

# SPECIFICATION

COMMERCIALY AVAILABLE

CERAMIC DUPLEXER  
PART NUMBER: CFD-1950214010A

ISSUED / REVISION	ENGINEER APPROVED	DOCUMENT CHECKED	DRAFTSMAN	DOCUMENT CHECKED
9/26/11 kn	12/09/2011 TFG		12/09/2011 GL	

**FILTRONETICS Inc**

1. APPLICATION

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

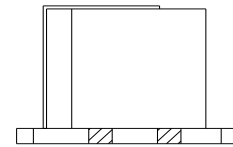
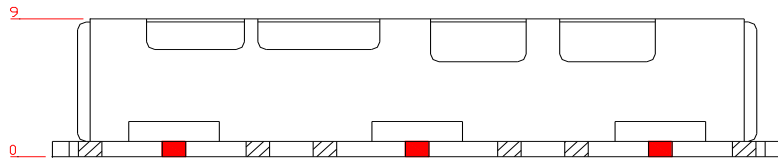
2. PART NUMBER: CFD-1950214010A

3. SPECIFICATIONS:

No.	Parameter	Unit	Specification	
			Low Path	High Path
1	Center Frequency	MHz	1950	2140
2	Bandwidth	MHz	1920 ~ 1980	2110 ~ 2170
3	Insertion Loss in BW	dB	1.5 max.	
4	Ripple in BW	dB	0.7 max.	
5	Return Loss in BW	dB	16.0 min.	
6	Rejection	dB	55 min. @ 2110 ~ 2170 MHz	55 min. @ 1920 ~ 1980 MHz
7	IN/OUT Impedance	Ω	50	
8	Input Power	W	3W max.	
9	Operating Temperature	°C	-35 ~ +75	

