	E	a typ	b typ	c typ
CGDM040412	4.4±0.35	4.2±0.25	1.0±0.2	0.8±0.3	2.0±0.3	2.2	5.2	2.5
CGDM040420	4.4±0.35	4.2±0.25	1.8±0.2	0.8±0.3	2.0±0.3	2.2	5.2	2.5
CGDM050518	5.4±0.35	5.2±0.2	1.6±0.2	1.2±0.2	2.2±0.3	2.2	6	2.5
CGDM050520	5.4±0.35	5.2±0.2	1.8±0.2	1.2±0.2	2.2±0.3	2.2	6	2.5
CGDM050530	5.4±0.35	5.2±0.2	2.8±0.2	1.2±0.2	2.2±0.3	2.2	6	2.5
CGDM060618	7.1±0.3	6.6±0.2	1.6±0.2	1.6±0.3	3.0±0.3	3.7	8.4	3.5
CGDM060624	7.1±0.3	6.6±0.2	2.2±0.2	1.6±0.3	3.0±0.3	3.7	8.4	3.5
CGDM060630	7.1±0.3	6.6±0.2	2.8±0.2	1.6±0.3	3.0±0.3	3.7	8.4	3.5
CGDM060640	7.1±0.3	6.6±0.2	3.8±0.2	1.6±0.3	3.0±0.3	3.7	8.4	3.5
CGDM060650	7.1±0.3	6.6±0.2	4.8±0.2	1.6±0.3	3.0±0.3	3.7	8.4	3.5
CGDM101040	11.5MAX	10.0±0.3	3.8±0.2	2.0±0.5	3.0±0.5	5.4	13.6	4.1
CGDM131340	13.45±0.35	12.8±0.5	4.0MAX	2.0±0.5	See Remarks	8	14.5	5.5
CGDM131350	13.45±0.35	12.6±0.3	4.8±0.2	2.0±0.5	See Remarks	8	14.5	5.5
CGDM131360	13.45±0.35	12.6±0.3	5.8±0.2	2.0±0.5	5.0±0.3	8	14.5	5.5

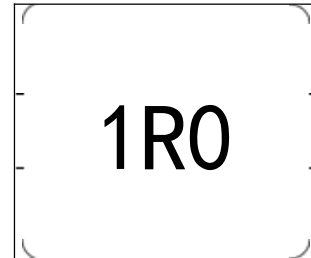
Remarks:

series	E	Dimensions
CGDM131340	3.85±0.5	R22/R47
	5.0±0.3	R68/R82/1R0/ 1R5/2R2/3R3/4R7/6R8/ 100/ 150/220
CGDM131350	3.85±0.5	R22/R36/R50/R68/R82/ 1R0/ 1R5/2R2
	5.0±0.3	3R3/4R7/6R8/ 100/ 150/220/330/470

5. Marking

The inductor is marked with a 3-digit code

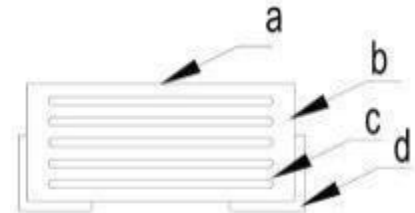
Nominal Inductance	
Example	Nominal Value
1R0	1.0 μ H
100	10 μ H
101	100 μ H



Note : Using Ink for marking

6. Structure and Components

Symbol	Components	Material
a	MARKING	Ink(black)
b	CORE	Alloy Sponge Powder
c	WIRE	Polyurethane copper wire
d	Terminal	Copper plated with Sn





7. Electrical characteristics

• CGDM040412 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM040412AR15MT	0.15	9	15	7.5
CGDM040412AR22MT	0.22	11	11	7
CGDM040412AR33MT	0.33	19	8.4	6.5
CGDM040412AR47MT	0.47	21	6.8	6
CGDM040412AR68MT	0.68	36	6	4.7
CGDM040412A1R0MT	1	47	5.5	4.5
CGDM040412A1R5MT	1.5	75	4	3.25
CGDM040412A2R2MT	2.2	83.5	3	2.75
CGDM040412A4R7MT	4.7	195	2.2	1.8

