

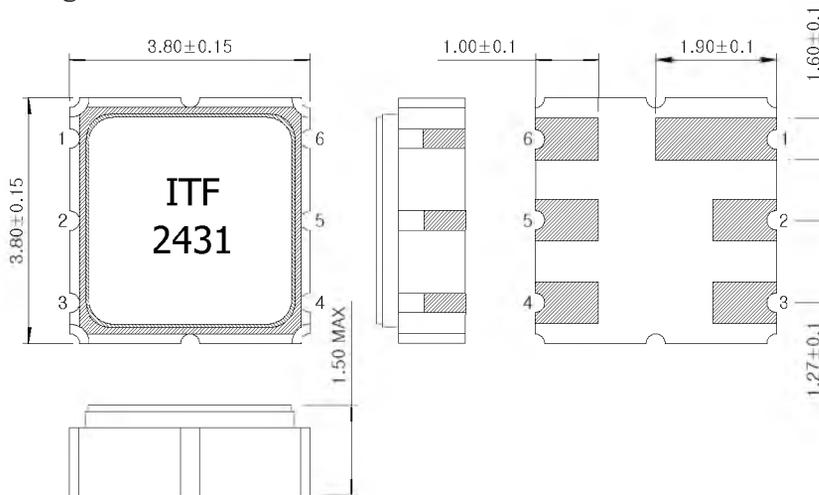
SAW Bandpass Filter 243.95MHz



Features

- Narrow bandpass filter
- High attenuation
- Usable bandwidth 220kHz
- Matched 50Ω single-ended operation
- Ceramic Surface Mounted Device (SMD) Package
- RoHS/RoHS2 (2015/863/EU) Compliant

Package Dimensions



Dimensions shown are nominal in millimeters

Body : Al₂O₃ Ceramic

Lid : Kovar, Ni Plated

Terminations : Au plating 0.3 ~ 1.0 um, Over a 1.27 ~ 8.89 um
Ni Plating

Pin Configuration	
2	Input
5	Output
1, 3, 4, 6	Case ground

Maximum Ratings

Parameter	Unit	Minimum	Typical	Maximum
Operating Temperature Range	°C	-10	25	60
Storage Temperature Range	°C	-40	-	85
Power Handling Capability	dBm	-	-	-

Electrostatics Sensitive Device (ESD)

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Specifications

$F_c = 243.950\text{MHz}$

Terminating source impedance : 50Ω and matching network

Terminating load impedance : 50Ω and matching network

		Minimum	Typical	Maximum
Center Frequency (F_c)	MHz	-	243.950	-
Insertion Loss ($F_c \pm 110$ kHz)	dB	-	3.5	4.0
Amplitude Ripple ($F_c \pm 110$ kHz)	dB	-	0.8	1.5
Absolute Group Delay at F_c	usec	-	-	1.2
Group Delay Variation ($F_c \pm 110$ kHz)	nsec	-	20	-
VSWR ($F_c \pm 110$ kHz)		-	1.5	-
Relative Attenuation				
$F_c \pm 600$ kHz	dB	20	-	-
$F_c \pm 1.2$ MHz		40	-	-
Temperature Coefficient of Frequency	ppm/ $^{\circ}\text{C}^2$	-	-0.23	-

Notes :

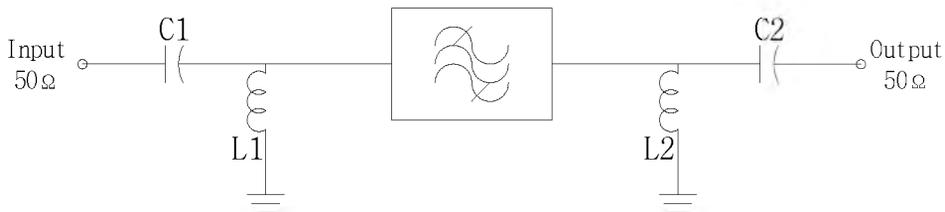
- 1) All specifications are based on the matching schematic shown below, measured by Agilent Network analyzer and full 2 port calibration.
- 2) Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
- 3) All attenuation measurements are measured relative to insertion loss