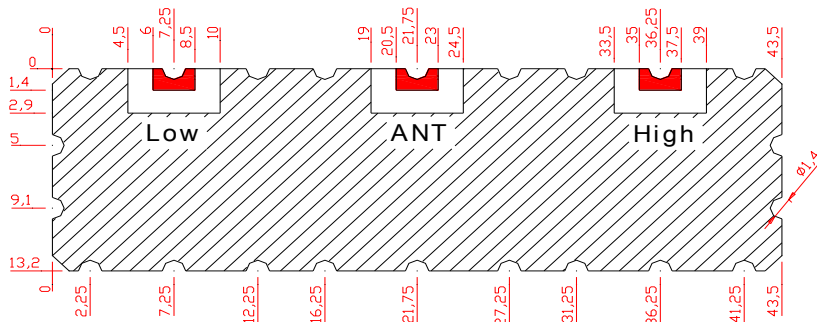
Marking: Date Code  
CFD-1950214010A

4. DIMENSIONS:



Front Side

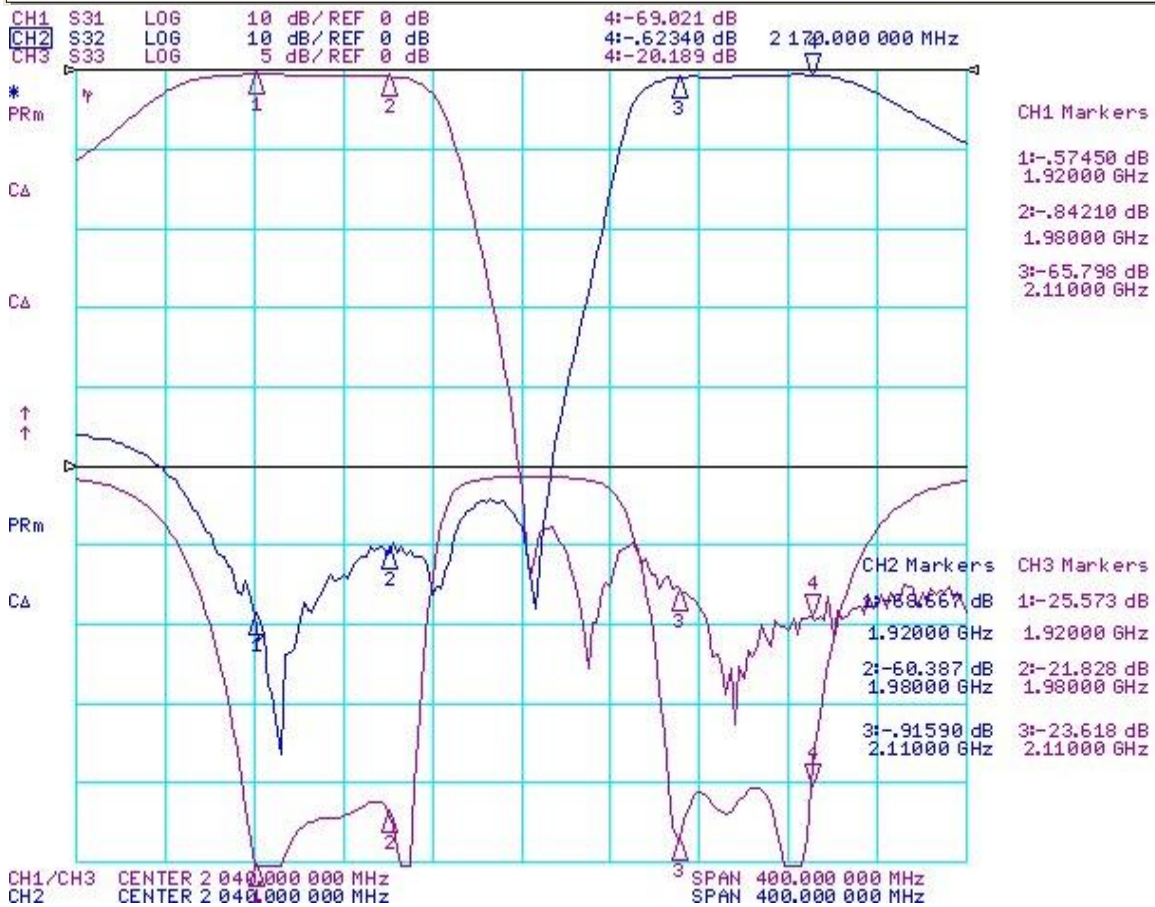
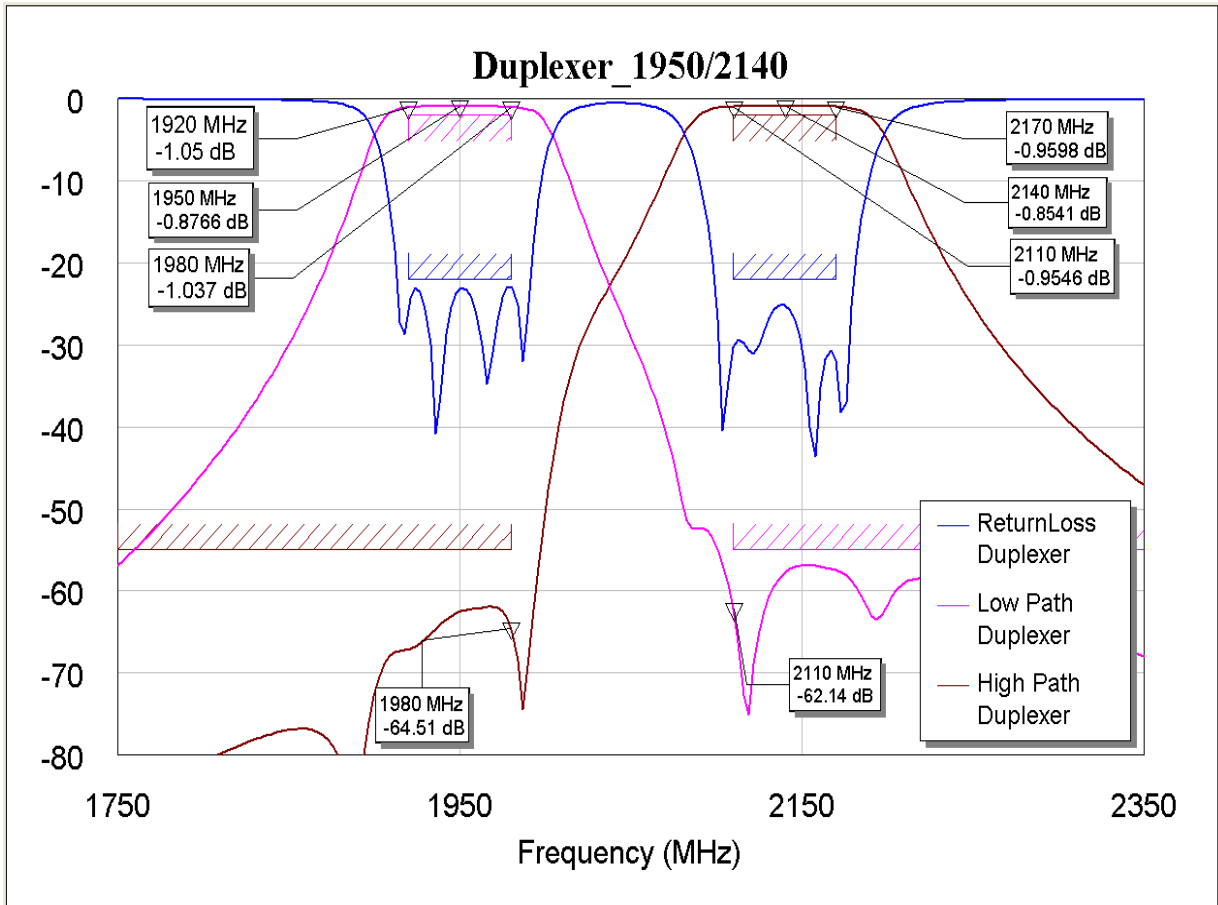
Right Side



