

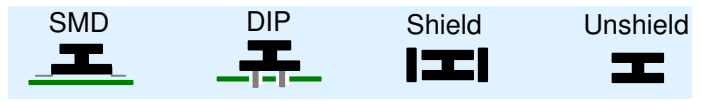


Product Series	<b>GMAT</b>	Brand	GOTREND
File Version	GMAT-SERIES-V3R7	Editor	Teddy
Established Date	2006.06.14	Description	Dip Choke High Current
Latest Edit Date	2020.06.19	Pages	Page : 2

### Features & Application :

- \* High-Current , Low DCR , 0.3uH / 50Amp ~ 1.5uH / 38Amp
- \* Magnetic Shielded for excellent EMI effect
- \* No air-space and large energy storage capability
- \* Through-hole high-current
- \* PWM circuit inductance & isolation
- \* M/B, NB, IPC .... various switching power application

### Product Structure :



### 2005 RoHS Compliant - SGS Certified Result

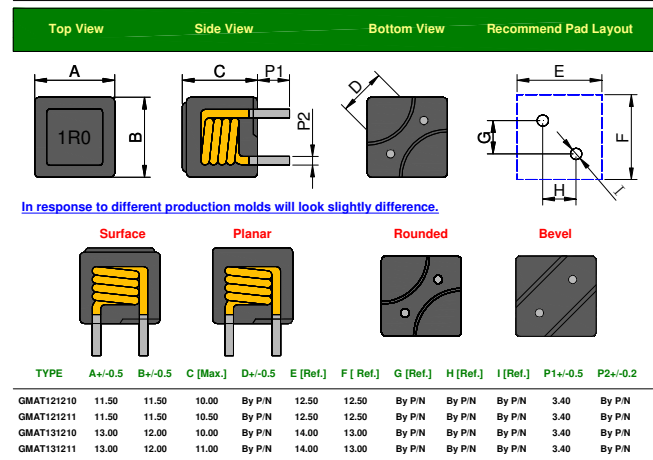
Pb	Cd	Hg	Cr+6	PBB	PBDE
<1000ppm	ND	ND	ND	ND	ND

### Part No Example :

GMAT 131210 P - R80 M  
 -----  
 1 2 3 4 5

1. Product Code : GMAT
2. Size Code : 131210 = 13. x 12 x 10
3. [ L ] Value : Inductance R80 = 0.8uH
4. P = Pb Free < 1000 ppm
5. [ L ] Tolerance : M = +/-20% , N = +/-30%

### DIMENSION : [ mm ]



### Test Equipment :

- \* HP4284A , HP42841A - L , Isat , Irms , DCR

Standard Atmospheric Conditions :  
 Ambient Temp : 20 +/- 15°C  
 Relative Humidity : 65 +/- 20%  
 If there may be any doubt on the result,  
 measurement shall be made within the following limits :  
 Ambient Temp : 25 +/- 5°C  
 Relative Humidity : 75 +/- 10%

### Operating & Storage Condition:

Operating Temp : -25 ~ +125°C  
 Storage Temp : -25 ~ +125°C  
 Storage Life Time: 12 Month @25°C , RH 40~65%

### Attention & Caution:

- Please avoid following matters:
- \* Splashing water or salt water
  - \* Toxic Gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
  - \* Vibrations or shocks which exceed the specified condition
  - \* Dew condenses
  - \* Please be careful for the stress to this product by board flexure or something after the mounting.
  - \* This product meet IPC/JEDEC J-STD-020D standard-MSL,level 2a. It is recommended to bake and dehumidify at 150 degrees for 90 minutes or refer to IPC / JEDEC J-STD-033 corresponding to the baking conditions of MSL 2a level before use.

### Wave Solder Condition :

Pre-heat TEMP. 1 : 110 +/- 5 °C  
 Pre-heat TEMP. 2 : 90 °C ~ 145 °C  
 Peak TEMP. : 260 °C ~ 265 °C / 3 ~ 6 sec.



