



Product Series Code	GSBS	Brand	GOTREND
File Version	GSBS-V3R9	Editor	Teddy
Established Date	2009.06.10	Description	SMD Drum Choke with Shielding
Latest Edit Date	2017.07.27	Pages	Page : 2

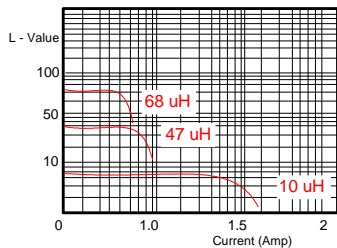
Features & Application:

- * Drum Choke with Shielding for good in EMI performance.
- * 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:

GSBS 73 P - 220 M	1. GOTREND Series : GSBS
-----	2. Size Code LxWxH: 73=7.4x7.4x3.5 mm
1 2 3 4 5	3. P=Pb free < 1000ppm
	4. [L] Value : 220=22uH
	5. Tolerance, K=+/-10%, M=+/-20%

Ex:GSBS-73 L.v.s Rated D.C. Current Curve



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%

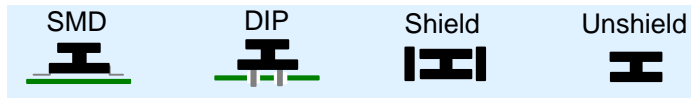
Operating & Storage Condition:

OPERATING TEMP: -40~+85°C
 STORAGE TEMP: -40~+85°C
 STORAGE LIFE TIME: 12 MONTH @25°C, RH 65%

Attention & Caution:

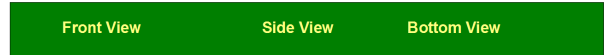
- Please avoid following matters:**
- * Splashing water or salt water
 - * Toxic Gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
 - * Vibrations or shocks which exceed the specified condition
 - * Dew condenses
 - * Please be careful for the stress to this product by board flexure or something after the mounting.

Product Structure



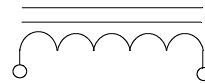
2005 RoHS Compliant - SGS Certified Result

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

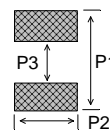


Type	A (Max.)	B (Max.)	C (Max.)	D (+/-0.2)	E (Ref.)
63	6.2	6.2	3.0	1.8	3.0
73	7.4	7.4	3.5	2.0	5.4
74	7.4	7.4	4.5	2.0	5.4
104	10.4	10.4	4.8	3.0	6.5
126	12.8	12.8	5.8	3.0	8.6
127	12.8	12.8	6.8	3.0	8.6
128	12.8	12.8	7.8	3.0	8.6

SCHEMATIC:

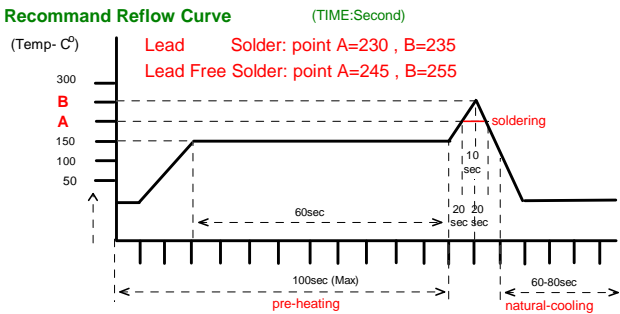


Recommend Pad Layout:



Size	P1	P2	P3
63	6.60	2.4	2.6
73	7.80	2.6	5.0
74	7.80	2.6	5.0
104	10.80	3.6	6.1
126	13.20	3.6	8.2
127	13.20	3.6	8.2
128	13.20	3.6	8.2

