	Product Series Code	<b>GTSD</b>	Brand	<b>GOTREND</b>
	File Version	GTSD-V4R1	Editor	Teddy
	Established Date	2009.09.01	Description	Ferrite Core Shielding SMD Choke
	Latest Edit Date	2017.07.05	Pages	Page : 2

### Features & Application :

\* Shielding Choke good in EMI and fit for various application

\* Fit for power line & signal line circuit

\* To help you go pass the CE/FCC standard.

\* Mobile Device / Handheld Device / LowProfile Device / Panel...

### Part No Example :

GTSD 32 P - 100 □  
 1 2 3 4 5

1. GOTREND Series : GTSD
2. Size Code : 32 = 3.85 x 3.85 x 1.80
3. P = Pb ( Lead ) Free < 1000 ppm
4. [ L ] Value : Inductance 100 = 10uH
5. Tolerance : M = +/-20% , N = +/-30%

### Test Equipment :

- \* HP4284A , HP42841A - L , IDC , Q , RDC
- \* HP8753D NETWORK ANALYZER - SRF

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 :

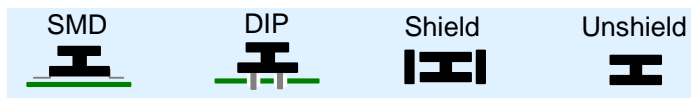
OPERATING TEMP : -40 ~ +105°C  
 STORAGE TEMP : -40 ~ +105°C  
 STORAGE LIFE TIME : 12 MONTH @25°C , RH 65%

### 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.

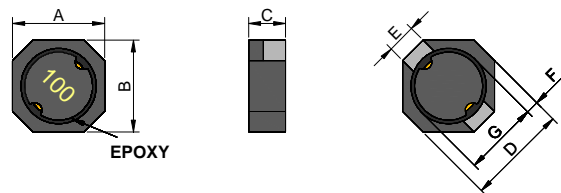
### Product Structure :



### 2005 RoHS Compliant - SGS Certified Result

鉛 Pb	鎘 Cd	汞 Hg	六價鉻 Cr+6	溴化聯苯 PBB	溴化聯苯 醚PBDE
<1000ppm	ND	ND	ND	ND	ND

### DIMENSION : [ mm ] ( measured before solder )



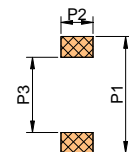
TYPE	A+/-0.3	B+/-0.3	C [Max.]	D+/-0.3	E [Ref.]	F [Ref.]	G [Ref.]
GTSD32	3.85	3.85	1.80	4.10	1.60	0.50	3.20
GTSD33	3.85	3.85	3.00	3.90	1.60	0.50	3.20
GTSD52	5.00	5.00	2.00	5.50	1.60	0.50	4.20
GTSD53	5.00	5.00	3.00	5.50	1.60	0.50	4.20

### DIMENSION : [ mm ]

( Reference for after solder )

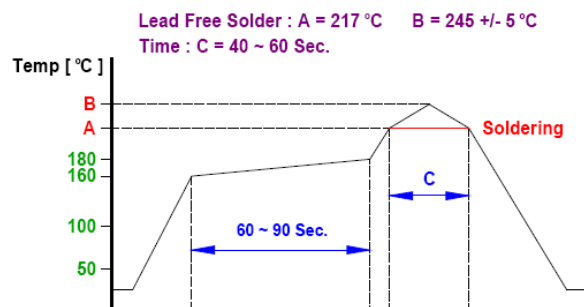
TYPE	A[Ref.]	B[Ref.]	C[Ref.]
GTSD32	3.85	3.85	2.00
GTSD33	3.85	3.85	3.00
GTSD52	5.00	5.00	2.00
GTSD53	5.00	5.00	3.00

### Recommend Pad Layout :



TYPE	P1[Ref.]	P2[Ref.]	P3[Ref.]
GTSD32 / 33	4.90	1.70	2.50
GTSD52 / 53	6.50	1.80	4.20

### Recommend IR Reflow Curcse : GTX-IRFILE001



Notice : Iron Soldering , Solder < 30 Watt , Direct touch the terminal x 3 Sec. Max. @ 350°C



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Latest Edit Date	<b>2017.07.05</b>	Pages	<b>Page : 3</b>

