

SPECIFICATION

COMMERCIALLY AVAILABLE

CERAMIC BAND PASS FILTER

PART NUMBER: CF-24500084A

NPT excluding the resonator pins (Resonator Tabs).

See FNP-1555 for hermetically sealed version.

ISSUED / REVISION	ENGINEER APPROVED	DOCUMENT CHECKED	DRAFTSMAN	DOCUMENT CHECKED
04/18/2025 ^(ASM)				

FILTRONETICS Inc

1. APPLICATION

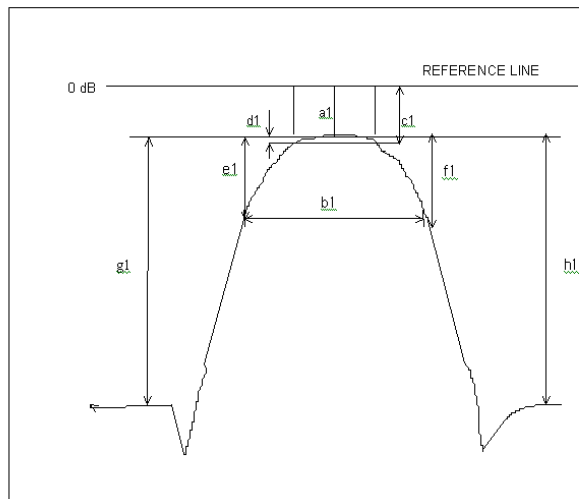
THIS SPECIFICATION APPLIES TO A BAND PASS FILTER, USING DIELECTRIC RESONATORS.

2. PART NUMBER: CF-24500084A

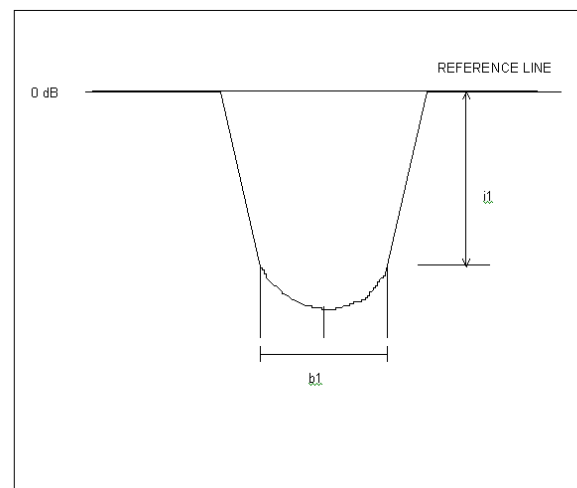
3. SPECIFICATIONS:

NO	ITEMS	Ref.	SPECIFICATION
1	Center Frequency (Fo)	a1	2450 MHz
2	3dB Band Width	b1	8 MHz +/- 15%
3	6dB Band Width		11 MHz +/-15%
4	30dB Band Width		36 MHz MAX
5	Insertion Loss At Fo	a1	20 dB Max
6	V.S.W.R		2 : 1
7	Impedance		50Ω
8	Maximum Input Power		1 W (+30dBm)
9	Operating Temperature Range		-30 - +70°C
10	Storage Temperature Range		-40°C to + 85 °C
11	Workmanship		IPC-610 class 2
12	Process Temperature		+150°C for 1hour or +230°C for 10 minutes

