

深圳市宇畅达电子有限公司

承 认 书

SPECIFICATION FOR APPROVAL

客 户 名 称:

Customer Name : _____

客 户 料 号 :

Customer P/N: _____

产 品 名 称:

T-core integrated molding

Product Name: _____

宇 畅 达 料 号:

PIM 160808 系列

YCD P/N: _____

制造厂商	
Manufacturer	
拟 制 Draft	黄小香
审 核 Check	符妃团
日 期 Date	2023-03-18

客户承认印章	
Approval Signet	
日 期 Date	

地址:深圳市光明区玉塘街道光明高新园侨德科技园A座9楼.

Address:9th Floor, Block A, Qiaode Science and Technology Park, Guangming High-tech Park, Yutang Street, Guangming District, Shenzhen

电子邮件 E - mail: wyf_ycd@163.com

● **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

● **Applications**

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



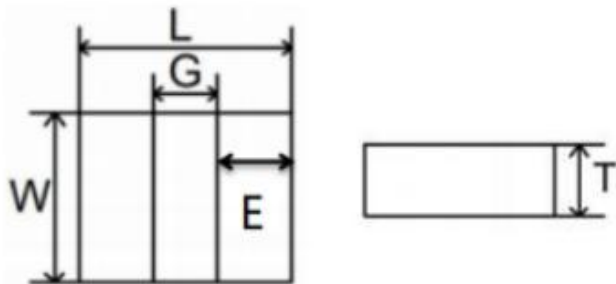
● **Product Identification**

YCD **PIM** **160808** **-2R2** **M** **T** **B**
 ① ② ③ ④ ⑤ ⑥ ⑦

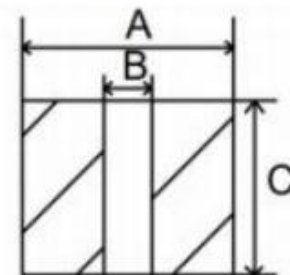
- ① Brand code (品牌代码)
- ② T-core integrated molding (一体成型)
- ③ Specifications and models (规格型号)
- ④ Inductance value (感值)
 R22=0.22UH 3R3=3.3UH 100=10UH 101=100UH
- ⑤ Inductance Tolerance N=±30% M=±20% K=±10%
- ⑥ Packaging (包装) T:编带整盘 B:散装
- ⑦ Coating color B=Black G=Gray

● **Dimensions (unit:mm)**

Outline Dimensions



PCB Pattern



Series	L	G	W	E	T	A	B	C
160808	1.6±0.2	0.6±0.2	0.8±0.2	0.50±0.2	0.80Max	1.70	0.50	0.90

Electrical characteristics

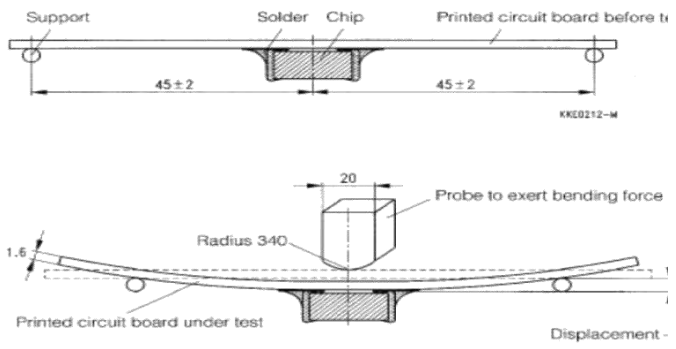
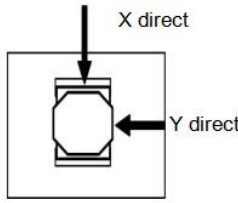
● PIM160808 TYPE:

P/N	L0(μ H) @ (0A) 1MHz	Rdc(m Ω)		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
PIM160808-R22MT	0.22	33	40	3.4	3.0	5.5	5.0
PIM160808-R24MT	0.24	34	41	3.3	2.9	5.3	4.8
PIM160808-R47MT	0.47	80	100	2.6	2.3	4.1	3.7
PIM160808-R56MT	0.56	85	110	2.2	1.9	4.0	3.5
PIM160808-R68MT	0.68	110	130	2.1	1.9	3.3	3.0
PIM160808-1R0MT	1.0	180	200	2.1	1.8	3.0	2.6
PIM160808-1R5MT	1.5	240	285	1.7	1.4	2.4	2.0
PIM160808-2R2MT	2.2	220	260	1.4	1.2	1.5	1.3
PIM160808-3R3MT	3.3	500	600	1.0	0.9	1.4	1.2
PIM160808-4R7MT	4.7	585	700	1.0	0.8	1.2	1.0
PIM160808-100MT	10.0	1450	1600	0.5	0.45	0.8	0.7