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Matching Schematic

(Actual matching values may vary due to PCB layout and parasitics)



C1 = 4.3 pF, C2 = 4.7 pF, L1, L2 = 68 nH

Marking Configuration

ITF¹⁾

2431²⁾

1) Manufacturer name

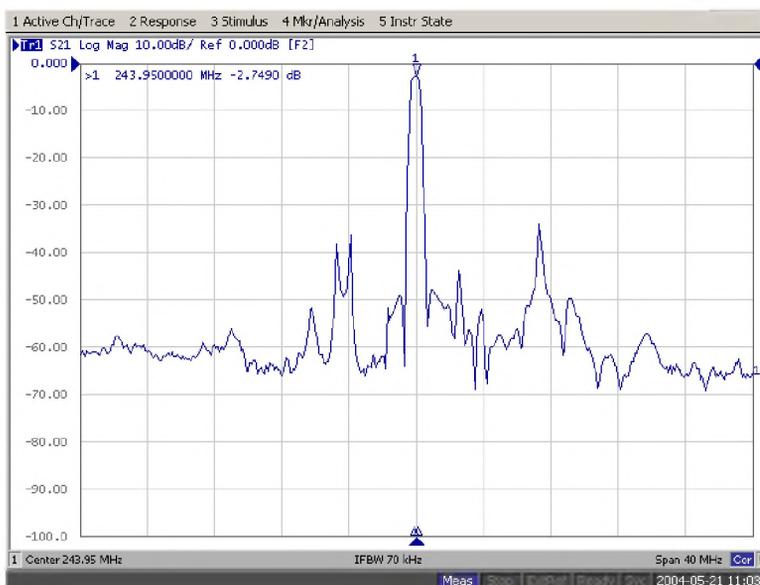
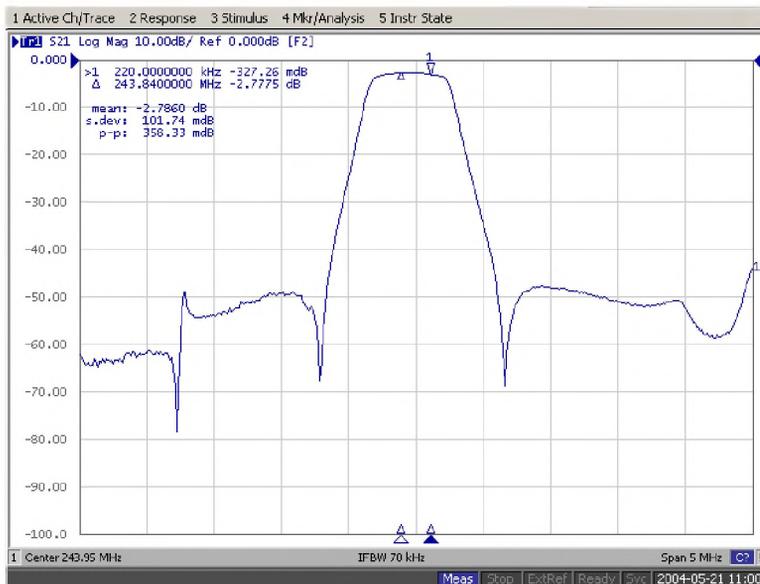
2) Marking Number

* Ink or Laser Marking available

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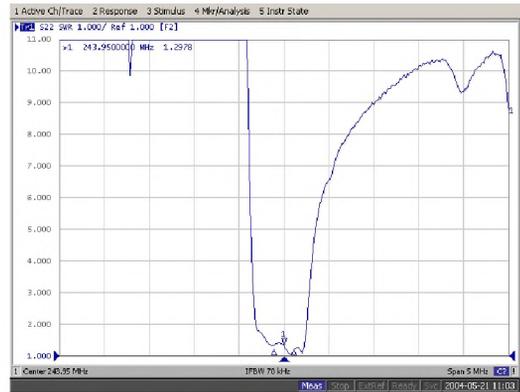
Frequency Response



