	Product Series Code	GTHW	Brand	GOTREND
	File Version	GTHW-V3R8	Editor	Teddy
	Established Date	2009.02.24	Description	Common Mode Filter
	Latest Edit Date	2018.08.14	Pages	Page : 3

Features & Application :

- * Common Mode Filter for high speed signal line
- * Fit for signal line circuit : USB2.0 / IEEE1394
- * To help you go pass the CE/FCC standard.
- * Mobile Device / Handheld Device / LowProfile Device

Part No Example :

GTHW	3216	P	B	-	601	T
1	2	3	4	5	6	

- GTHW : GOTREND Series Code
- 3216 : Length 3.2 mm X Width 1.6 mm
- P : Pb free <1000ppm
- [E][B][D] : Material Code
- 601 : Impedance [ohm] @ 100MHz = 600 ohm
- T : Tolerance T = Typical

Test Equipment :

- * HP4291A-Z, HP4284A, HP42841A- L, IDC, 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%

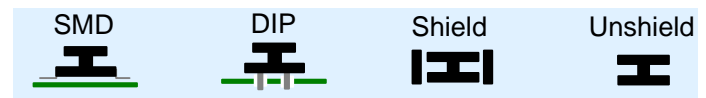
Operating & Storage Condition :

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.

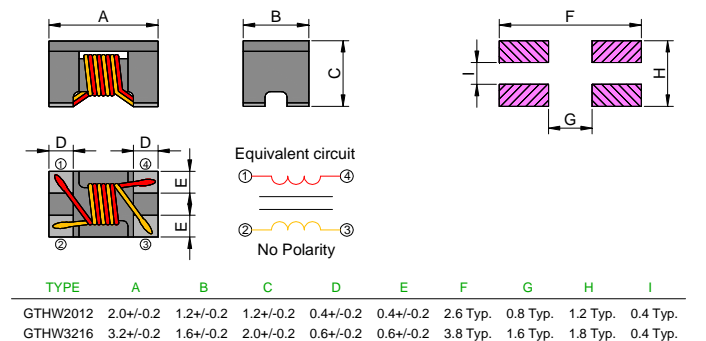
Product Structure



2005 RoHS Compliant - SGS Certified Result

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

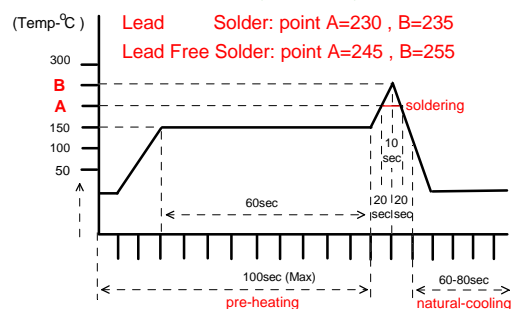
DIMENSION : [mm]

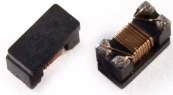


Size Code & Package Quantity :

JIS CODE	EIA CODE	PCS / REEL	REEL / BOX
2012	0805	2000	5
3216	1206	2000	5

Recomand Reflow Curve (TIME:Second)