: In / Out Port  
 : Ground  
 Tolerance : 0.2 mm  
 Unit : mm

Bottom Side

5. SIMULATION:



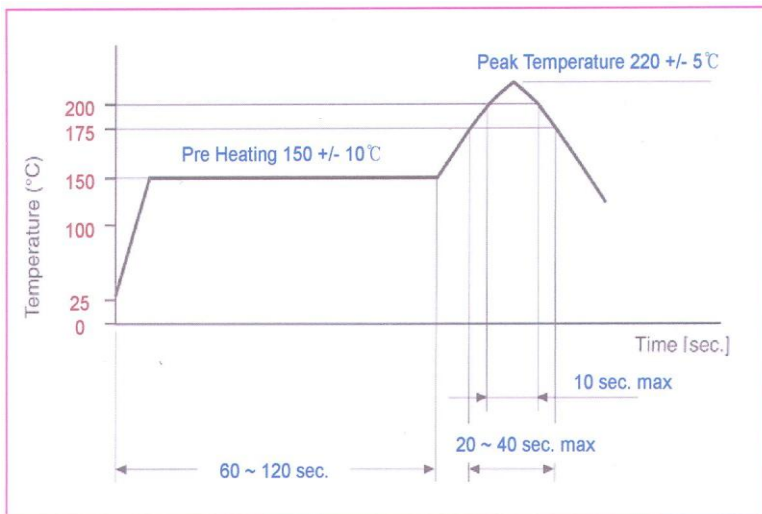
## 6. DEFINITIONS:

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 $f_0$ .	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 solder heat	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.
Humidity Resistance	Temperature: 40 +/- 2°C Humidity: 90 to 95% RH Duration: 96 +/- 5 hrs 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.
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



- 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