• CGDM040420 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM040420AR10MT	0.1	4	22	13
CGDM040420AR22MT	0.22	6.6	12.5	9.5
CGDM040420AR33MT	0.33	11	12	10
CGDM040420AR47MT	0.47	14	9.5	7.5
CGDM040420AR56MT	0.56	16	9	7
CGDM040420AR68MT	0.68	18	8	7
CGDM040420A1R0MT	1.0	27	7	6
CGDM040420A1R2MT	1.2	27	6.5	6
CGDM040420A1R5MT	1.5	46	5.5	5
CGDM040420A2R2MT	2.2	58	5	4.5
CGDM040420A3R3MT	3.3	87	3.5	3.3
CGDM040420A4R7MT	4.7	105	3	2.8
CGDM040420A6R8MT	6.8	175	2.5	2.4
CGDM040420A100MT	10	282	2	1.6



• CGDM050518 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM050518AR47MT	0.47	9	12	10.5
CGDM050518AR56MT	0.56	10	11	9.5
CGDM050518A1R0MT	1	17	9	8
CGDM050518A1R5MT	1.5	26	8	7.5
CGDM050518A2R2MT	2.2	35	6	5
CGDM050518A3R3MT	3.3	58	4.8	4.5
CGDM050518A4R7MT	4.7	85	4	3.5
CGDM050518A6R8MT	6.8	120	3.4	2.8
CGDM050518A100MT	10	155	2.5	2.5

• CGDM050520 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM050520AR22MT	0.22	4.5	19	15
CGDM050520AR47MT	0.47	9	16	10.5
CGDM050520AR56MT	0.56	10	15	9.5
CGDM050520A1R0MT	1	17	9.5	8
CGDM050520A1R5MT	1.5	30	8.5	5.5
CGDM050520A2R2MT	2.2	34	7	5
CGDM050520A3R3MT	3.3	58	5.5	4.5
CGDM050520A4R7MT	4.7	78	4.5	3.5
CGDM050520A6R8MT	6.8	120	3.5	2.8
CGDM050520A8R2MT	8.2	150	3.3	2.6
CGDM050520A100MT	10	175	3	2.5



• CGDM050530 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM050530AR10MT	0.10	3	30	25
CGDM050530AR20MT	0.2	3.9	20	14
CGDM050530AR33MT	0.33	5.5	18	14
CGDM050530AR47MT	0.47	8.5	15	11
CGDM050530AR68MT	0.68	12	11.5	9
CGDM050530A1R0MT	1	14	10	8.5
CGDM050530A1R2MT	1.2	16	9.5	8.5
CGDM050530A1R5MT	1.5	25	9	8.2
CGDM050530A2R2MT	2.2	29	7	7
CGDM050530A3R3MT	3.3	38	6	5.5
CGDM050530A4R7MT	4.7	60	4.6	4.5
CGDM050530A6R8MT	6.8	90	3.6	3.5
CGDM050530A100MT	10	125	3.5	3.2

• CGDM060618 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM060618AR10MT	0.10	2.3	38	25
CGDM060618AR22MT	0.22	3.5	24	22
CGDM060618AR47MT	0.47	8.4	18	11.5
CGDM060618AR68MT	0.68	12	16.5	9.5
CGDM060618A1R0MT	1	16	12	8.5
CGDM060618A1R5MT	1.5	26	9.2	8
CGDM060618A2R2MT	2.2	35	8	7
CGDM060618A3R3MT	3.3	50	6	4.5
CGDM060618A4R7MT	4.7	62	5	4
CGDM060618A6R8MT	6.8	110	4.5	3
CGDM060618A100MT	10	155	4	2.3
CGDM060618A220MT	22	350	2.3	1.8



