	Product Series Code	GTHW	Brand	GOTREND
	File Version	GTHW4532P-V1R4	Editor	Paul
	Established Date	2012.01.03	Description	Common Mode Filter
	Latest Edit Date	2018.07.18	Pages	Page : 2

Features & Application:

- * Non-dissolution of the abutment amounts in circuit board mounting.
- * The products contain no lead and also support lead-free soldering.
- * This product conforms to the standards that are slated to be introduced under the RoHS Directive.
- * CAN-BUS / Flex Ray system , facsimiles , modems , ISDN

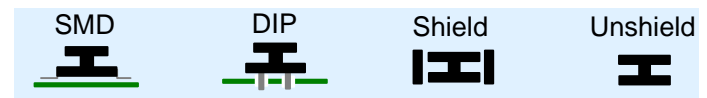
Part No Example:

GTHW 4532 P - 510 T

1 2 3 4 5

1. GTHW : GOTRED Series Code
2. 4532 : Length 4.5 mm X Width 3.2 mm
3. P : Pb free < 1000ppm
4. 510 : Inductance [uH] @ 100KHz = 51.0 uH
5. T : Tolerance T = +50% / -30%

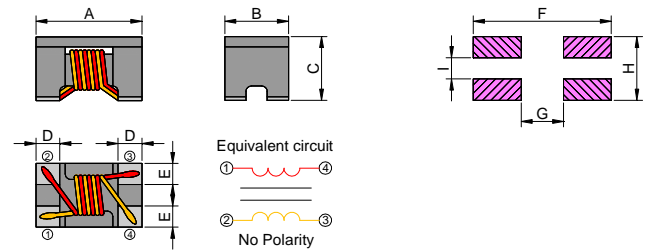
Product Structure



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

DIMENSION : [mm]



TYPE	A	B	C	D	E	F	G	H	I
GTHW4532	4.5+/-0.2	3.2+/-0.2	2.8+/-0.2	1.0+/-0.1	1.2+/-0.1	5.9 Typ.	3.2 Typ.	3.4 Typ.	1.6 Typ.

Test Equipment :

* HP4291A-Z, HP4284A, HP42841A- L,Z, IDC, 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 : -40~+125°C

STORAGE TEMP : -40~+85°C

STORAGE LIFE TIME: 12 MONTH @25°C , RH 65%

Attention & Caution :

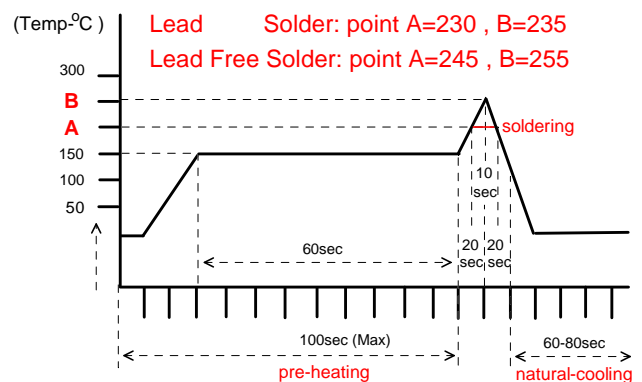
Please avoid following matters :

- * 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.

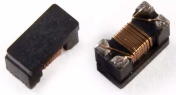
Size Code & Package Quantity:

JIS CODE	EIA CODE	PCS / REEL	REEL / BOX
4532	1812	500	5

Recommand Reflow Curve (TIME:Second)



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

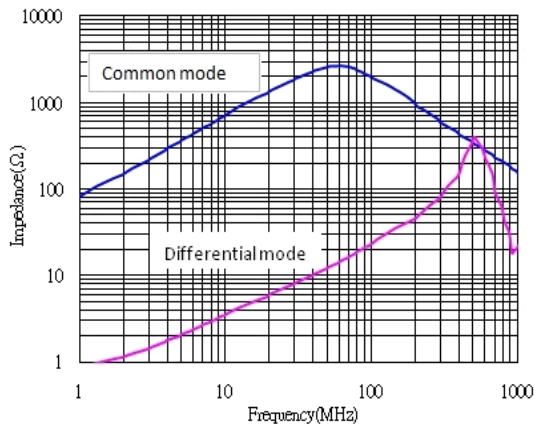
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	Established Date	2012.01.03	Description	Common Mode Filter
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Electrical Characteristics :