Recommend Reflow Curve



Notice: Iron Soldering: 3 Seconds Max. @260 C



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Part No.	L - Value (uH)	Test Freq. (KHz)0.25V	DCR (ohm) Max.	IDC (A) Max.
GSBS63P-2R2 <input type="checkbox"/>	2.2	100	0.027	2.50
GSBS63P-3R3 <input type="checkbox"/>	3.3	100	0.036	2.10
GSBS63P-4R7 <input type="checkbox"/>	4.7	100	0.050	1.90
GSBS63P-100 <input type="checkbox"/>	10.0	1	0.150	1.10
GSBS63P-120 <input type="checkbox"/>	12.0	1	0.200	1.00
GSBS63P-150 <input type="checkbox"/>	15.0	1	0.230	0.90
GSBS63P-180 <input type="checkbox"/>	18.0	1	0.270	0.80
GSBS63P-220 <input type="checkbox"/>	22.0	1	0.340	0.74
GSBS63P-270 <input type="checkbox"/>	27.0	1	0.380	0.66
GSBS63P-330 <input type="checkbox"/>	33.0	1	0.450	0.59
GSBS63P-390 <input type="checkbox"/>	39.0	1	0.490	0.54
GSBS63P-470 <input type="checkbox"/>	47.0	1	0.690	0.50
GSBS63P-560 <input type="checkbox"/>	56.0	1	0.780	0.46
GSBS63P-680 <input type="checkbox"/>	68.0	1	1.070	0.42
GSBS63P-820 <input type="checkbox"/>	82.0	1	1.210	0.38
GSBS63P-101 <input type="checkbox"/>	100.0	1	1.390	0.34
GSBS63P-121 <input type="checkbox"/>	120.0	1	1.900	0.31
GSBS63P-151 <input type="checkbox"/>	150.0	1	2.180	0.28
GSBS63P-181 <input type="checkbox"/>	180.0	1	2.770	0.26
GSBS63P-221 <input type="checkbox"/>	220.0	1	3.120	0.23
GSBS63P-271 <input type="checkbox"/>	270.0	1	4.380	0.22
GSBS63P-331 <input type="checkbox"/>	330.0	1	4.940	0.19

Tolerance Code: K=± 10%,M=± 20%

Part No.	L - Value (uH)	Test Freq. (KHz)0.25V	DCR (ohm) Max.	IDC (A) Max.
GSBS73P-1R0 <input type="checkbox"/>	1.0	100	0.019	3.12
GSBS73P-1R5 <input type="checkbox"/>	1.5	100	0.023	2.85
GSBS73P-2R2 <input type="checkbox"/>	2.2	100	0.028	2.66
GSBS73P-3R3 <input type="checkbox"/>	3.3	100	0.035	2.26
GSBS73P-4R7 <input type="checkbox"/>	4.7	100	0.043	1.96
GSBS73P-6R8 <input type="checkbox"/>	6.8	100	0.055	1.76
GSBS73P-100 <input type="checkbox"/>	10.0	1	0.080	1.34
GSBS73P-120 <input type="checkbox"/>	12.0	1	0.090	1.23
GSBS73P-150 <input type="checkbox"/>	15.0	1	0.120	1.09
GSBS73P-180 <input type="checkbox"/>	18.0	1	0.130	0.99
GSBS73P-220 <input type="checkbox"/>	22.0	1	0.150	0.90
GSBS73P-270 <input type="checkbox"/>	27.0	1	0.210	0.81
GSBS73P-330 <input type="checkbox"/>	33.0	1	0.250	0.72
GSBS73P-390 <input type="checkbox"/>	39.0	1	0.310	0.67
GSBS73P-470 <input type="checkbox"/>	47.0	1	0.350	0.60
GSBS73P-560 <input type="checkbox"/>	56.0	1	0.430	0.55
GSBS73P-680 <input type="checkbox"/>	68.0	1	0.520	0.50
GSBS73P-820 <input type="checkbox"/>	82.0	1	0.600	0.46
GSBS73P-101 <input type="checkbox"/>	100.0	1	0.790	0.41