● Test remarks

- 1、 All test data is referenced to 25 °C ambient.
- 2、 Test Condition: 1MHz, 1.0Vrms.
- 3、 Irms: DC current (A) that will cause an approximate ΔT of 40 °C .
- 4、 Isat: DC current (A) that will cause L0 to drop approximately 30%.
- 5、 Operating Temperature Range -55°C to + 125°C .
- 6、 The part temperature (ambient + temp rise) should not exceed 125 under °C the worst case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the end application.
- 7、 The rated current as listed is either the saturation current or the heating current depending on which value is lower.

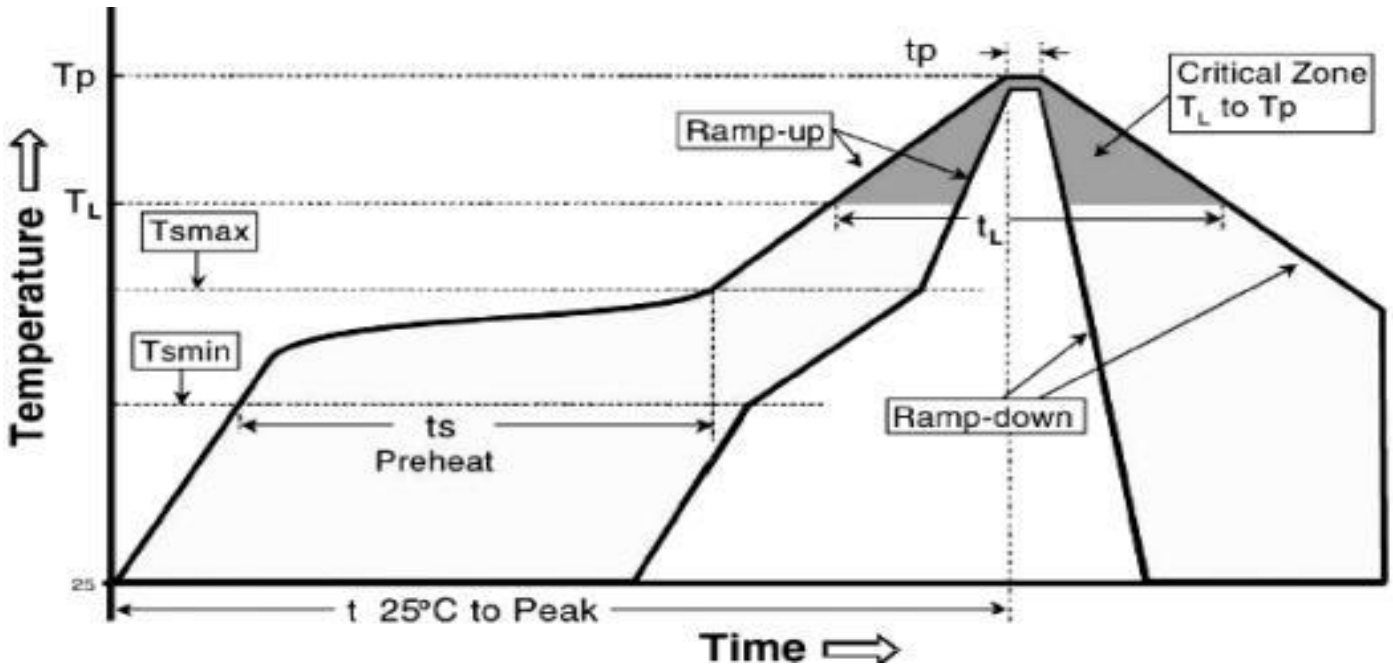
Item	Specification and Requirement	Test Method								
Solderability	1. No case deformation or change in appearance 2. New solder coverage More than 90%	1.Preheat: 155℃±5℃ , 60S±2S 2.Tin: lead-free. 3.Temperature:245℃±5℃, flux 3.0S±0.5S.								
Mechanical shock	1. No case deformation or change in appearance 2. $\Delta L/L_0 \leq \pm 10\%$	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 appearance 2. $\Delta L/L_0 \leq \pm 10\%$	1. The test samples shall be soldered to the board. Then it shall be submitted to below test conditions. <table border="1" style="margin: 10px auto;"> <tr> <td>Fre. Range</td> <td>10~55Hz</td> </tr> <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.	Fre. Range	10~55Hz	Total Amplitude	1.5mm	Sweeping Method	10Hz to 55Hz to 10Hz	Time	For 2 hours on each X,Y,Z axis.
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Thermal Shock	Inductance change: Within ± 10% Without distinct damage in appearance	1. First -55℃ for 30 minutes, last 125℃ 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 ± 10% Without distinct damage in appearance	1.Reflow 2 times, 2.85℃,85%RH,1000 hours 3.Measured at room temperature after placing for 24 ±2 hours								
Low temperature storage	Inductance change: Within ± 10% Without distinct damage in appearance	1. Temperature: -55 ± 2℃ 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 appearance</p>	<p>1. Temperature: $+125 \pm 2^\circ\text{C}$ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24 ± 2 hours</p>
<p>Board Flex</p>	<p>Inductance change: Within $\pm 10\%$ Without distinct damage in appearance</p>	<p>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 apparatus shall consist of mechanical means to apply a force which will bend the board (D) x = 2 mm minimum. 4、 The duration of the applied forces shall be 60 ± 5 sec. The force is to be applied only once to the board.</p> 
<p>Terminal Strength</p>	<p>No removal or split of the termination or other defects shall occur.</p>	<p>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\pm1s, X , Ydirect.</p> 