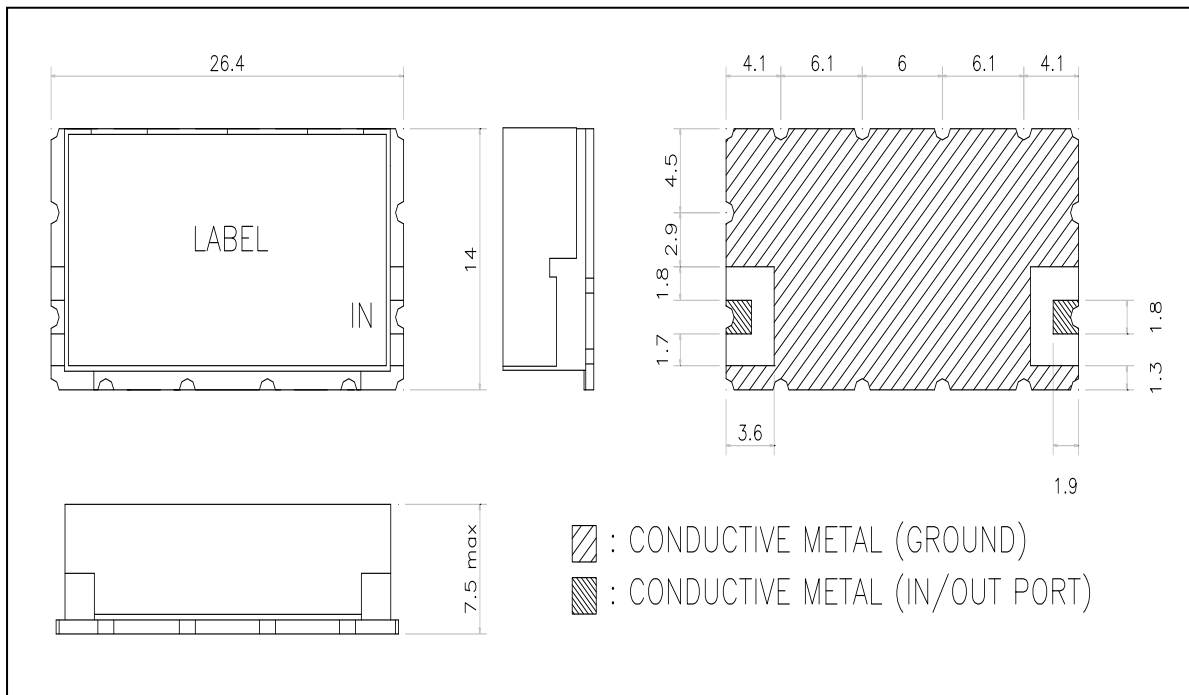
S21 LOG MAG NETWORK ANALYZER



S11 SWR NETWORK ANALYZER



4. DIMENSIONS:



※ MATERIAL SPECIFICATION

1. PCB
 - 1) MATERIAL: FR4
 - 2) TERMINALS: Sn/Pb, HASL,
2. METAL CASE
 - 1) Ag plated brass
3. RESONATOR
 - 1) COATING MATERIAL: Ag
 - 2) DIMENSION: 6.0MM x 6.0MM
4. INTERNAL SOLDER
 - 1) Sn96.5/Ag3.5 Lead Free solder, 221 deg C melting
5. RESONATORS TABS
 - 1) Sn Plated brass

The number of through holes may be changed without notice.

※ MARKING

Label Material: High temp polyimide

Marking:

CF-24500084A

Filtronetics, Inc

Date Code: YYWW

UNIT: MM

TOLERANCE: +/-0.5MM

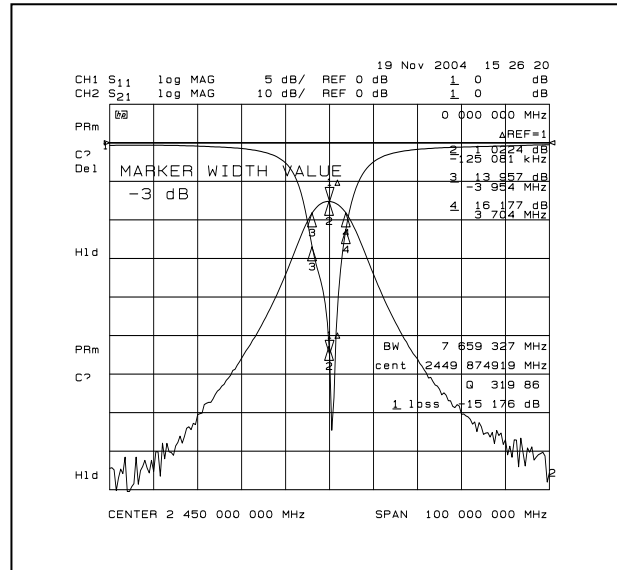
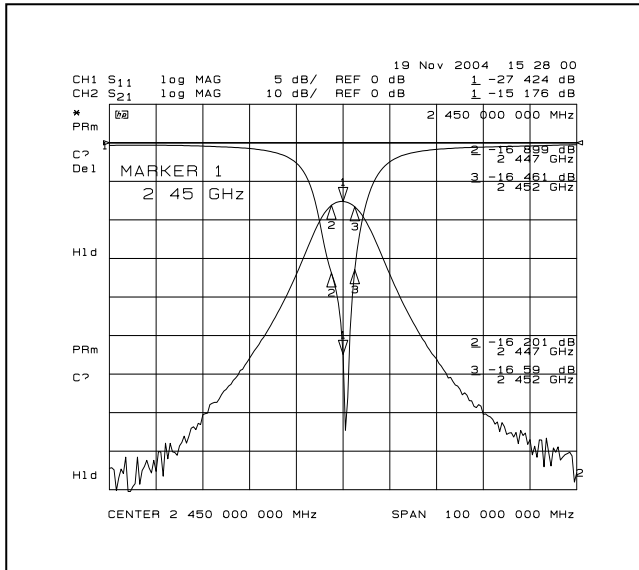
IN/OUT LAND : +/-0.3MM