• CGDM060624 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM060624AR22MT	0.22	3	30	21
CGDM060624AR33MT	0.33	4.1	24.5	18
CGDM060624AR47MT	0.47	5.1	20	15
CGDM060624AR56MT	0.56	6.5	17	13
CGDM060624AR68MT	0.68	7	16	12
CGDM060624A1R0MT	1	13.5	15	9
CGDM060624A1R5MT	1.5	20	13.5	8.2
CGDM060624A2R2MT	2.2	28	10	7
CGDM060624A3R3MT	3.3	39	8	5.5
CGDM060624A4R7MT	4.7	50	6.5	5
CGDM060624A6R8MT	6.8	70	6	4
CGDM060624A100MT	10	101	4	3.1
CGDM060624A150MT	15	160	3.3	2.5
CGDM060624A220MT	22	230	2.5	2

• CGDM060630 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM060630AR22MT	0.22	3	34	24
CGDM060630AR33MT	0.33	3.5	25	21
CGDM060630AR47MT	0.47	4.1	20	18
CGDM060630AR56MT	0.56	4.5	18	16.5
CGDM060630AR68MT	0.68	5.3	17	16
CGDM060630AR82MT	0.82	6	16	14
CGDM060630A1R0MT	1	7.4	15	12
CGDM060630A1R5MT	1.5	12.1	12	12
CGDM060630A2R2MT	2.2	15	10	9.5
CGDM060630A3R3MT	3.3	22	9.5	8.5
CGDM060630A4R7MT	4.7	33	9	6
CGDM060630A5R6MT	5.6	42	6.5	5.5
CGDM060630A6R8MT	6.8	48	6	5
CGDM060630A8R2MT	8.2	60	5.5	5
CGDM060630A100MT	10	68	5.5	4.5
CGDM060630A150MT	15	113	4	3
CGDM060630A220MT	22	170	3	2.5
CGDM060630A330MT	33	270	2.5	2



• CGDM060640 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM060640A2R2MT	2.2	14	11	9
CGDM060640A4R7MT	4.7	30	9	7
CGDM060640A150MT	15	110	4.5	3.5

• CGDM060650 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM060650AR47MT	0.47	3.9	21	20
CGDM060650AR68MT	0.68	4.5	18	16.5
CGDM060650A1R0MT	1	6.6	16	12
CGDM060650A1R5MT	1.5	10	13	9.5
CGDM060650A2R2MT	2.2	12.5	11	9
CGDM060650A3R3MT	3.3	22	10	8.5
CGDM060650A4R7MT	4.7	29	8	6
CGDM060650A6R8MT	6.8	41	6.3	5.8
CGDM060650A8R2MT	8.2	48	5.5	5.5
CGDM060650A100MT	10	60	5.3	4.5
CGDM060650A150MT	15	90	4	3.1
CGDM060650A220MT	22	140	3.5	2.6
CGDM060650A330MT	33	190	3	2.3
CGDM060650A470MT	47	230	2.6	2



• CGDM101040 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM101040AR15MT	0.15	0.65	75	45
CGDM101040AR22MT	0.22	1	60	35
CGDM101040AR30MT	0.3	1.1	45	35
CGDM101040AR36MT	0.36	1.2	45	30
CGDM101040AR47MT	0.47	1.7	40	30
CGDM101040AR56MT	0.56	1.8	33	25
CGDM101040AR68MT	0.68	2.4	30	23
CGDM101040AR80MT	0.8	2.7	29	23
CGDM101040A1R0MT	1	3.3	28	19
CGDM101040A1R5MT	1.5	4.2	24	16
CGDM101040A2R2MT	2.2	7	16.5	12
CGDM101040A3R3MT	3.3	11.8	16	11
CGDM101040A4R7MT	4.7	20	13	9
CGDM101040A6R8MT	6.8	25	12	8.5
CGDM101040A8R2MT	8.2	27	9	8
CGDM101040A100MT	10	30	8.5	7.8
CGDM101040A150MT	15	45	7	6.5
CGDM101040A220MT	22	66	5.5	5
CGDM101040A330MT	33	92	4.8	4.4
CGDM101040A470MT	47	145	3.5	3.3
CGDM101040A680MT	68	195	3	2.5