Tolerance Code: K=± 10%,M=± 20%



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Part No.	L - Value (uH)	Test Freq. (KHz)0.25V	DCR (ohm) Max.	IDC (A) Max.
GSBS74P-1R0 <input type="checkbox"/>	1.0	100	0.023	2.880
GSBS74P-1R5 <input type="checkbox"/>	1.5	100	0.027	2.610
GSBS74P-2R2 <input type="checkbox"/>	2.2	100	0.030	2.460
GSBS74P-3R3 <input type="checkbox"/>	3.3	100	0.035	2.280
GSBS74P-4R7 <input type="checkbox"/>	4.7	100	0.041	2.080
GSBS74P-6R8 <input type="checkbox"/>	6.8	100	0.047	1.940
GSBS74P-100 <input type="checkbox"/>	10.0	1	0.050	1.680
GSBS74P-120 <input type="checkbox"/>	12.0	1	0.070	1.540
GSBS74P-150 <input type="checkbox"/>	15.0	1	0.080	1.390
GSBS74P-180 <input type="checkbox"/>	18.0	1	0.090	1.260
GSBS74P-220 <input type="checkbox"/>	22.0	1	0.110	1.130
GSBS74P-270 <input type="checkbox"/>	27.0	1	0.150	1.020
GSBS74P-330 <input type="checkbox"/>	33.0	1	0.170	0.840
GSBS74P-390 <input type="checkbox"/>	39.0	1	0.180	0.800
GSBS74P-470 <input type="checkbox"/>	47.0	1	0.200	0.760
GSBS74P-560 <input type="checkbox"/>	56.0	1	0.280	0.640
GSBS74P-680 <input type="checkbox"/>	68.0	1	0.320	0.600
GSBS74P-820 <input type="checkbox"/>	82.0	1	0.350	0.570
GSBS74P-101 <input type="checkbox"/>	100.0	1	0.400	0.500
GSBS74P-221 <input type="checkbox"/>	220.0	1	0.620	0.330
GSBS74P-331 <input type="checkbox"/>	330.0	1	0.940	0.270

Tolerance Code: K=± 10%,M=± 20%

Part No.	L - Value (uH)	Test Freq. (KHz)0.25V	DCR (ohm) +/-20%	IDC (A) Max.
GSBS104P-4R7 <input type="checkbox"/>	4.7	100	0.034	3.60
GSBS104P-6R8 <input type="checkbox"/>	6.8	100	0.035	3.50
GSBS104P-100 <input type="checkbox"/>	10.0	1	0.036	3.00
GSBS104P-150 <input type="checkbox"/>	15.0	1	0.047	2.40
GSBS104P-220 <input type="checkbox"/>	22.0	1	0.059	2.10
GSBS104P-330 <input type="checkbox"/>	33.0	1	0.082	1.60
GSBS104P-470 <input type="checkbox"/>	47.0	1	0.100	1.40
GSBS104P-680 <input type="checkbox"/>	68.0	1	0.140	1.20
GSBS104P-820 <input type="checkbox"/>	82.0	1	0.182	1.00
GSBS104P-101 <input type="checkbox"/>	100.0	1	0.200	1.00
GSBS104P-151 <input type="checkbox"/>	150.0	1	0.350	0.79
GSBS104P-221 <input type="checkbox"/>	220.0	1	0.470	0.65
GSBS104P-331 <input type="checkbox"/>	330.0	1	0.680	0.54
GSBS104P-471 <input type="checkbox"/>	470.0	1	1.030	0.47
GSBS104P-681 <input type="checkbox"/>	680.0	1	1.600	0.38
GSBS104P-102 <input type="checkbox"/>	1000.0	1	2.800	0.32
GSBS104P-152 <input type="checkbox"/>	1500.0	1	3.400	0.22

Tolerance Code: M=± 20%



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Part No.	L - Value (uH)	Test Freq. (KHz),0.25V	DCR (ohm) +/-20%	IDC (A) Max.
GSBS126P-6R0 <input type="checkbox"/>	6.0	100	0.016	3.60
GSBS126P-100 <input type="checkbox"/>	10.0	1	0.022	3.40
GSBS126P-150 <input type="checkbox"/>	15.0	1	0.026	2.80
GSBS126P-220 <input type="checkbox"/>	22.0	1	0.034	2.30
GSBS126P-330 <input type="checkbox"/>	33.0	1	0.042	1.90
GSBS126P-470 <input type="checkbox"/>	47.0	1	0.062	1.60
GSBS126P-680 <input type="checkbox"/>	68.0	1	0.083	1.30
GSBS126P-101 <input type="checkbox"/>	100.0	1	0.117	1.10
GSBS126P-151 <input type="checkbox"/>	150.0	1	0.190	0.88
GSBS126P-221 <input type="checkbox"/>	220.0	1	0.270	0.72
GSBS126P-331 <input type="checkbox"/>	330.0	1	0.410	0.59
GSBS126P-471 <input type="checkbox"/>	470.0	1	0.520	0.49
GSBS126P-681 <input type="checkbox"/>	680.0	1	0.760	0.43
GSBS126P-102 <input type="checkbox"/>	1000.0	1	1.120	0.34
GSBS126P-152 <input type="checkbox"/>	1500.0	1	1.800	0.29

