



THE BIG DEAL

- Low Insertion Loss, 2 dB Typ.
- High Rejection, 60 dB Typ.
- Fractional Bandwidth from <1 to 25%
- Power Handling: 5 Watts
- Compact Size, 34.54 x 9.27 mm

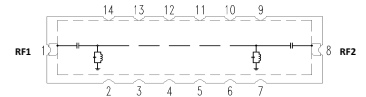


Generic photo used for illustration purposes only

APPLICATIONS

- Radio Astronomy
- Test & Measurement
 - Industrial 2.45G ISM Band
- Telecom
 - Bluetooth
 - Wi-Fi 802.11n & 802.11g

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

All our Surface Mount Ceramic Resonator filters are built with rugged construction, qualified to withstand multiple demanding reflow cycles. Excellent repeatability across units is achieved through precise tuning and process control.

KEY FEATURES

Features	Advantages
Low Insertion Loss, 2 dB Typ.	Low signal loss results in better SNR in signal chain.
Fast roll-off (98%, 0.43dB/MHz at 20dB point)	Higher selectivity results in better adjacent channel rejection and dynamic range.
Excellent power handling, 5W	Well suited for transmitter applications.
Rugged Construction	These filter assemblies have been qualified over a wide range of thermal, mechanical and environmental conditions including withstanding the stress of extensive solder reflow cycles.
Compact Size, 34.54 X 9.27 mm	Very well suited for high performance applications where size is a constraint.



ELECTRICAL SPECIFICATIONS^{1,2} AT +25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	—	—	—	2375	—	MHz
	Insertion Loss	F1-F3	2150 - 2600	—	2.0	2.6	dB
	Return Loss	F1-F2	2150 - 2180	7	14	—	dB
F2-F3		2180 - 2600	9	14	—	dB	
Stop Band, Lower	Rejection	DC-F4	DC - 1850	50	60	—	dB
		F4-F5	1850 - 2020	20	30	—	
Stop Band, Upper	Rejection	F6-F7	2800 - 2950	20	30	—	dB
		F7-F8	2950 - 3600	30	40	—	

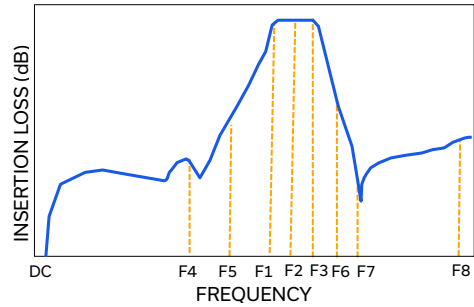
1. Tested in Evaluation Board P/N TB-CBP4-2375Q+.
2. Bi-directional RF1 and RF2 ports can be interchanged.

ABSOLUTE MAXIMUM RATINGS³

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power ⁴	5W at 25°C

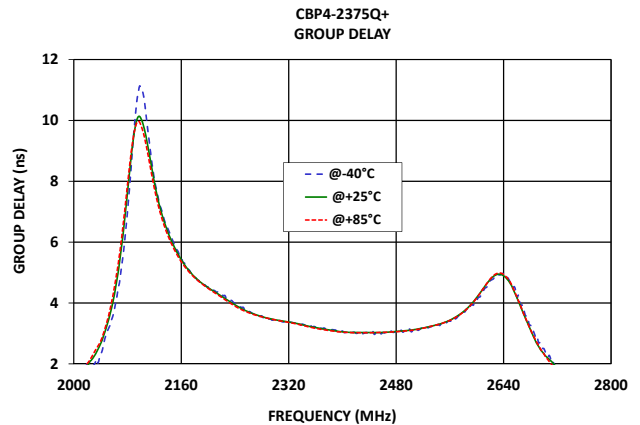
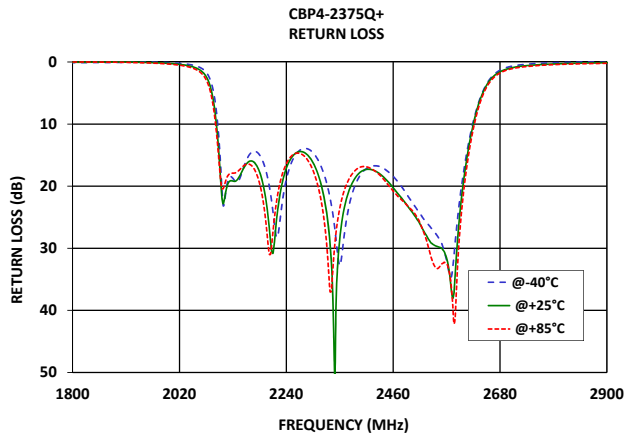
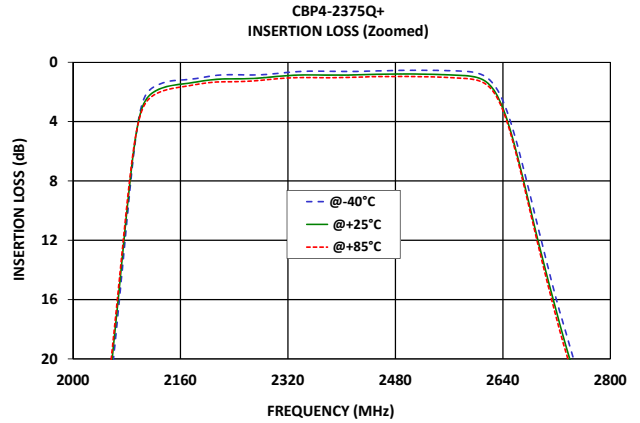
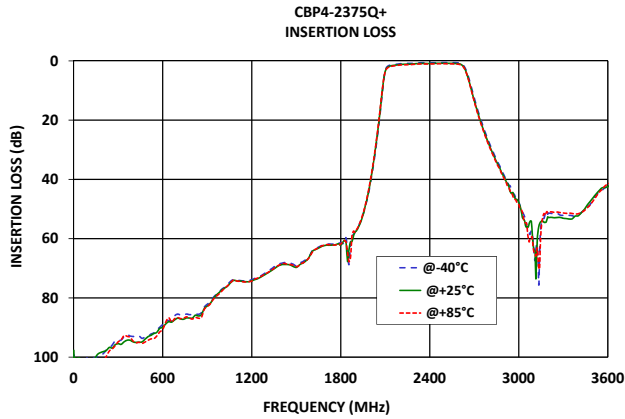
3. Permanent damage may occur if any of these limits are exceeded.
4. Passband rating