• CGDM131340 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM131340AR22MT	0.22	0.9	50	42
CGDM131340AR47MT	0.47	2	48	33
CGDM131340AR68MT	0.68	3.5	47	28
CGDM131340AR82MT	0.82	4.5	40	28
CGDM131340A1R0MT	1	7.5	35	24
CGDM131340A1R5MT	1.5	9.5	30.5	20
CGDM131340A2R2MT	2.2	11.5	26	18
CGDM131340A3R3MT	3.3	13	21	15
CGDM131340A4R7MT	4.7	14.5	18	13
CGDM131340A6R8MT	6.8	20	14	9
CGDM131340A100MT	10	25	10	8
CGDM131340A150MT	15	39	7.5	6.5
CGDM131340A220MT	22	51	6	4.5

• CGDM131350 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM131350AR22MT	0.22	0.7	75	50
CGDM131350AR36MT	0.36	0.85	50	42
CGDM131350AR50MT	0.5	1.15	48	38
CGDM131350AR68MT	0.68	1.55	46	33
CGDM131350AR82MT	0.82	1.67	39	30
CGDM131350A1R0MT	1	2.2	35	26
CGDM131350A1R5MT	1.5	3.2	33	23
CGDM131350A2R2MT	2.2	5	24	15
CGDM131350A3R3MT	3.3	7	22	14
CGDM131350A4R7MT	4.7	9	20	13
CGDM131350A6R8MT	6.8	18	16	12
CGDM131350A100MT	10	22	12	9
CGDM131350A150MT	15	30	10	8
CGDM131350A220MT	22	58	6.5	4.5
CGDM131350A330MT	33	84	6	3.5
CGDM131350A470MT	47	130	5	3



• CGDM131360 Type:

Part No.	Inductance	DC Resistance	Saturation Current	Heating Rating Current
	L0 (μH)	DCR (mΩ)	Isat (A)	Irms (A)
	±20 %, 100 kHz, 1V	Max.	Typ.	Typ.
CGDM131360A4R7MT	4.7	9	24	15
CGDM131360A5R6MT	5.6	11	22.5	13
CGDM131360A6R8MT	6.8	13.5	19	12
CGDM131360A8R2MT	8.2	16	13.5	11
CGDM131360A100MT	10	20.7	12.5	10
CGDM131360A120MT	12	23	10	9
CGDM131360A150MT	15	29	9	8.5
CGDM131360A180MT	18	35	8	7.5
CGDM131360A220MT	22	39.5	7.5	7
CGDM131360A270MT	27	56	6.5	6
CGDM131360A330MT	33	75	6	5.5
CGDM131360A470MT	47	90	5.5	5
CGDM131360A680MT	68	140	4.5	4
CGDM131360A101MT	100	200	3.5	3
CGDM131360A121MT	120	235	3.2	2
CGDM131360A151MT	150	350	2.7	1.5

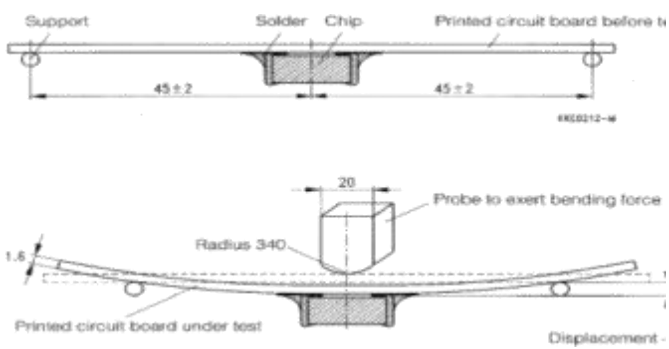
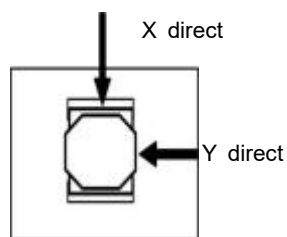
• Notes