Tolerance Code: 6.0uH N=± 30%
10.0~1500uH M=± 20%

Part No.	L - Value (uH)	Test Freq. (KHz),0.25V	DCR (ohm) +/-20%	IDC (A) Max.
GSBS127P-2R0 <input type="checkbox"/>	2.0	100	0.012	10.0
GSBS127P-4R2 <input type="checkbox"/>	4.2	100	0.015	7.3
GSBS127P-7R0 <input type="checkbox"/>	7.0	100	0.018	5.7
GSBS127P-100 <input type="checkbox"/>	10.0	1	0.020	5.0
GSBS127P-150 <input type="checkbox"/>	15.0	1	0.024	4.2
GSBS127P-220 <input type="checkbox"/>	22.0	1	0.032	3.5
GSBS127P-330 <input type="checkbox"/>	33.0	1	0.041	2.8
GSBS127P-470 <input type="checkbox"/>	47.0	1	0.058	2.4
GSBS127P-680 <input type="checkbox"/>	68.0	1	0.079	2.0
GSBS127P-101 <input type="checkbox"/>	100.0	1	0.123	1.6
GSBS127P-221 <input type="checkbox"/>	220.0	1	0.273	1.0

Tolerance Code: 2~ 7uH N=± 30%
10~220uH M=± 20%

Part No.	L - Value (uH)	Test Freq. (KHz),0.25V	DCR (m ohm) +/-20%	IDC (A) Max.
GSBS128P-1R2 <input type="checkbox"/>	1.2	100	6.80	13.0
GSBS128P-2R7 <input type="checkbox"/>	2.7	100	9.40	10.0
GSBS128P-3R3 <input type="checkbox"/>	3.3	100	10.00	9.5
GSBS128P-3R9 <input type="checkbox"/>	3.9	100	10.40	9.0
GSBS128P-4R7 <input type="checkbox"/>	4.7	100	11.25	8.5
GSBS128P-5R6 <input type="checkbox"/>	5.6	100	11.60	7.8
GSBS128P-6R8 <input type="checkbox"/>	6.8	100	13.10	7.2
GSBS128P-100 <input type="checkbox"/>	10.0	1	15.90	5.5
GSBS128P-150 <input type="checkbox"/>	15.0	1	18.40	4.7
GSBS128P-220 <input type="checkbox"/>	22.0	1	26.30	4.0
GSBS128P-330 <input type="checkbox"/>	33.0	1	40.20	3.2
GSBS128P-470 <input type="checkbox"/>	47.0	1	52.80	2.7
GSBS128P-680 <input type="checkbox"/>	68.0	1	77.80	2.0
GSBS128P-101 <input type="checkbox"/>	100.0	1	125.00	1.9
GSBS128P-151 <input type="checkbox"/>	150.0	1	175.00	1.5
GSBS128P-221 <input type="checkbox"/>	220.0	1	258.00	1.3