CAUTIONS:

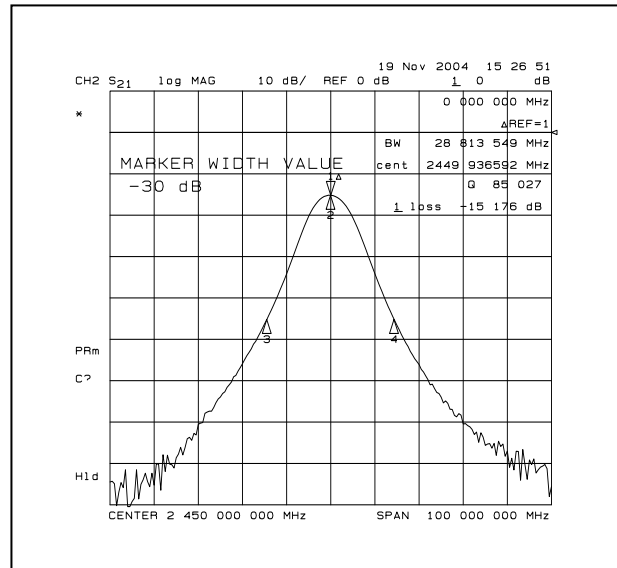
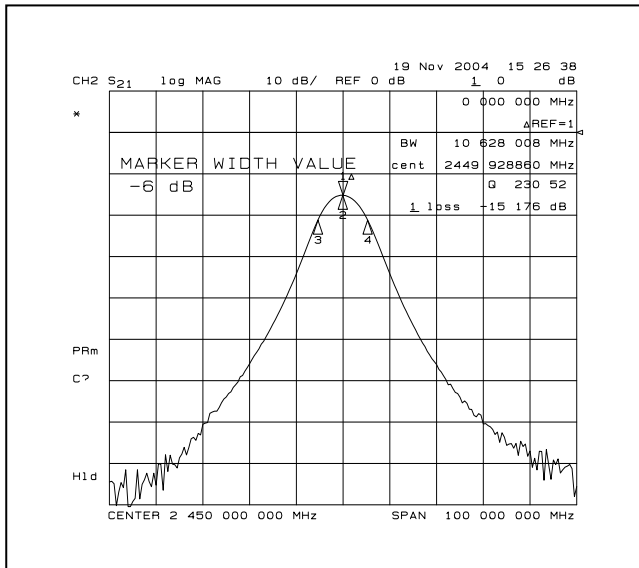
1. When handling products, be careful not to damage the outer-electrode.
2. When handling products be careful not to touch the outer-electrode with bare hands or solderability is reduced.
3. Do not apply excessive pressure or shock to product in handling or in transportation or damage to the ceramic filters may result.

5. GRAPHS:

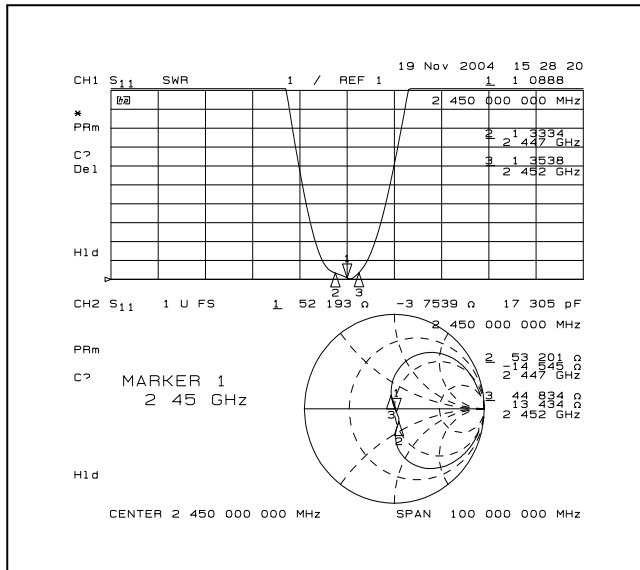
S21 & S11 (INSERTION LOSS, RETURN LOSS, 3DB BANDWIDTH)



