

Features

- Combined Protection Technology (CPT) design
- Common mode filter
- ESD protection
- Fast response time
- Low capacitance
- RoHS compliant*



This series is obsolete and not recommended for new designs.

ChipGuard® Model CGF0804TFH-R900-2L ESD/EMI Filter

Description

The Bourns® ChipGuard® CGF Series utilizes Combined Protection Technology (CPT) to create an ESD protection device and common mode filter in a single space-saving device. This series features very low capacitance and superior common mode noise rejection, making it ideal for use in high-speed differential data lines.

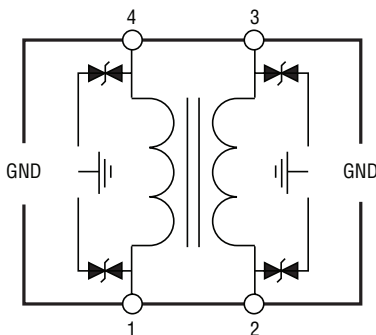
Absolute Maximum Ratings @ 25 °C (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Maximum DC Operating Voltage	V_{DC}	5	V
Maximum DC Operating Current	I_{DC}	100	mA
Operating Temperature Range	T_{OPR}	-40 to +85	°C
Storage Temperature Range	T_{STG}	-40 to +85	°C
ESD Protection per IEC 61000-4-2			
Contact Discharge		8	kV
Air Discharge		15	

Electrical Characteristics @ 25 °C (unless otherwise noted)

Parameter	Min.	Typ.	Max.	Unit
Common Mode Impedance @ 100 MHz	67.5	90	112.5	Ohms
Cut-off Frequency		3		GHz
DC Resistance	1.8	2.7	3.5	Ohms
Insulation Resistance	10			Megohms
Capacitance @ 1 MHz, Any Pin to Ground		0.6		pF
Leakage Current @ 5 V, Any Pin to Ground			1	μ A

Circuit Diagram



How to Order

CG F 0804 TFH - R900 - 2L

ChipGuard®
 Product Designator
 Common Mode Filter Designator
 Package
 0804 = 0804 Size
 Technology
 TFH = Thin Film High-Speed
 Common Mode Impedance @ 100 MHz
 R900 = 90 Ohms
 Lines
 2L = 2 Lines

Environmental Characteristics

Moisture Sensitivity Level..... 1
 ESD Classification (HBM)..... 6

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WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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Applications