Tolerance Code: 1.2~6.8uH =N± 30%
10~220uH =M± 20%

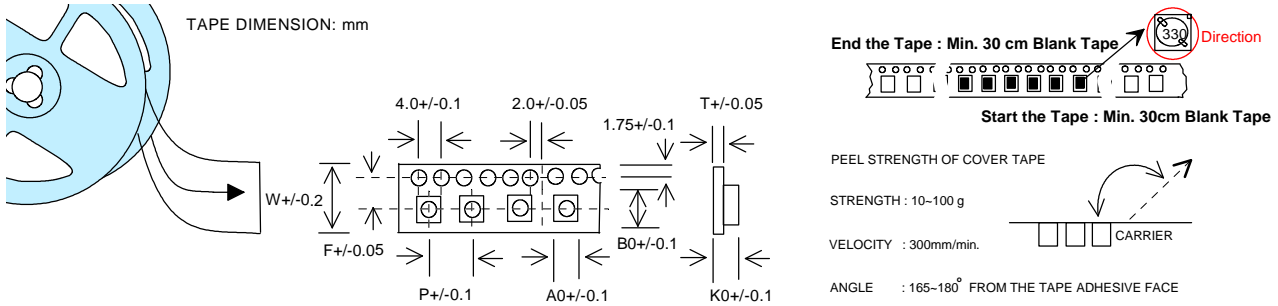


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NO	ITEM	TEST CONDITIONS	Sample Qty/pcs	Spec	Result																
1	Dimension 本體相關尺寸	Actual Size ...	10	Meet Spec	ok																
2	Thermal Shock (Temperature Cycle) 溫度循環試驗	Temperature:-20 ° C/ +85 ° C kept stabilized for 30 minutes each Cycle: 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: 85± 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: -20 ± 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.... Solder Temp.: 230± 5 ° C Time: 90 Sec. Cycles: x 1	10	Elec. no variation Appearance no deformation	ok																
10	Soldering Heat Resistance 耐熱 焊性試驗	Preheat: 120 ~ 150 ° C (6 sec) Solder:H63A(eutectic solder) Solder Temp.: 260 ± 5 ° C Flux: Rosin Dip time: 10± 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																

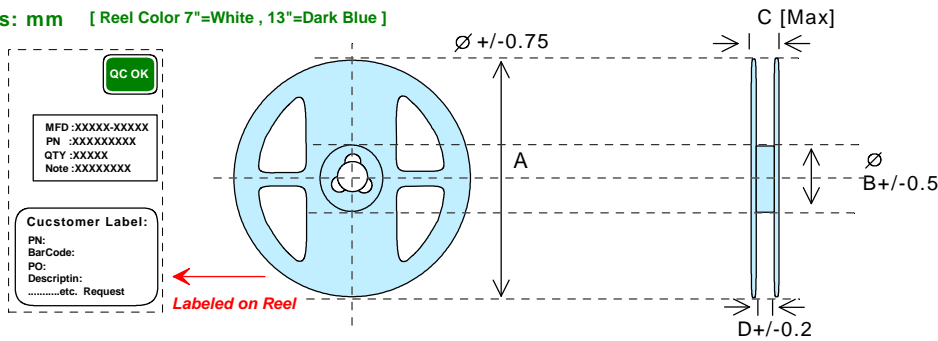


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SIZE/mm	W	P	A ₀	B ₀	K ₀	T	F
63	12.00	12.00	6.20	6.20	3.25	0.35	5.50
73	16.00	12.00	7.50	7.50	3.20	0.35	7.50
74	16.00	12.00	7.50	7.50	4.30	0.35	7.50
104	24.50	16.00	11.00	11.00	4.30	0.40	11.50
126	16.00	16.00	13.05	13.05	6.20	0.40	7.50
127	16.00	16.00	13.05	13.05	7.20	0.40	7.50
128	16.00	16.00	13.05	13.05	8.20	0.40	7.50

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

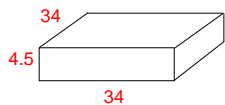


SIZE / mm	A	B	C	D	REEL SIZE	QTY/REEL
63	330	100	14	12.5	13"	1.50K
73	330	100	22	16.5	13"	1.00K
74	330	100	22	16.5	13"	1.00K
104	330	100	30	24.5	13"	0.75K
126	330	100	30	24.5	13"	0.50K
127	330	100	30	24.5	13"	0.50K
128	330	100	30	24.5	13"	0.50K

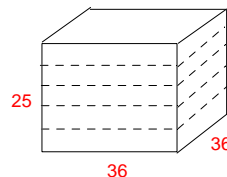
BOX Package: Unit: cm

73/74 2 Reel in -104 1 Reel in

5 Inner Small Box in



Inner Small Box



Outer Large Box