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### Electrical Characteristics :

PART NO.	L @200KHz,0.1V,0Amp uH ± 20%	Isat / Irms Current Condition	DCR m Ohm	D	G	H	I	P2
		(Max.) Amp	[Max.] / [Typ.]	± 0.5mm	Ref.	Ref.	Ref.	± 0.2mm
GMAT121210P-R30M	0.30	50 / 35	0.85 / 0.75	8.50	5.70	6.30	2.00	1.50
GMAT121210P-R47M	0.47	50 / 32	1.00 / 0.85	8.50	5.70	6.30	2.00	1.50
GMAT121210P-R60M	0.60	50 / 32	1.00 / 0.85	8.50	5.70	6.30	2.00	1.50
GMAT121210P-R80M	0.80	40 / 27	1.40 / 1.20	8.50	5.70	6.30	2.00	1.50
GMAT121210P-1R0M	1.00	36 / 24	1.80 / 1.60	9.00	6.40	6.30	1.70	1.20
GMAT121210P-1R5M	1.50	32 / 21	2.30 / 2.00	9.00	6.40	6.30	1.70	1.20
GMAT121211P-1R8M	1.8	35 / 15	4.20 / 3.45	9.30	6.60	6.60	1.50	1.00
GMAT131210P-R22M	0.22	60 / 45	0.45 / 0.40	10.00	6.60	7.60	2.20	1.70
GMAT131210P-R33M	0.33	56 / 40	0.60 / 0.52	10.00	6.60	7.60	2.20	1.70
GMAT131210P-R39M	0.39	55 / 39	0.65 / 0.56	10.00	6.60	7.60	2.20	1.70
GMAT131210P-R47M	0.47	54 / 38	0.68 / 0.60	10.00	6.60	7.60	2.20	1.70
GMAT131210P-R56M	0.56	52 / 38	0.68 / 0.60	10.00	6.60	7.60	2.20	1.70
GMAT131210P-R68M	0.68	50 / 35	0.85 / 0.75	10.00	6.60	7.60	2.20	1.70
GMAT131210P-R80M	0.80	48 / 33	0.90 / 0.80	10.00	6.60	7.60	2.20	1.70
GMAT131210P-1R0M	1.00	40 / 28	1.25 / 1.10	10.00	6.60	7.60	2.00	1.50
GMAT131211P-1R5M	1.50	38 / 25	1.65 / 1.45	10.00	6.60	7.60	2.00	1.50

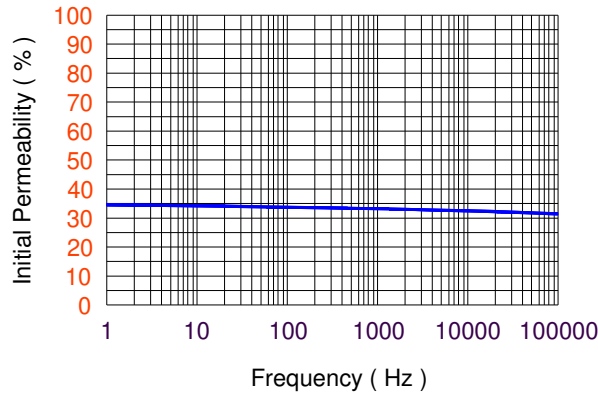
- \* Test Condition @200KHz , 0.1Vrms , 25°C Ambient
- \* Isat = Current loading caused L value drop approximately 20%
- \* Irms = Current loading caused the parts temperature rise about 40°C



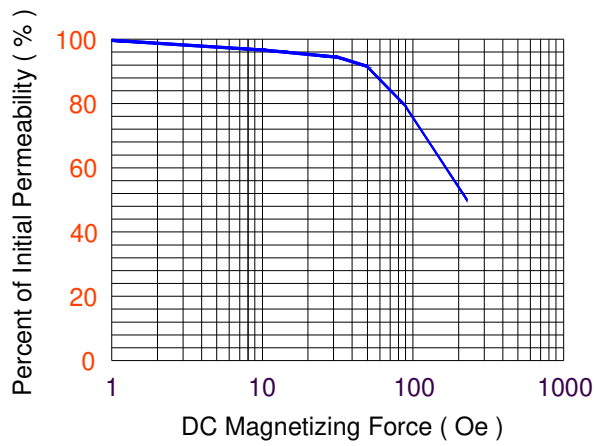
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**Material Character Curve:**