1. All test data is referenced to 25 °C ambient
2. Operating temperature range - 55 °C to + 125 °C
3. I_{rms} (A):DC current (A) that will cause an MPIFproximate ΔT of 40 °C(reference ambient temperature is 25 °C)
4. I_{sat}(A):DC current (A) that will cause L0 to drop MPIFproximately 30 %
5. The part temperature (ambient + temp rise) should not exceed 125 °C under worst case operating conditions.
Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end MPIFplication.
6. Absolute maximum voltage 30VDC



8. Reliability Test

Item	Specification and Requirement	Test Method						
Solderability	1. No case deformation or change in MPIFpearance 2. New solder coverage More than 90%	1. Preheat: $155C \pm 5C$, $60S \pm 2S$ 2. Tin: lead-free. 3. Temperature: $245C \pm 5C$, flux $3.0S \pm 0.5S$.						
Mechanical shock	1. No case deformation or change in MPIFpearance 2 $\Delta L/Lo \cong \pm 10\%$	1. Acceleration: 100G 2. Pulse time: 6ms 3. 3 times in each positive and negative direction of 3 mutual perpendicular directions						
Mechanical vibration	1. No case deformation or change in MPIFpearance 2. $\Delta L/Lo \cong \pm 10\%$	1. The test samples shall be soldered to the board. Then it shall be submitted to b1e0105 Hz test conditions. <table border="1"> <tr> <td>Total Amplitude</td> <td>1.5mm</td> </tr> <tr> <td>Sweeping Method</td> <td>10Hz to 55Hz to 10Hz</td> </tr> <tr> <td>Time</td> <td>For 2 hours on each X,Y,Z axis.</td> </tr> </table> 2. Recovery: At least 2 hours of recovery under the standard condition after the test, followed by the measurement within 24 ± 2 hours.	Total Amplitude	1.5mm	Sweeping Method	10Hz to 55Hz to 10Hz	Time	For 2 hours on each X,Y,Z axis.
Total Amplitude	1.5mm							
Sweeping Method	10Hz to 55Hz to 10Hz							
Time	For 2 hours on each X,Y,Z axis.							
Thermal Shock	Inductance change: Within $\pm 10\%$ Without distinct damage in MPIFpearance	1. First $-55C$ for 30 minutes , last $125C$ for 30 minutes as 1 cycle. Go through 1000 cycles. 2. Max transfer time is 2 minutes. 3. Measured at room temperature after placing for 24 ± 2 hours						
Humidity Resistance	Inductance change: Within $\pm 10\%$ Without distinct damage in MPIFpearance	1. Reflow 2 times, 2. $85C, 85\%RH$, 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours						
Low temperature storage	Inductance change: Within $\pm 10\%$ Without distinct damage in MPIFpearance	1. Temperature: $-55 \pm 2C$ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours						

<p>High temperature storage</p>	<p>Inductance change: Within $\pm 10\%$ Without distinct damage in MPIFpearance</p>	<ol style="list-style-type: none"> 1. Temperature: $+125 \pm 20$ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours
<p>Board Flex</p>	<p>Inductance change: Within $\pm 10\%$ Without distinct damage in MPIFpearance</p>	<ol style="list-style-type: none"> 1. Run through IR reflow for 2 times; 2. Place the 100mm X 40mm board into a fixture similar to the one shown in below Figure with the component facing down 3. The MPIFparatus shall consist of mechanical means to MPIFply a force which will bend the board (D) x = 2 mm minimum. 4. The duration of the MPIFplied forces shall be 60 ± 5 sec. The force is to be MPIFplied only once to the board. 
<p>Terminal Strength</p>	<p>No removal or split of the termination or other defects shall occur.</p>	<ol style="list-style-type: none"> 1. The test samples shall be soldered to the board 2. Push the product vertically from the side of the sample using the thrust tester. 3. Automotive electronics: 17.7N, $60S \pm 1s$, X , Ydirect. 