L CODE	L(uH) ± 20% (0.25V)	Test Frequency	DCR (mΩ) (Max.)					IDC (Amp) (Max.)				
			GTSD 32	GTSD 33	GTSD 33C	GTSD 52	GTSD 53	GTSD 32	GTSD 33	GTSD 33C	GTSD 52	GTSD 53
R47	0.47	100KHz	17			15		1.84			4.00	
1R0	1.00		30	9		24	15	1.80	1.90		2.27	4.00
1R1	1.10						20					3.87
1R2	1.20		83	10		44	22	1.70	1.75		2.15	3.80
1R5	1.50		52	13	15		22	1.60	1.45	1.90		3.80
1R8	1.80		56		18			1.55		1.76		
2R0	2.00			16		46	27		1.25		1.90	2.92
2R2	2.20		58	17		59	29	1.50	1.15		1.63	2.41
2R4	2.40				22					1.65		
2R5	2.50		59	18				1.40	1.05			
2R7	2.70		60	20	28			1.35	1.00	1.45		
3R3	3.30		64	24	32	62	34	1.30	0.96	1.44	1.50	2.36
3R5	3.50		127	25		73		1.30	0.95		1.34	
3R6	3.60				35					1.43		
3R9	3.90			33	37				0.87	1.32		
4R3	4.30				43					1.00		
4R7	4.70		146	39	45	87	45	1.10	0.78	0.97	1.14	1.87
5R1	5.10				46					0.94		
5R6	5.60		176	44			52	0.95	0.74			1.60
6R2	6.20		220				62	0.91				1.55
6R8	6.80	238	51	65	105	68	0.90	0.68	0.87	0.95	1.51	
8R2	8.20	272	65	91	139	75	0.80	0.57	0.77	0.90	1.40	
100	10.00	299	92	105	150	90	0.70	0.43	0.70	0.76	1.33	
120	12.00		100	119				0.38	0.67			
150	15.00	472	113	140	210	142	0.61	0.33	0.54	0.63	1.05	
180	18.00		125	175				0.30	0.50			
220	22.00	592	146	201	275	208	0.52	0.28	0.48	0.56	0.86	
270	27.00	630	176	227			0.44	0.26	0.40			
330	33.00	1075	214	287	455	257	0.43	0.23	0.35	0.44	0.72	
390	39.00		225	341				0.21	0.33			
470	47.00	1309	304	430	730	352	0.34	0.19	0.32	0.35	0.62	
560	56.00	1800	324	471			0.30	0.17	0.30			
680	68.00	2613	472	532	935	525	0.25	0.16	0.27	0.30	0.51	
820	82.00	2950	539	675		770	0.20	0.14	0.23		0.48	
101	100.00	3255	608	850	1500	801	0.19	0.13	0.21	0.23	0.43	
121	120.00		757	1100	1910	850		0.12	0.20	0.22	0.34	
151	150.00	3500	882	1230	2680	1100	0.12	0.11	0.17	0.21	0.26	
181	180.00		1130	1560	3040	1190		0.09	0.15	0.20	0.24	
221	220.00	4900	1269	1800	3520	1530	0.09	0.09	0.14	0.195	0.20	
271	270.00		1570	2200	4380			0.08	0.13	0.193		
331	330.00	7280	1930	2640	5560	2030	0.08	0.08	0.12	0.15	0.19	
471	470.00		2770	3820	7820	3500		0.07	0.10	0.10	0.15	
222	2200.0	59000				1900	0.035				0.05	

- Tolerance : M = 20% , N = 30%
- IDC : Base on L drop 35% Max. & Temp. rise up 40 deg.C Max.

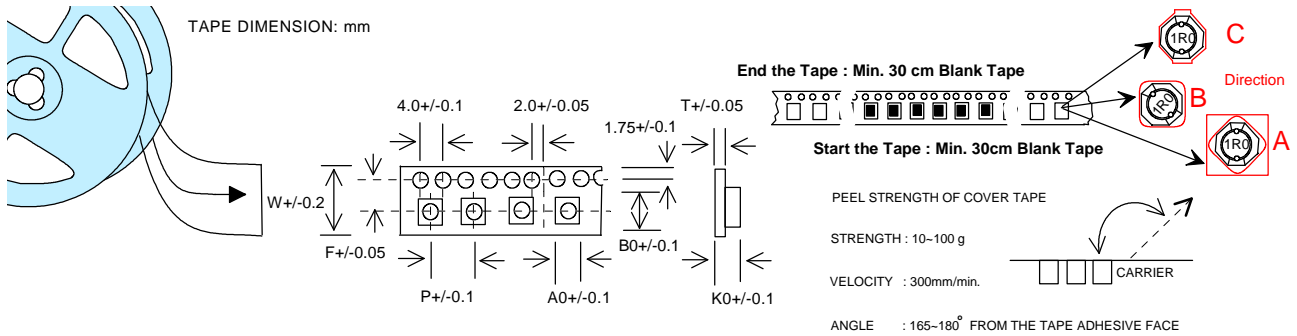


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Latest Edit Date	<b>2017.07.05</b>	Pages	<b>Page : 4</b>