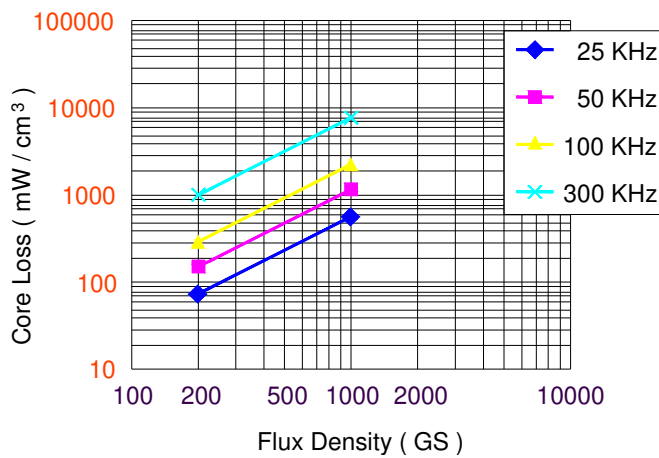
**Initial permeability VS Frequency**



**Percent of Initial Permeability VS DC Magnetizing Force**



**Core Loss VS Flux Density**





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**Reliability :**

NO	ITEM	TEST CONDITIONS	Sample Qty/pcs	Specification	Result																
1	Dimension	Actual Size ...	10	Meet Spec	ok																
2	Thermal Shock (Temperature Cycle)	Temperature : -25 ° C~+125 ° C kept stabilized for 30 minutes each Cycle : 100 Cycle ( Power off )	10	Elec. no variation Appearance no deformation	ok																
3	Humidity Resistance	Humidity: 90%~ 95% RH Temperature: 40± 2 ° C Test Time: 96± 2 Hours	10	Elec. no variation Appearance no deformation	ok																
4	HighTemperature	Temperature: 125± 2 ° C Testing Time: 96± 2 Hours	10	Elec. no variation Appearance no deformation	ok																
5	Low Temperature	Temperature: -25 ± 2 ° C Time: 96± 2 Hours	10	Elec. no variation Appearance no deformation	ok																
6	Temperature and Humidity Cycle	<table border="1"> <thead> <tr> <th>Step</th> <th>Temp</th> <th>Humidity</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>25± 2 ° C</td> <td>90-95%RH</td> <td>3.0Hr</td> </tr> <tr> <td>2</td> <td>55± 2 ° C</td> <td>95-96%RH</td> <td>5.0Hr</td> </tr> <tr> <td>3</td> <td>25± 2 ° C</td> <td>90-95%RH</td> <td>3.0Hr</td> </tr> </tbody> </table> Cycle: 20 Cycles	Step	Temp	Humidity	Time	1	25± 2 ° C	90-95%RH	3.0Hr	2	55± 2 ° C	95-96%RH	5.0Hr	3	25± 2 ° C	90-95%RH	3.0Hr	10	Elec. no variation Appearance no deformation	ok
Step	Temp	Humidity	Time																		
1	25± 2 ° C	90-95%RH	3.0Hr																		
2	55± 2 ° C	95-96%RH	5.0Hr																		
3	25± 2 ° C	90-95%RH	3.0Hr																		
7	Vibration	Frequency: 10Hz~50Hz Amplitude: 1.5mm Direction: X,Y,Z Time: 2 Hours each	10	Elec. no variation Appearance no deformation	ok																
8	Solderability	Solder : Sn96.5 / Ag3.0 / Cu0.5 Per-Heating : 150± 10 ° C / 1min. to 2min. Solder Temperature: 245± 5 ° C Immersion Time 4s ± 1s Electrode shall be at least 75%	10	Elec. no variation Appearance no deformation	ok																

**Package Information: :**

**BOX Package: cm**

Small Box:500 pcs  
Large Box:3000 pcs