Recommended Soldering Technologies

(1) Re-flowing Profile

Preheat condition: 150 ~200C/60~180sec.

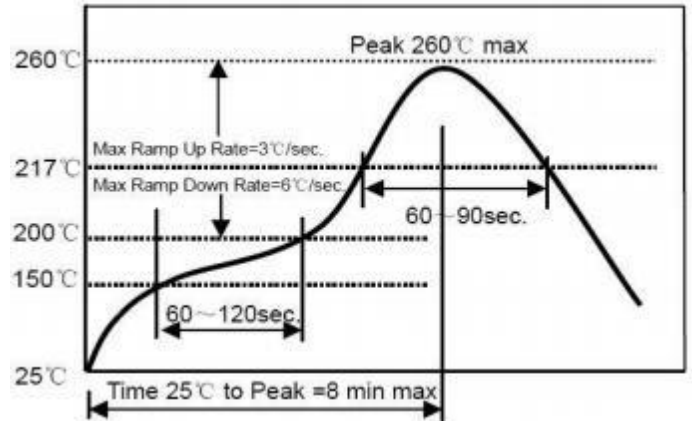
Allowed time above 217C: 80~ 120sec.

Max temp: 260C

Max time at max temp: 10 sec.

Solder paste: Sn/3.0Ag/0.5Cu

Allowed Reflow time: 2x max



(2) Iron Soldering Profile

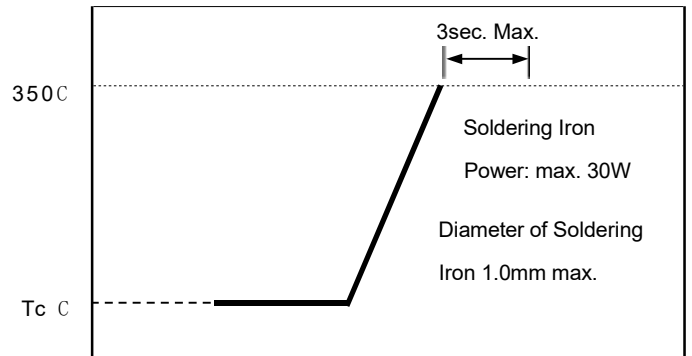
Iron soldering power: Max. 30W

Pre-heating: 150C/60sec.

Soldering time: 3sec. Max.

