

Ceramic Bandpass Filter

50Ω 4900 to 5920 MHz

BPGE-542R+



Generic photo used for illustration purposes only

CASE STYLE: GE0805C-3

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Features

- Miniature size 0805 (0.079"[2.0mm] x 0.049"[1.25mm] x 0.037"[0.95mm])
- Low cost
- Aqueous washable

Applications

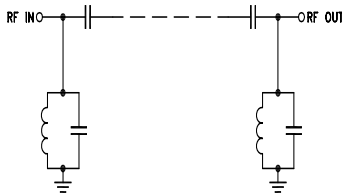
- ISM Band
- WLAN
- Bluetooth
- Zigbee

Electrical Specifications¹ at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Center Frequency	—	—	5400	—	dB	
	Insertion Loss	F1-F2	4900 - 5920	—	0.9	1.9	dB
	VSWR	F1-F2	4900 - 5920	—	1.2	2.0	:1
Stop Band, Lower	Insertion Loss	DC-F3	3500	30	49	—	dB
Stop Band, Upper	Insertion Loss	F4-F5	9800 - 11840	25	32	—	dB
		F6-F7	14700 - 17760	5	30	—	dB

1. Tested on Evaluation Board TB-1028+.

Functional Schematic



Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature ²	-40°C to 85°C
RF Power Input ³	2W at 25°C

2. Refer to product storage temperature after installation

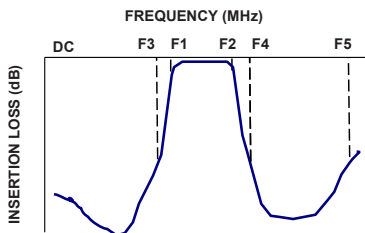
Suggestion for T&R unused product storage condition:

+5 ~ +35 °C, Humidity 45~75%RH, 12 month Max

3. Derate linearly to 1W at 85°C

Permanent damage may occur if any of these limits exceeded.

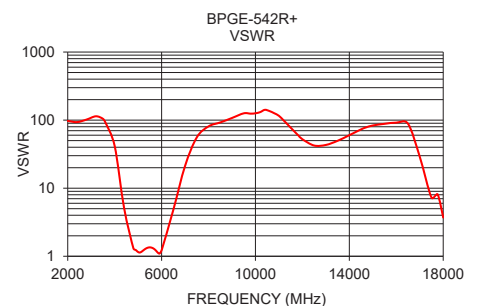
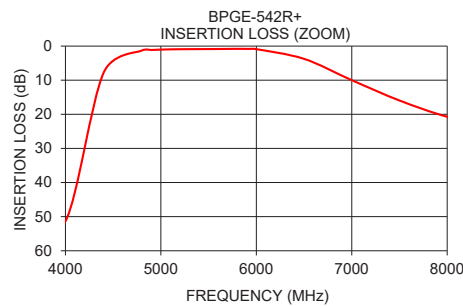
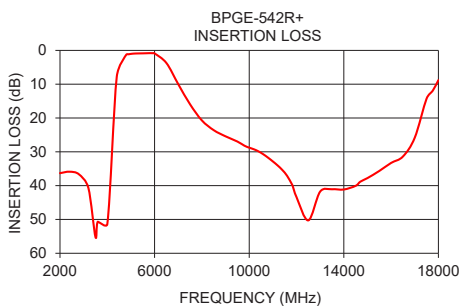
Typical Frequency Response



Typical Performance Data⁴ at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
2000	36.30	97.37
3500	55.21	104.57
4000	51.38	41.74
4900	1.15	1.24
5920	0.83	1.10
7000	9.99	21.26
8000	20.71	80.91
9800	28.19	124.41
10000	28.76	126.10
11000	32.84	115.63
11840	40.13	59.03
13000	41.76	43.18
14000	41.14	60.10
14700	38.82	77.89
16000	33.28	91.79
17760	11.93	8.14
18000	8.81	3.71

4. Measured with Agilent E5071B network analyzer using impedance conversion and port extension.



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-Circuit's applicable established test performance criteria and measurement instructions.

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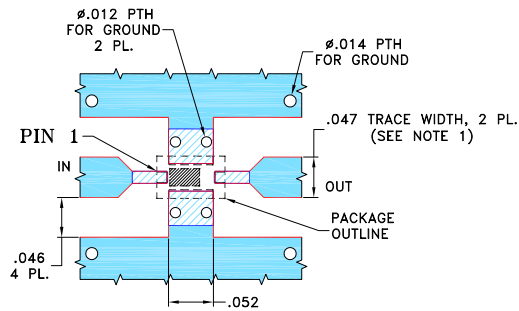
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BPGE-542R+
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Pad Connections

INPUT	1
OUTPUT	3
GROUND	2,4

Product Marking: N/A

Evaluation Board MCL P/N: TB-BPGE-542R+
Suggested PCB Layout (PL-566)

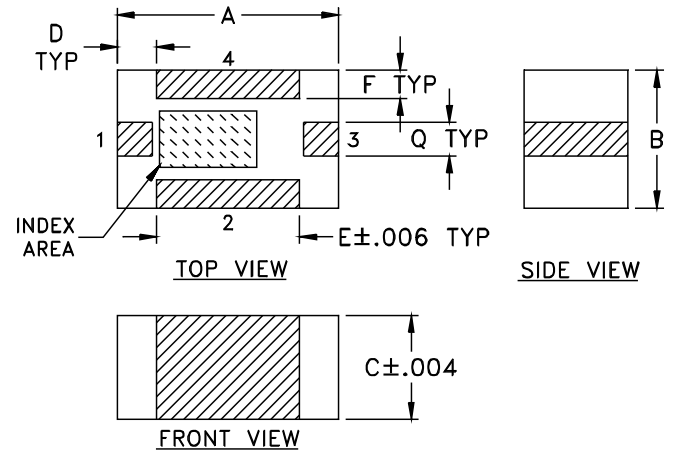


NOTES:

- TRACE WIDTH IS SHOWN FOR ROGERS R04233 WITH DIELECTRIC THICKNESS $.020 \pm .0015$. COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP 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 SOLDER MASK.

Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	Q	wt
.079	.049	.037	.014	.051	.010	.012	grams
2.01	1.24	0.94	0.36	1.30	0.25	0.30	.020

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