● **Soldering Condition**

(This is for recommendation, please customer perform adjustment according to actual application)

Recommend Reflow Soldering Profile : (solder : Sn96.5 / Ag3 / Cu0.5)



Profile Feature	Lead (Pb)-Free solder
Preheat:	
Temperature Min (T_{smin})	150°C
Temperature Max (T_{smax})	200°C
Time (T_{smin} to T_{smax}) (t_s)	60 - 120 seconds
Average ramp-up rate: (T_{smax} to T_p)	3°C / second max.
Time maintained above :	
Temperature (T_L)	217°C
Time (t_L)	60- 150 seconds
Peak Temperature (T_p)	260°C
Time within $+0$ -5 °C of actual peak Temperature (t_p) ²	10 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8minutes max.

Allowed Re-flow times : 2 times

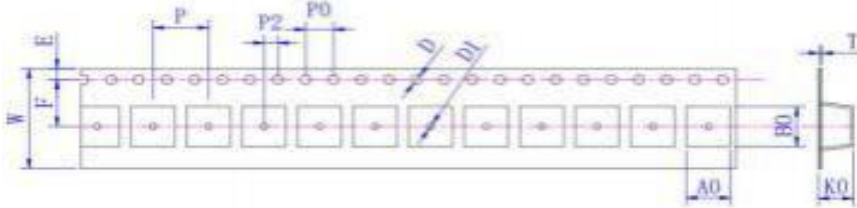
Remark : To avoid discoloration phenomena of chip on terminal electrodes, please use N2 Re-flow furnace .

Packaging, Storage and Transportation

Tape Carrier Packaging:

Type	Standard Quantity (pcs/reel)
160808	3000

● **Dimension of plastic taping: (Unit: mm)**

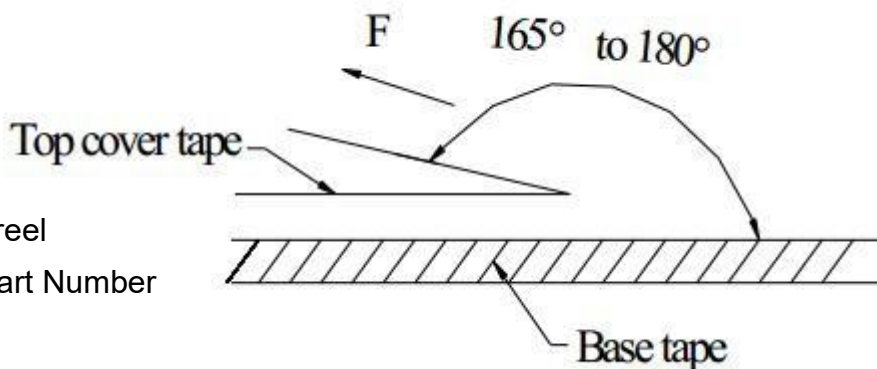


Series	W ±0.30	A0 ±0.05	B0 +0.1/-0	D +0.1/-0	D1 Min	E ±0.10	F ±0.10	K0 ±0.05	P0 ±0.10	P2 ±0.10	P ±0.10	T ±0.05
160808	8.00	1.10	1.90	1.50	1.0	1.75	3.50	1.00	4.00	2.00	4.00	0.23

● **Peel force of top cover tape**

The peel speed shall be about 300mm/minute

The peel force of top cover tape 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