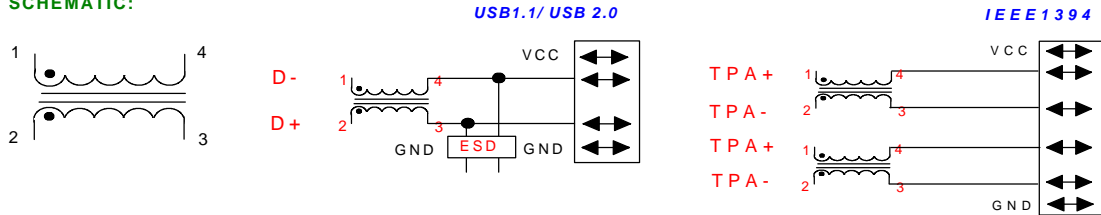


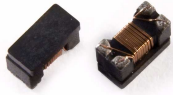


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Part No.	Common Mode (Min.)impedance (Ohm)@100MHz	Common Mode (Typ.)impedance (Ohm)@100MHz	Rated Voltage / Withstanding Voltage V(DC)	DCR (Ohm) (Max.)	Rated Current (mA) (Max.)	Insulation Res. Min. (M Ohm)
GTHW2012P□- 670T	30	67	50 / 125	0.25	400	10
GTHW2012P□- 900T	60	90	50 / 125	0.30	400	10
GTHW2012P□- 121T	95	120	50 / 125	0.30	370	10
GTHW2012P□- 161T	115	160	50 / 125	0.35	330	10
GTHW2012P□- 181T	135	180	50 / 125	0.35	330	10
GTHW2012P□- 221T	145	220	50 / 125	0.35	330	10
GTHW2012P□- 361T	200	360	50 / 125	0.40	280	10
GTHW2012P□- 401T	320	400	50 / 125	0.40	280	10
GTHW2012P□- 601T	450	600	50 / 125	0.375	250	10
GTHW2012P□- 102T	750	1000	50 / 125	0.80	100	10
GTHW3216P□- 900T	60	90	50 / 125	0.30	370	10
GTHW3216P□- 121T	90	120	50 / 125	0.30	370	10
GTHW3216P□- 161T	115	160	50 / 125	0.40	340	10
GTHW3216P□- 221T	145	220	50 / 125	0.50	310	10
GTHW3216P□- 601T	425	600	50 / 125	0.80	260	10
GTHW3216P□- 102T	700	1000	50 / 125	1.00	230	10
GTHW3216P□- 222T	1560	2200	50 / 125	1.20	200	10

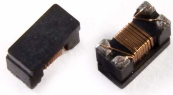
SCHEMATIC:



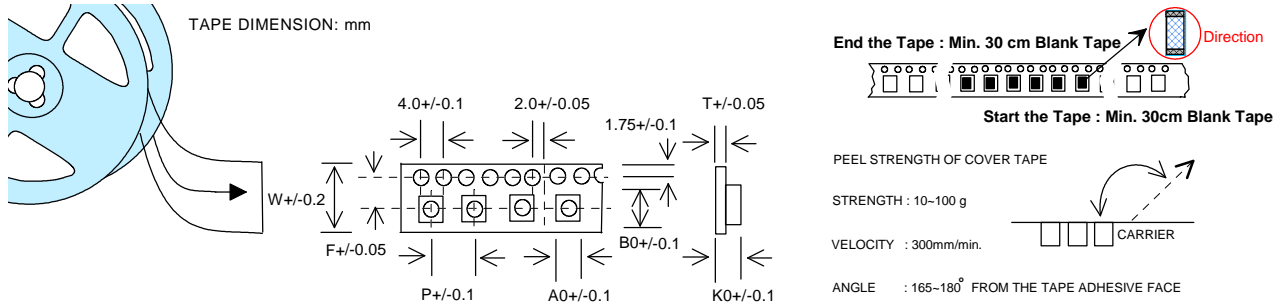


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Reliability Test Result :																			
NO	ITEM	TEST CONDITIONS	REMARKS																
1	Thermal Shock (Temperature Cycle) 溫度循環試驗	Temperature : -40 ° C/ +85 ° C kept stabilized for 30 minutes each Cycle : 100 Cycles	Inductance value shall be within $\pm 10\%$ of the initial value. Q-factor shall be within $\pm 30\%$ of the initial value. Impedance shall be within $\pm 20\%$ of the initial value. DCR value shall be within $\pm 20\%$ of the initial value.																
2	Humidity Resistance 耐濕試驗	Humidity : 90%~ 95% RH Temperature : 40 \pm 2 ° C Test Time : 1000 \pm 12 Hours	■NO.1~4 Measurement:After placing for 24 hours (min.)																
3	High Temperature 耐熱試驗	Temperature : 85 \pm 2 ° C Humidity : 20% Testing Time : 1000 \pm 12 Hours	■NO.2~3 Applied current(spec): Rated current(maximum value)																
4	Low Temperature 耐寒試驗	Temperature : -40 \pm 2 ° C Time: 1000 \pm 12 Hours																	
5	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\pm 2 ° C</td> <td>95~100%RH</td> <td>3.0Hr</td> </tr> <tr> <td>2</td> <td>55\pm 2 ° C</td> <td>95~96%RH</td> <td>9.5Hr</td> </tr> <tr> <td>3</td> <td>25\pm 2 ° C</td> <td>95~100%RH</td> <td>9.5Hr</td> </tr> </tbody> </table>	Step	Temp	Humidity	Time	1	25 \pm 2 ° C	95~100%RH	3.0Hr	2	55 \pm 2 ° C	95~96%RH	9.5Hr	3	25 \pm 2 ° C	95~100%RH	9.5Hr	■NO.5 Cycle: 5 cycles
Step	Temp	Humidity	Time																
1	25 \pm 2 ° C	95~100%RH	3.0Hr																
2	55 \pm 2 ° C	95~96%RH	9.5Hr																
3	25 \pm 2 ° C	95~100%RH	9.5Hr																
6	Vibration 振動性試驗	Frequency : 10Hz~55Hz Amplitude : 1.5mm Direction : X,Y,Z Time : 2 Hours each																	
7	IR Reflow Soldering 焊錫性試驗	Solder : H63A(eutectic solder) Solder Temp. : 230 \pm 5 ° C Time : 6 minutes Cycles : x 1	Impedance(inductance) shall be within \pm 20% of the initial value. DCR value shall be within $\pm 20\%$ of the initial value.																
8	Soldering Heat Resistance 耐熱 焊性試驗	Preheat : 120 ~ 150 ° C (60 sec) Solder : H63A(eutectic solder) Solder Temp. : 260 \pm 5 ° C Flux : Rosin Dip time : 10 \pm 1 seconds	The chip must have no cracks.More than 75% of the terminal electrode must be covered with solder.																
9	Bending Strength 折斷力試驗		The terminal electrode and the ferrite must not be damaged by the forces applied on the test conditions.																
10	Flexure Strength 彎曲試驗		No mechanical damage shall be noticed even when the board is bent 2 mm																
11	Terminal Strength 拉力試驗		he terminal electrode and the ferrite must not be damaged by the forces applied on the test conditions.																

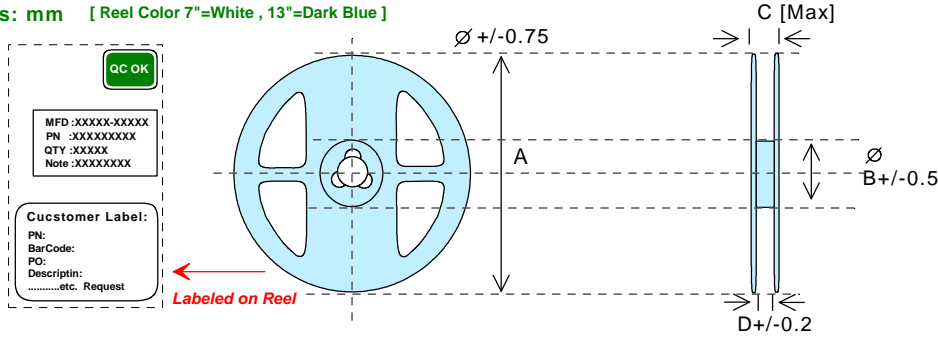


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SIZE/mm	W	P	A0	B0	K0	T	F
2012	8.00	4.00	1.54	2.32	1.35	0.23	3.50
3216	8.00	4.00	1.94	3.54	2.10	0.30	3.50

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



SIZE / mm	A	B	C	D	QTY/REEL
2012	178	60	12	1.5	2K
3216	178	60	12	1.5	2K

BOX Package: cm