Solder paste: Sn/3.0Ag/0.5Cu

Max. 1 times for iron soldering

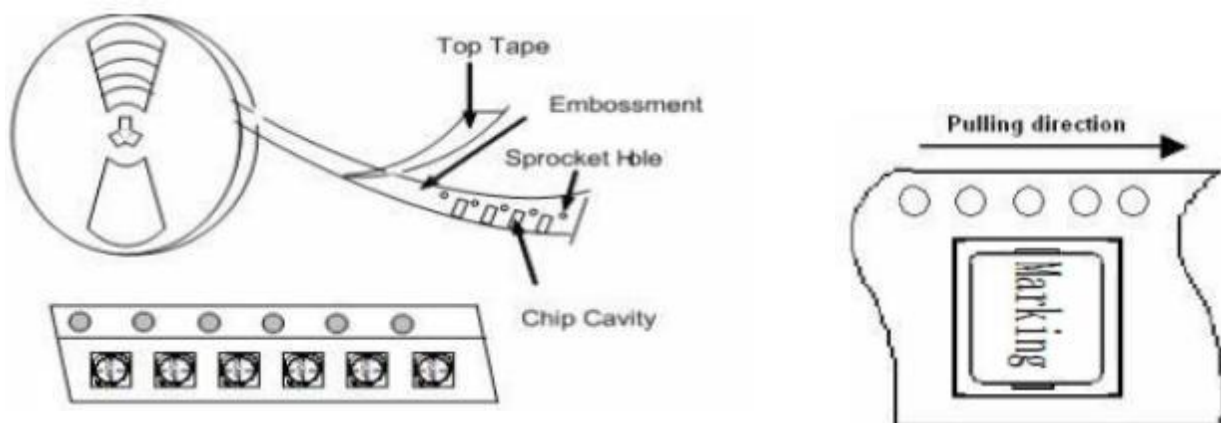


9. Packaging, Storage and Transportation

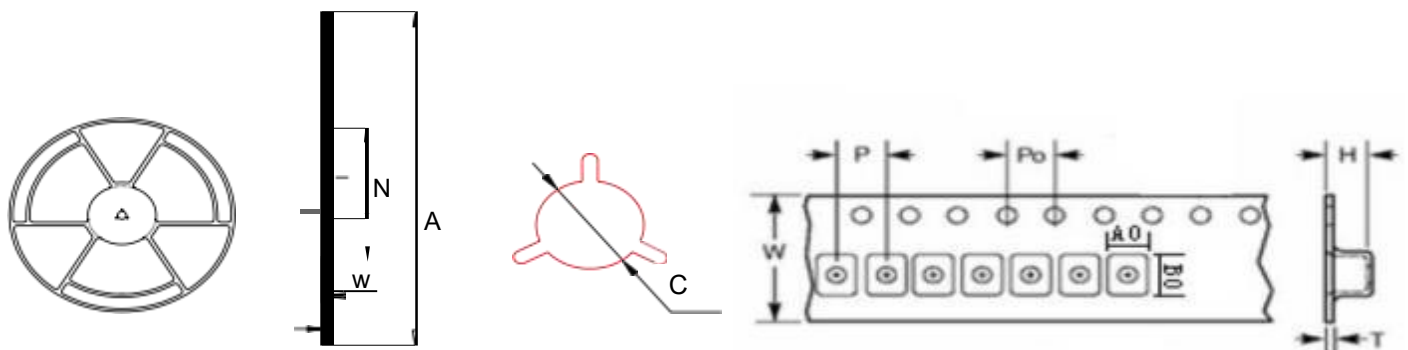
- TMPIFe Carrier Packaging:

Type	Standard Quantity (pcs/reel)	Type	Standard Quantity (pcs/reel)
CGDM040412	3000	CGDM060640	1000
CGDM040420	3000	CGDM060650	1000
CGDM040518	2000	CGDM101040	500
CGDM050520	2000	CGDM101045	500
CGDM050530	2000	CGDM131340	500
CGDM060618	2000	CGDM131350	500
CGDM060624	1500	CGDM131360	500
CGDM060630	1000		

- TMPIFing Drawings (UNIT:mm)



- Reel and TMPIFing Dimensions (UNIT:mm)



