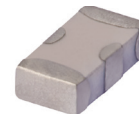


# Ceramic High Pass Filter

## HFCN-650+

50Ω 710 to 2490 MHz



Generic photo used for illustration purposes only  
CASE STYLE: FV1206

### Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	7W max. at 25°C

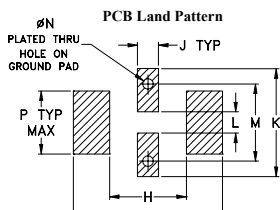
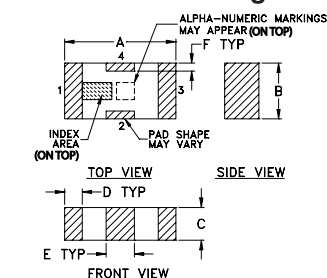
\* Passband rating, derate linearly to 3W at 100°C ambient. Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

RF IN	1
RF OUT	3
GROUND	2,4

### Product Marking: BT

### Outline Drawing



Suggested Layout, Tolerance to be within ±.002

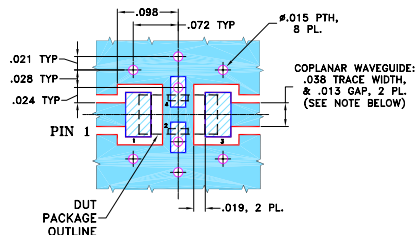
### Outline Dimensions (inch)

A	B	C	D	E	F	G
.126	.063	.037	.020	.032	.009	.169
3.20	1.60	0.94	0.51	0.81	0.23	4.29

H	J	K	L	M	N	P	wt
.087	.024	.122	.024	.087	.012	.071	grams
2.21	0.61	3.10	0.61	2.21	0.30	1.80	.020

### Demo Board MCL P/N: TB-270 Suggested PCB Layout (PL-137)



NOTES: 1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.

2. 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

### Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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/WCLStore/terms.jsp](http://www.minicircuits.com/WCLStore/terms.jsp)

### Features

- low cost
- small size
- 7 sections
- temperature stable
- hermetically sealed
- LTCC construction
- excellent power handling, 7W

### Applications

- sub-harmonic rejection
- transmitters/receivers
- lab use

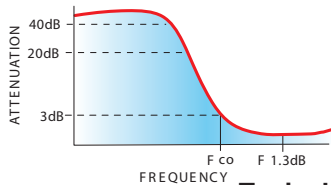
### Electrical Specifications<sup>(1,2)</sup> at 25°C

STOP BAND (MHz) Min.	f <sub>co</sub> , MHz Nom.	PASSBAND (MHz)	VSWR (:1) Typ.	POWER INPUT (W)	NO. OF SECTIONS
(loss > 40 dB)	(loss 3 dB) Typ.	(loss < 1.3 dB) (loss < 2 dB) Max. Typ.	Frequency (MHz) Stopband 1.5:1		
390 480	650	850-2000 710-2490	20:1 760-1700	7	7

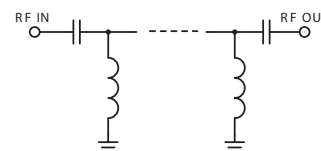
(1) In Application where DC voltage is present at either input or output ports, coupling capacitors are required. Alternatively, Mini-Circuits' "D" suffix version of this model will provide >100 MΩ isolation to ground.

(2) Measured on Mini-Circuits Characterization Test Board TB-270.

### typical frequency response

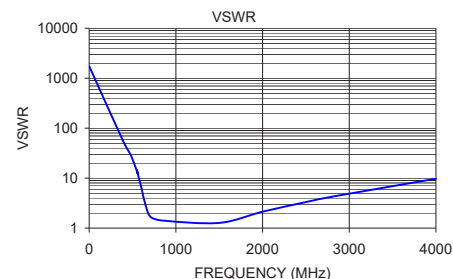


### electrical schematic



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
1.00	96.55	1737.18
390.00	51.73	56.04
480.00	28.47	28.96
560.00	14.13	12.44
550.00	15.77	14.26
600.00	8.26	6.63
650.00	3.61	2.89
710.00	1.66	1.66
850.00	0.90	1.42
1500.00	0.44	1.27
2000.00	0.99	2.13
2490.00	1.89	3.29
2800.00	2.61	4.25
4000.00	5.86	9.74



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