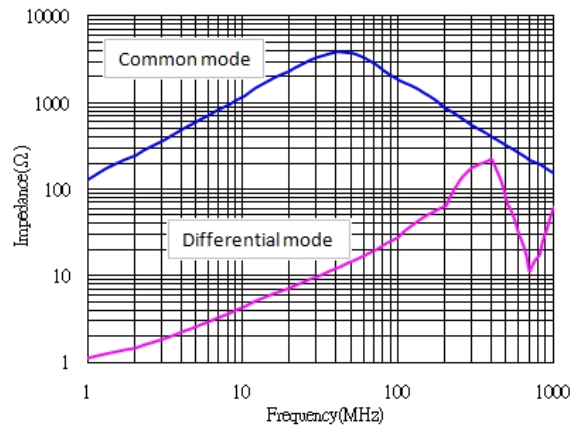
Part No.	Common Mode impedance (Ohm)@10MHz	Common Mode inductance (uH)@100KHz	DCR (Ohm)	Rated Current (mA)	Insulation Resistance (M Ohm)	Rated Voltage V(DC)
GTHW4532P-110T	300 Min. / 700 Typ.	11.0 +50% /- 30%	0.6 Max.	250 Max.	10.0 Min.	50 Typ.
GTHW4532P-220T	500 Min. / 1000 Typ.	22.0 +50% /- 30%	1.0 Max.	200 Max.	10.0 Min.	50 Typ.
GTHW4532P-510T	1000 Min. / 2000 Typ.	51.0 +50% /- 30%	1.0 Max.	200 Max.	10.0 Min.	50 Typ.
GTHW4532P-101T	2000 Min. / 5000 Typ.	100.0 +50% /- 30%	3.0 Max.	150 Max.	10.0 Min.	50 Typ.

Performance Curves :

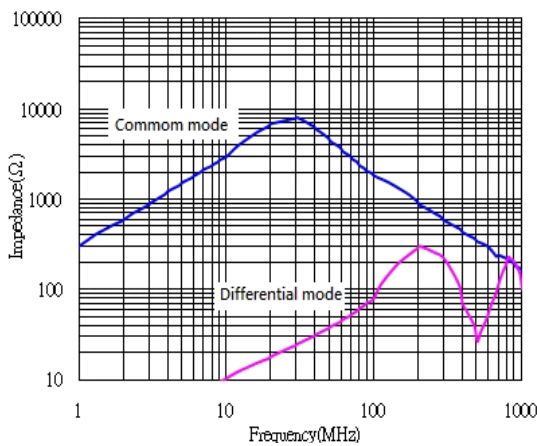
GTHW4532P-110T



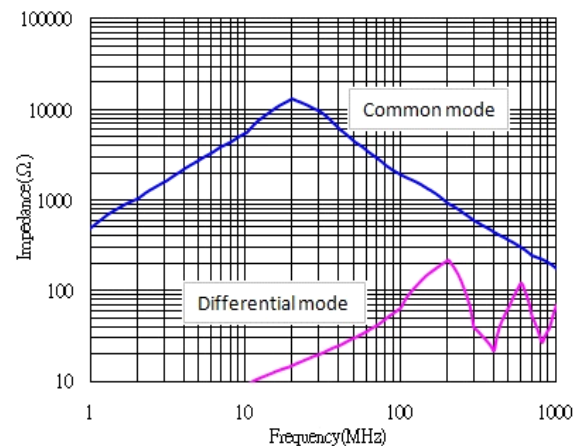
GTHW4532P-220T

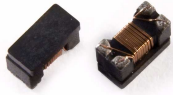


GTHW4532P-510T



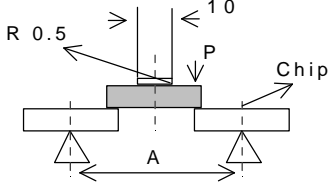
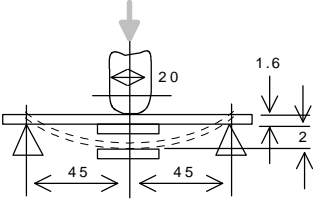
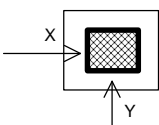
GTHW4532P-101T

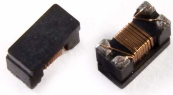




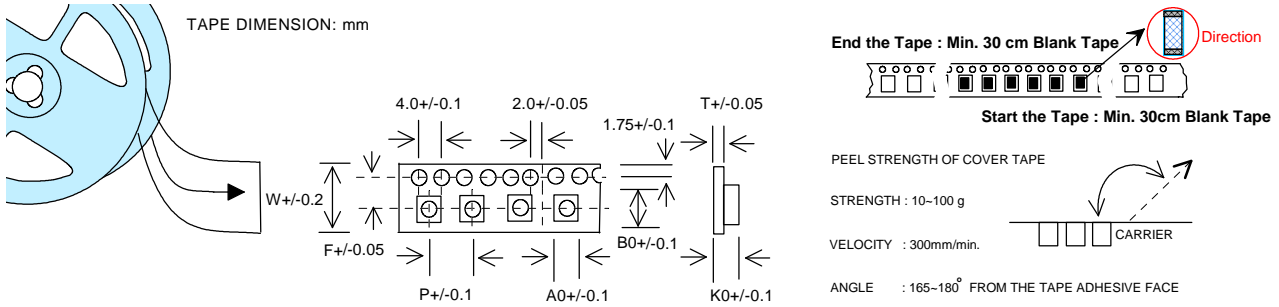
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Reliability Test Result :