TYPICAL FREQUENCY RESPONSE



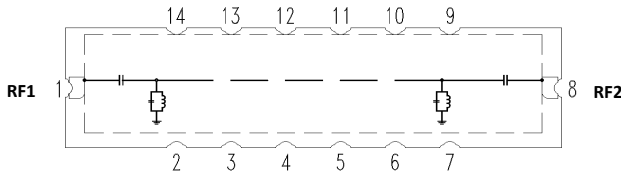


TYPICAL PERFORMANCE GRAPHS





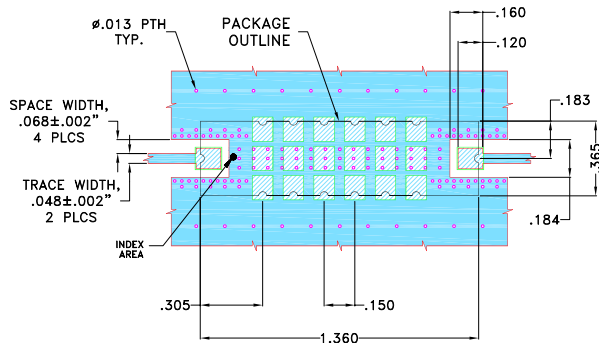
FUNCTIONAL DIAGRAM



PAD DESCRIPTION

Function	Pad Number	Description
RF1 (Note 2)	1	Connects to RF Input Port
RF2 (Note 2)	8	Connects to RF Output Port
GROUND	2,3,4,5,6,7,9,10,11,12,13,14	Connects to Ground on PCB, (See drawing PL-543)
NC	—	No connection, not used internally. See drawing PL-543 for connection to PCB

SUGGESTED PCB LAYOUT (PL-543)

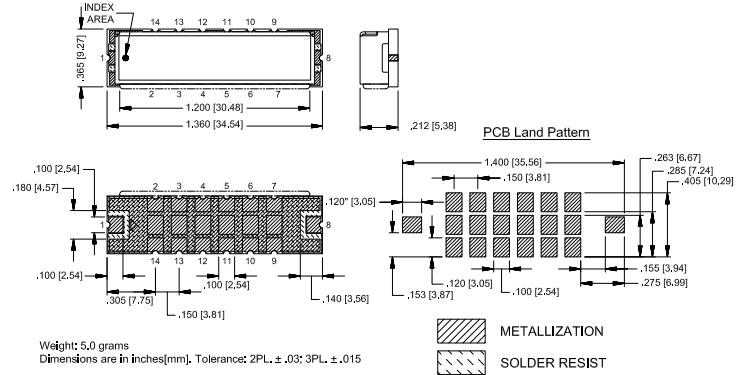


NOTES:

- TRACE WIDTH IS SHOWN FOR FR4, IT180A WITH DIELECTRIC THICKNESS .025"±.002". COPPER: 1/2 Oz EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

CASE STYLE DRAWING



PRODUCT MARKING*: CBP4-2375Q

*Marking may contain other features or characters for internal lot control.



CERAMIC RESONATOR SURFACE MOUNT

Bandpass Filter

CBP4-2375Q+

Mini-Circuits

50Ω 2150 to 2600 MHz

ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASH BOARD.

[CLICK HERE](#)

Performance Data and Graphs	Data
	Graphs
	S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads
Case Style	HQ2299-1 Lead Finish: Electroless Nickel Immersion Gold
RoHs Status	Compliant
Tape and Reel	TR-F121
Suggested Layout for PCB Design	PL-543
Evaluation Board	TB-CBP4-2375Q+
	Gerber File
Environmental Rating	ENV54

NOTES

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits' standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html