S21 (6DB BAND WIDTH, 30DB BAND WIDTH)



S11 (V.S.W.R , SMITH CHART)



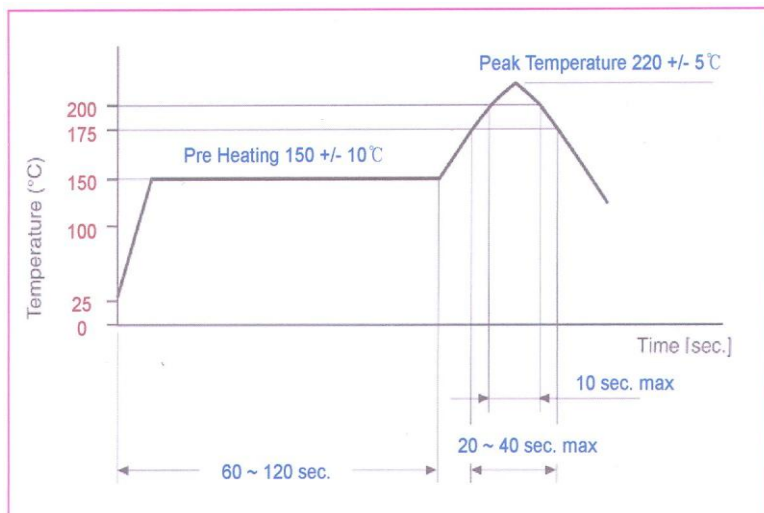
6. DEFINITIONS:

TERMS	DESCRIPTION	SPECIFICATION
Center Frequency	The midpoint of through band pass filter pass band, normally expressed as the arithmetic mean of the -3db point. Also called fo.	3. SPECIFICATION
Pass Band Width	The width of the pass band of a filter referenced to the minimum insertion loss point in the pass band. The pass band of a filter is stated as -1.0dB bandwidth.	
Insertion Loss	The loss of the filter, in db, measured at center frequency relative to a through line (0 dB).	
Attenuation	Reduction of RF power through a filter measured in dB, at desired band and referenced to 0 dB. (Filter to be removed from circuit)	
Pass Band Ripple	Variations in loss in the pass band of the filter, superimposed upon the fundamental shape of the pass band.	
V.S.W.R in Pass Band	The ratio of the maximum value of a standing wave to its minimum value, related to the return loss in pass band.	

7. RELIABILITY TEST AND CONDITIONS:

ITEM	TEST CONDITIONS	REQUIREMENTS
Resistance to heat solder	Preheat temperature : 120 to 150°C Preheat time: 1 to 1.5 min Solder temperature: 260 +/- 10°C Dipping time: 10 +/- 0.5 sec	No damage such as cracks should be caused in chip element.
Solderability	Preheat temperature: 120 to 150°C Preheat time: 1 to 1.5 min Solder temperature: 235 +/- 5°C Dipping time: 5 +/- 1 sec	More than 80% of the terminal electrode shall be covered with new solder
Heat resistance (High-temperature Load)	Temperature: 85 +/- 2°C Applied voltage: Rated voltage Applied current: Rated current Recovery: 1 to 2hrs of recovery under the standard condition after the removal from test chamber.	No mechanical damage. After test, the device shall satisfy the specification in section 3.
Thermal shock (Temperature cycle)	Conditions for 1 cycle Step 1: + 85°C 15 min Step 2 : - 30°C 15 min Number of cycle: 10	No mechanical damage. After test, the device shall satisfy the specification in section 3.
Vibration	Frequency: 10 ~ 50 Hz Amplitude: 1.52mm (0.060 inches) Direction: X, Y and Z Time: each 30 min for all directions	No mechanical damage. After test, the device shall satisfy the specification in section 3.

8. REFLOW SOLDERING STANDARD CONDITIONS FOR TIN/LEAD



- Measuring point of temperature in-out terminals of the device.
- Reflow Soldering
- Both convection and infrared rays
- Hot air
- Hot plates
- Solder Cream: Sn64/Pb36