NO	ITEM	TEST CONDITIONS	REMARKS																
1	Thermal Shock (Temperature Cycle) 溫度循環試驗	Temperature: -25 ° C/ +125 ° 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.) ■NO.2~3 Applied current(spec): Rated current(maximum value) ■NO.5 Cycle: 5 cycles																
3	High Temperature 耐熱試驗	Temperature: 85 \pm 2 ° C Humidity: 20% Testing Time: 1000 \pm 12 Hours																	
4	Low Temperature 耐寒試驗	Temperature: -25 \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
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. 4532 : $\geq 1.5\text{kg}$																
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		The terminal electrode and the ferrite must not be damaged by the forces applied on the test conditions. 4532 : $\geq 1.5\text{ kg}$																

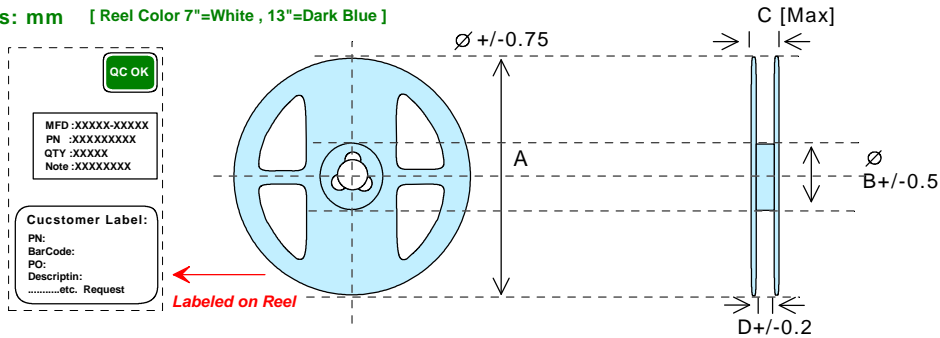


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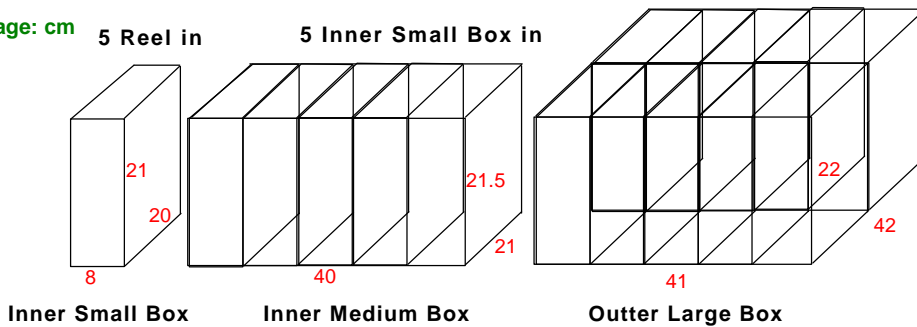
SIZE/mm	W	P	A0	B0	K0	T	F
4532	12.00	8.00	3.45	4.90	3.05	0.30	5.50

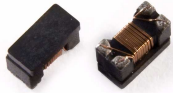
Reel Dimensions: mm [Reel Color 7"=White , 13"=Dark Blue]



SIZE / mm	A	B	C	D	REEL SIZE	QTY/REEL
4532	178	60	16	13.2	7"	0.5

BOX Package: cm





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COMPONENT TEST REPORT

REPORT INFORMATION		TEST EQUIPMENT	
CUSTOMER		Z [Impedance]	
PART NO.		RDC	
DESCRIPTION		IDC	
TEST DATE		SRF	
REPORT NO.		Q	
Test Temperature		DIMENSION	
Test Humidity		SOLDERING	

Test Result....

DIMENSION	ELEC.	SOLDERING	PIN/TERMINAL	MARKING

item NO.	Z	RDC	IDC	Q	SRF
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
AVG.					
R					

Customer Test Note:

NO.	L	W	T	C
1				
2				
3				
RESULT				

QC	QE	FILE