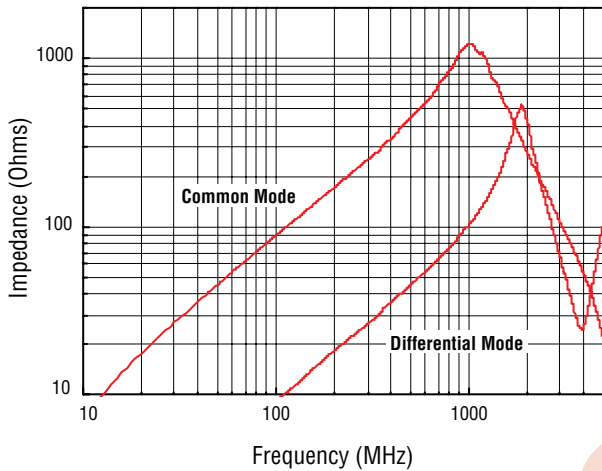
- USB 2.0
- HDMI
- MIPI
- MHL

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BOURNS®

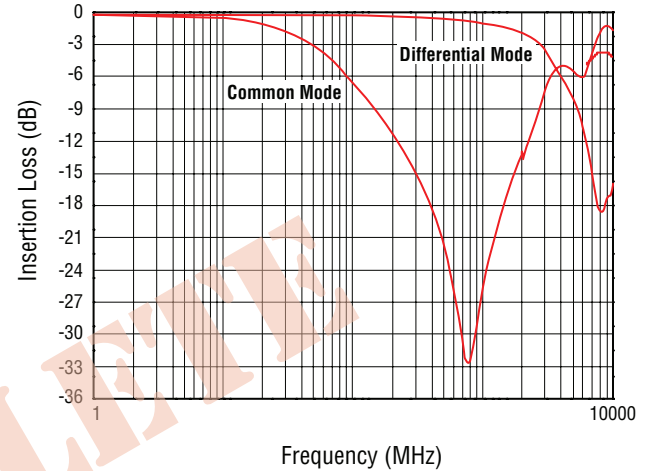
Impedance vs. Frequency Characteristics

Test Instrument: HP4291A Impedance/Material Analyzer

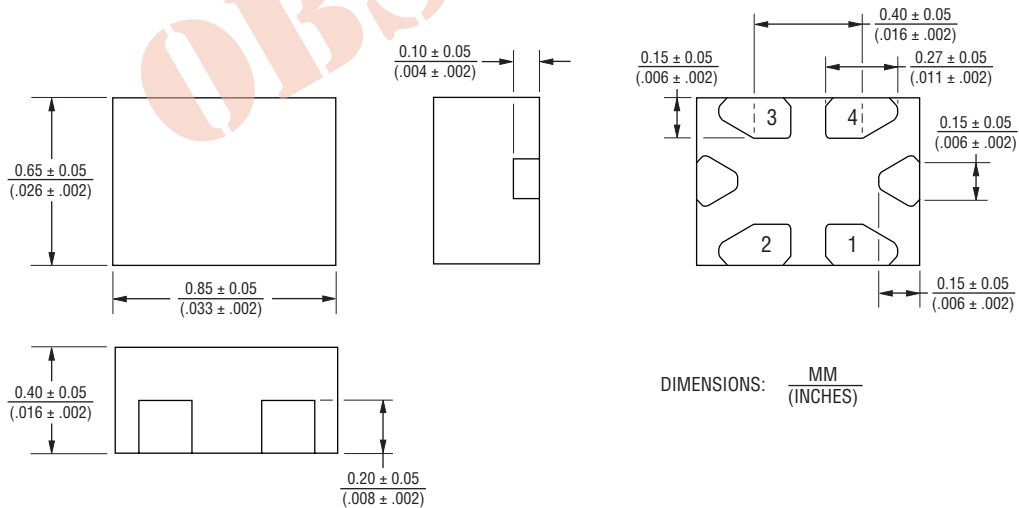


Insertion Loss vs. Frequency Characteristics

Test Instrument: Agilent E4071C ENA-L Network Analyzer



Product Dimensions

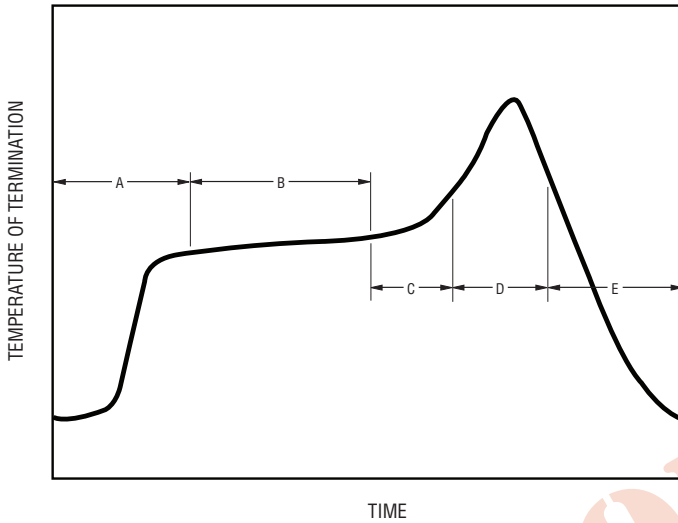


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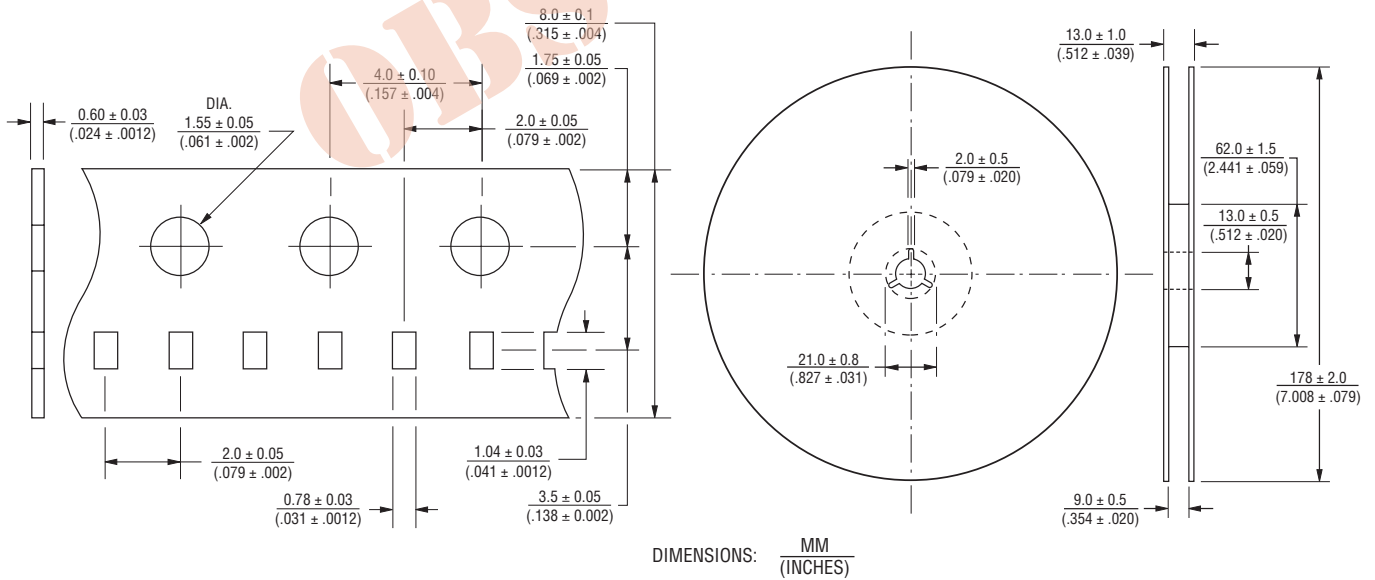
Solder Reflow Recommendations



A	1st Rising Temperature	The Normal to Preheating Temperature	30 s to 60 s
B	Preheating	140 °C to 160 °C	60 s to 120 s
C	2nd Rising Temperature	Preheating to 200 °C	20 s to 40 s
D	Main Heating	if 220 °C if 230 °C if 240 °C if 250 °C if 260 °C	50 s ~ 60 s 40 s ~ 50 s 30 s ~ 40 s 20 s ~ 40 s 20 s ~ 40 s
E	Regular Cooling	200 °C to 100 °C	1 °C/s ~ 4 °C/s

Per J-STD-020C

Packaging Dimensions



DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

STANDARD = 10,000 pieces per reel

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