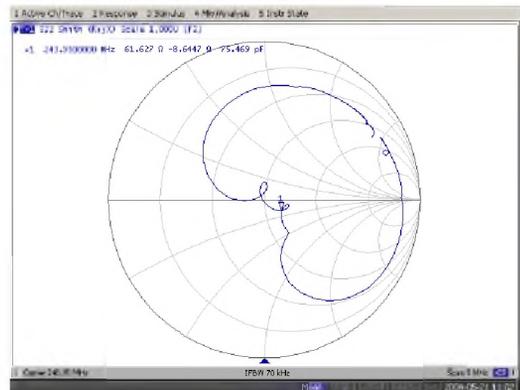
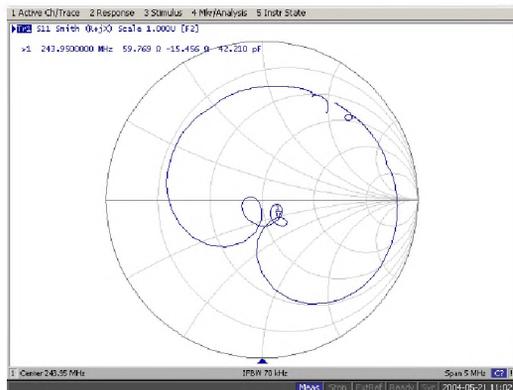
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Input / Output VSWR Charts



Input / Output Smith Charts

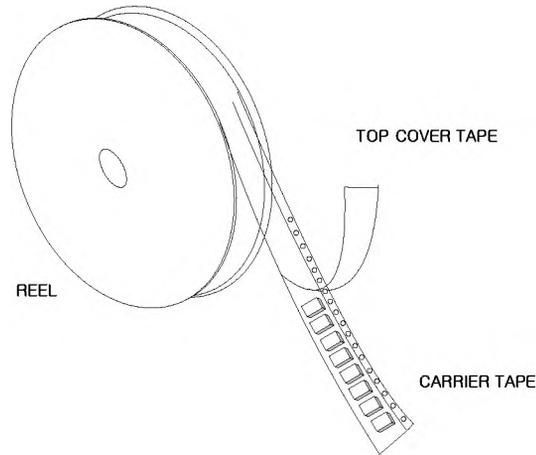


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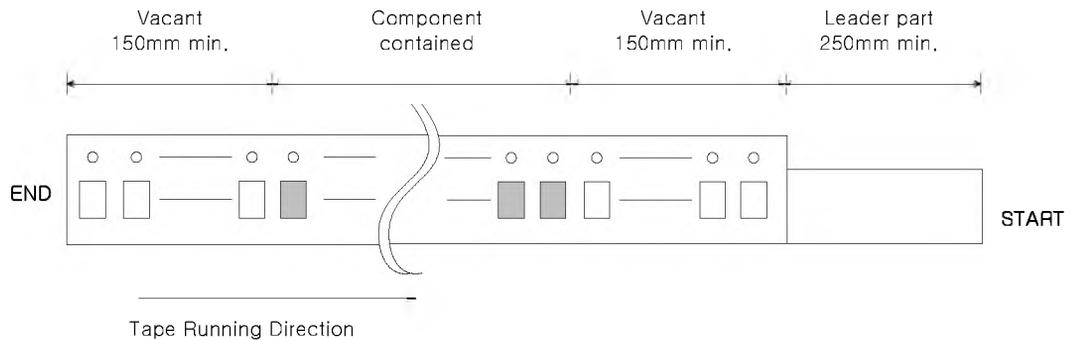
Packing Specification

1. Reeling Quantity : 1000 pcs / reel
2. Taping Structure : The tape shall be wound around the reel in the direction shown below.