NO	ITEM	TEST CONDITIONS	Sample Qty/pcs	Spec	Result																
1	Dimension 本體相關尺寸	Actual Size ...	10	Meet Spec	ok																
2	Thermal Shock (Temperature Cycle) 溫度循環試驗	Temperature:-40 °C/ +105 °C kept stabilized for 30 minutes each Cycle: 100 Cycles(power off)	10	Elec. no variation Appearance no deformation	ok																
3	Humidity Resistance 耐濕試驗	Humidity: 90%~ 95% RH Temperature: 40± 2 °C Test Time: 120± 2 Hours	10	Elec. no variation Appearance no deformation	ok																
4	High Temperature 耐熱試驗	Temperature: 105± 2 °C Humidity: 20% Testing Time: 120± 2 Hours	10	Elec. no variation Appearance no deformation	ok																
5	Low Temperature 耐寒試驗	Temperature: -40 ± 2 °C Time: 120± 2 Hours	10	Elec. no variation Appearance	ok																
6	Temperature and Humidity Cycle 溫/濕度循環試驗	<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>95~100%RH</td> <td>3.0Hr</td> </tr> <tr> <td>2</td> <td>55± 2 °C</td> <td>95~96%RH</td> <td>9.5Hr</td> </tr> <tr> <td>3</td> <td>25± 2 °C</td> <td>95~100%RH</td> <td>9.5Hr</td> </tr> </tbody> </table>	Step	Temp	Humidity	Time	1	25± 2 °C	95~100%RH	3.0Hr	2	55± 2 °C	95~96%RH	9.5Hr	3	25± 2 °C	95~100%RH	9.5Hr	10	Elec. no variation Appearance no deformation	ok
Step	Temp	Humidity	Time																		
1	25± 2 °C	95~100%RH	3.0Hr																		
2	55± 2 °C	95~96%RH	9.5Hr																		
3	25± 2 °C	95~100%RH	9.5Hr																		
7	Vibration 振動性試驗	Frequency: 10Hz~55Hz Amplitude: 1.5mm Direction: X,Y,Z Time: 2 Hours each	10	Elec. no variation Appearance no deformation	ok																
8	Dipping Verification 吃錫性試驗	Temp Control Solder @ Temp 230± 5 °C / 3 Sec 吃錫面積必須 > 75%	10	Elec. no variation Appearance no deformation	ok																
9	IR Reflow Soldering 焊錫性試驗	Go through real SMT IR-Reflow.... Preheat: 160 ± 10 °C (90 sec) Preak: 245 ± 5 °C Peak Time: 50 Sec. / up 217 °C	10	Elec. no variation Appearance no deformation	ok																
10	Soldering Heat Resistance 耐熱 焊性試驗	Preheat: 160 ± 10 °C (90 sec) Solder: Sn/Ag/Cu(Pb Free) Solder Temp.: 260 ± 5 °C Time: 3± 1 seconds	10	Elec. no variation Appearance no deformation	ok																
11	Bending Strength 折斷力試驗		10	Elec. no variation Appearance no deformation	ok																
12	Flexure Strength 彎曲試驗		10	Elec. no variation Appearance no deformation	ok																
13	Terminal Strength 推/ 拉力試驗		10	After solder between copper plate and terminals of coil, push in two directions Of X,Y with 2.0kg must no crack	ok																
14	High-Voltage 高壓電擊試驗	100 V DC between core & winding	10	Elec. no variation Appearance no deformation	ok																
15	ORT:on going reliability test 負載電氣試驗	Elec loading & spec test... base on Spec for approval	10	Elec. no variation Appearance no deformation	ok																

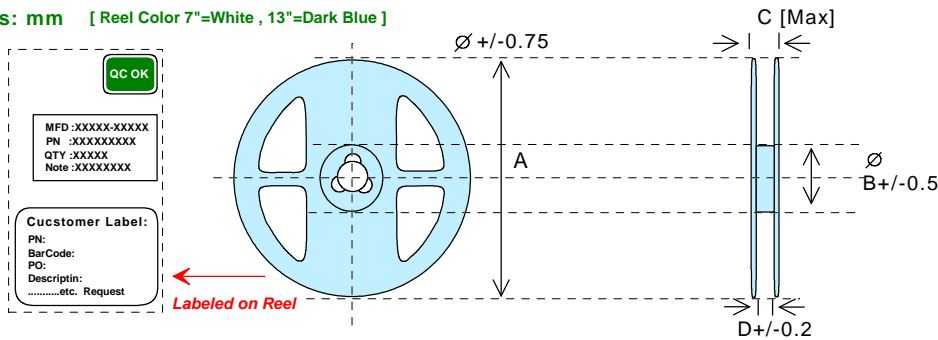


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Latest Edit Date	<b>2017.07.05</b>	Pages	<b>Page : 5</b>



SIZE/mm	W	P	A <sub>o</sub>	B <sub>o</sub>	K <sub>o</sub>	T	F	DIRECTION
<b>32</b>	12.00	8.00	4.15	4.80	1.90	0.30	5.50	C
<b>33</b>	12.00	8.00	4.30	4.30	3.00	0.30	5.50	A
<b>52</b>	12.00	8.00	5.30	5.30	2.05	0.30	5.50	A
<b>53</b>	12.00	8.00	5.30	5.30	3.00	0.30	5.50	B

Reel Dimensions: mm [ Reel Color 7"=White , 13"=Dark Blue ]



SIZE / mm	A	B	C	D	REEL SIZE	QTY/REEL
<b>32</b>	330	21+/-0.8	17.1	13	13"	3.5K
<b>33</b>	330	21+/-0.8	17.1	13	13"	2.0K
<b>52</b>	330	21+/-0.8	17.1	13	13"	3.5K
<b>53</b>	330	21+/-0.8	17.1	13	13"	2.5K

BOX Package: Unit: cm