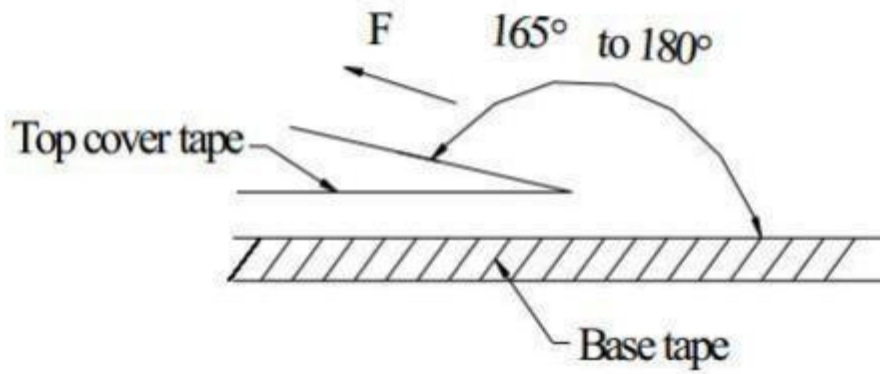


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Type	Reel Dimensions (mm)				TMPIFe Dimensions (mm)							
	A	N	W	C	W	P	P0	A0	B0	H	T	
CGDM040412	330 +2/-0	100 +2/-0	12.4 +2/-0	13.2 ±0.2	12±0.3	8±0.1	4±0.1	4.4±0.1	4.9±0.1	1.5±0.05	0.3±0.05	
CGDM040420	330 +2/-0	100 +2/-0	12.4 +2/-0	13.2 ±0.2	12±0.3	8±0.1	4±0.1	4.4±0.1	4.9±0.1	2.3±0.05	0.35±0.05	
CGDM050518	330 +2/-0	100 +2/-0	12.4 +2/-0	13.2 ±0.2	12±0.3	8±0.1	4±0.1	5.4±0.1	5.9±0.1	2.1±0.05	0.35±0.05	
CGDM050520	330 +2/-0	100 +2/-0	12.4 +2/-0	13.2 ±0.2	12±0.3	8±0.1	4±0.1	5.5±0.1	5.85±0.1	2.2±0.1	0.35±0.05	
CGDM050530	330 +2/-0	100 +2/-0	12.4 +2/-0	13.2 ±0.2	12±0.3	8±0.1	4±0.1	5.4±0.1	5.9±0.1	3.3±0.05	0.35±0.05	
CGDM060618	330 +2/-0	100 +2/-0	16.4 +2/-0	13.2 ±0.2	16±0.3	12±0.1	4±0.1	6.9±0.1	7.5±0.1	2.1±0.05	0.35±0.05	
CGDM060624	330 +2/-0	100 +2/-0	16.4 +2/-0	13.2 ±0.2	16±0.3	12±0.1	4±0.1	6.9±0.1	7.5±0.1	2.7±0.05	0.35±0.05	
CGDM060630	330 +2/-0	100 +2/-0	16.4 +2/-0	13.2 ±0.2	16±0.3	12±0.1	4±0.1	6.9±0.1	7.5±0.1	3.3±0.05	0.35±0.05	
CGDM060640	330 +2/-0	100 +2/-0	16.4 +2/-0	13.2 ±0.2	16±0.3	12±0.1	4±0.1	6.9±0.1	7.5±0.1	4.2±0.1	0.35±0.05	
CGDM060650	330 +2/-0	100 +2/-0	16.4 +2/-0	13.2 ±0.2	16±0.3	12±0.1	4±0.1	6.9±0.1	7.5±0.1	5.2±0.1	0.4±0.05	
CGDM101040	330 +2/-0	100 +2/-0	24.4 +2/-0	13.2 ±0.2	24±0.3	16±0.1	4±0.1	10.4±0.1	11.5±0.1	4.3±0.1	0.35±0.05	
CGDM101045	330 +2/-0	100 +2/-0	24.4 +2/-0	13.2 ±0.2	24±0.3	16±0.1	4±0.1	10.4±0.1	11.5±0.1	4.8±0.1	0.35±0.05	
CGDM131340	330 +2/-0	100 +2/-0	24.4 +2/-0	13.2 ±0.2	24±0.3	16±0.1	4±0.1	13.4±0.1	14.4±0.1	4.3±0.1	0.5±0.05	
CGDM131350	330 +2/-0	100 +2/-0	24.4 +2/-0	13.2 ±0.2	24±0.3	16±0.1	4±0.1	13.2±0.1	14.4±0.1	5.3±0.1	0.5±0.05	
CGDM131360	330 +2/-0	100 +2/-0	24.4 +2/-0	13.2 ±0.2	24±0.3	16±0.1	4±0.1	13.2±0.1	14.4±0.1	6.3±0.1	0.5±0.05	

- Peel force of top cover tMPIFe
The peel speed shall be about 300mm/minute
The peel force of top cover tMPIFe shall be between 0.1 to 1.3 N



- Label

Label on the reel

- Customer's part Number
- Lot Number
- Quantity
- date code

Shipping Label

- Customer's part Number
- Manufacturer's part Number
- Quantity
- date code