Tape Specification

1. Leader part and vacant position specification

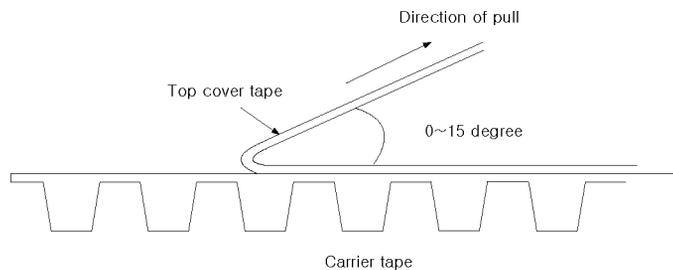


2. Tensile strength of carrier tape

4.4N/mm width

3. Top cover tape adhesion

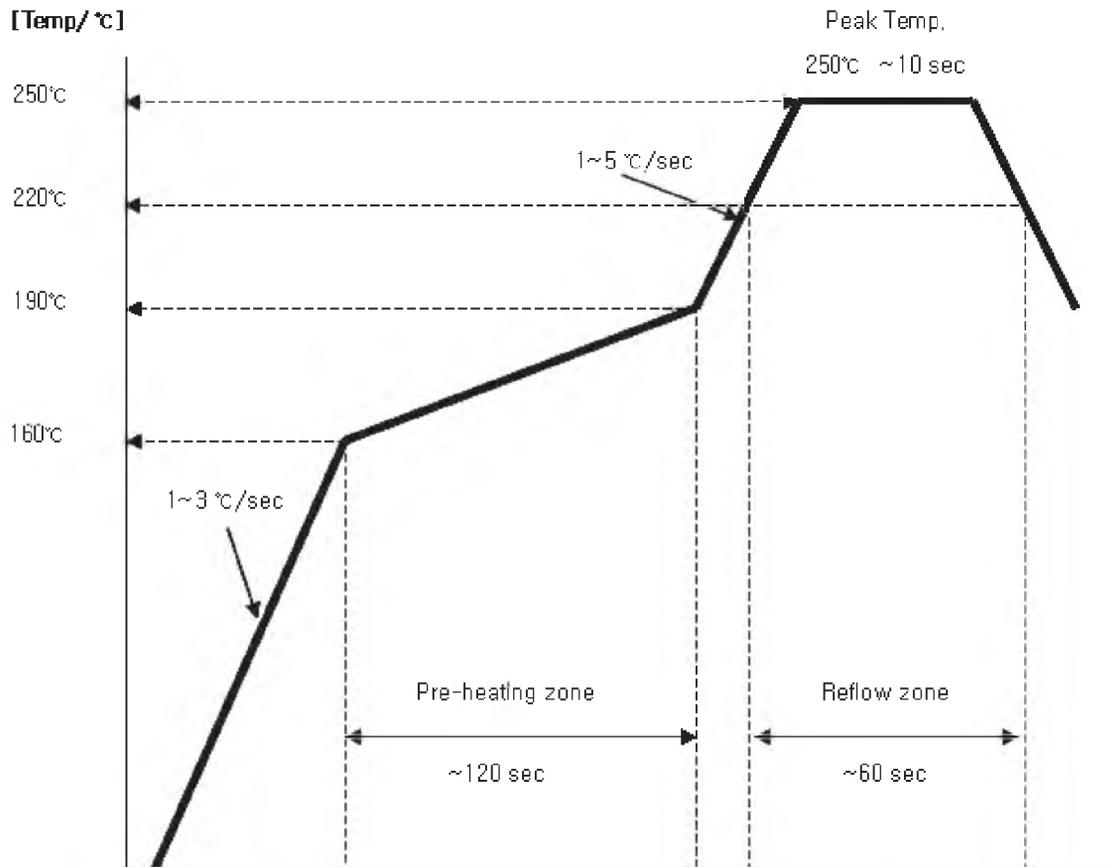
- 1) pull off angle : 0~15°
- 2) speed : 300mm/min
- 3) force : 20~70g



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Reflow Condition



Comment) The quality is guaranteed under this temperature conditions on 2 times solder reflows

Cautions

1. This is a hermetic device.
- MSL (Moisture Sensitive Level) is the 1st level
2. This is an electrostatic sensitive device. Please avoid static voltage during operation and storage.
ESD (Electrostatic Discharge) Rating is class 0. (Test : HBM-Human Body Model)
3. Ultrasonic cleaning shall be avoided.
4. This device should not be used in any type of fluid such as water, oil , organic solvent ,etc.

Manual soldering process

- approximately 350 °C in 15 to 20 seconds to be completed