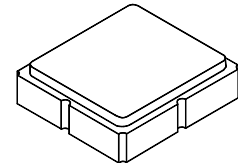


**SF2420E**

**872 MHz  
SAW Filter**



**SM3030-6**

- RF SAW Filter, 872 MHz, 8 MHz Bandwidth
- 3.0 x 3.0 x 1.4 mm Surface-mount Case
- Input/Output Impedance 50/Ω50Ω
- Complies with Directive 2002/95/EC (RoHS)
- Moisture Sensitivity Level: 1

**Absolute Maximum Ratings**

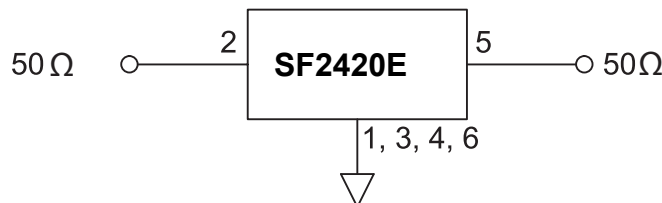
Rating	Value	Units
Incident Power	+20	dBm
DC Voltage	3	VDC
Operating Temperature Range	-40 to +85	°C
Storage Temperature Range	-40 to +85	°C
Maximum Soldering Profile, 5 cycles/10 seconds maximum	260	°C

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_c$			872		MHz
Insertion Loss, 868 to 876 MHz	IL			3.0	5.0	dB
Amplitude Ripple, p-p, 868 to 876 MHz				1.5	3.2	
Attenuation (Reference level from 0 dB)						dB
10 to 832 MHz			35	40		
832 to 848 MHz			40	43		
848 to 860 MHz			30 <sup>(1)</sup>	35		
860 to 862 MHz			13 <sup>(2)</sup>	18		
880 to 886 MHz			10 <sup>(3)</sup>	15		
886 to 915 MHz			30	35		
915 to 1000 MHz			40	45		
Terminating Source impedance	$Z_S$			50		Ω
Terminating Load impedance	$Z_L$			50		Ω

Single Ended Input / Output, Impedance match	No matching network required for operation at 50 ohms
Case Style	SM3030-6
Lid Symbolization: y= year, ww=week, s=shift)	8A, <u>YWWS</u>

- 1) 30dB at 25°C; 15dB for -40°C to +85°
- 2) 13dB at 25°C; 5dB for 0°C to +85°C
- 3) 10dB at 25°C; 6dB for -40°C to +85°



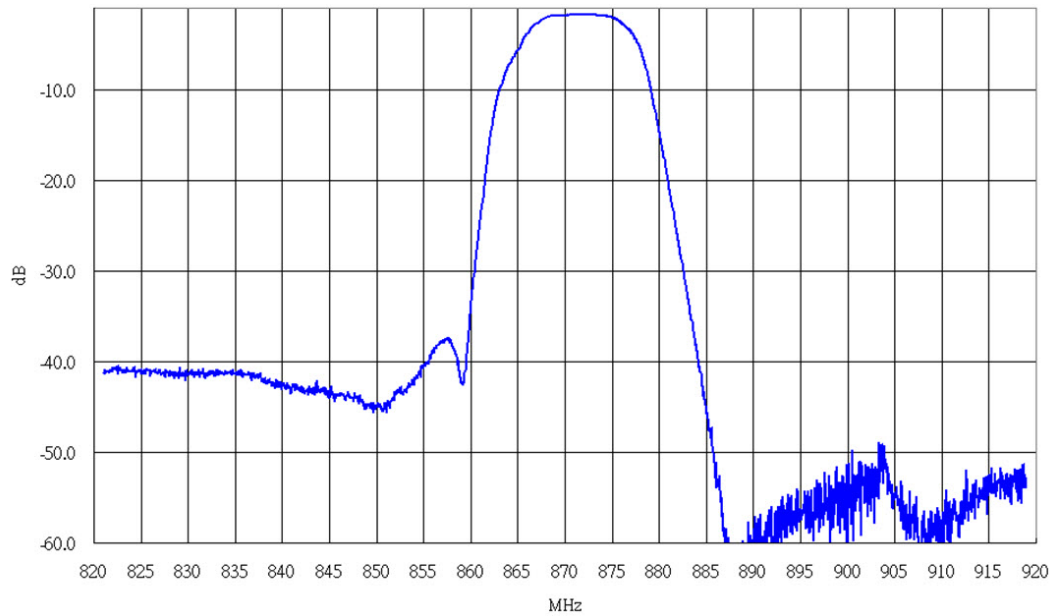
 **CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

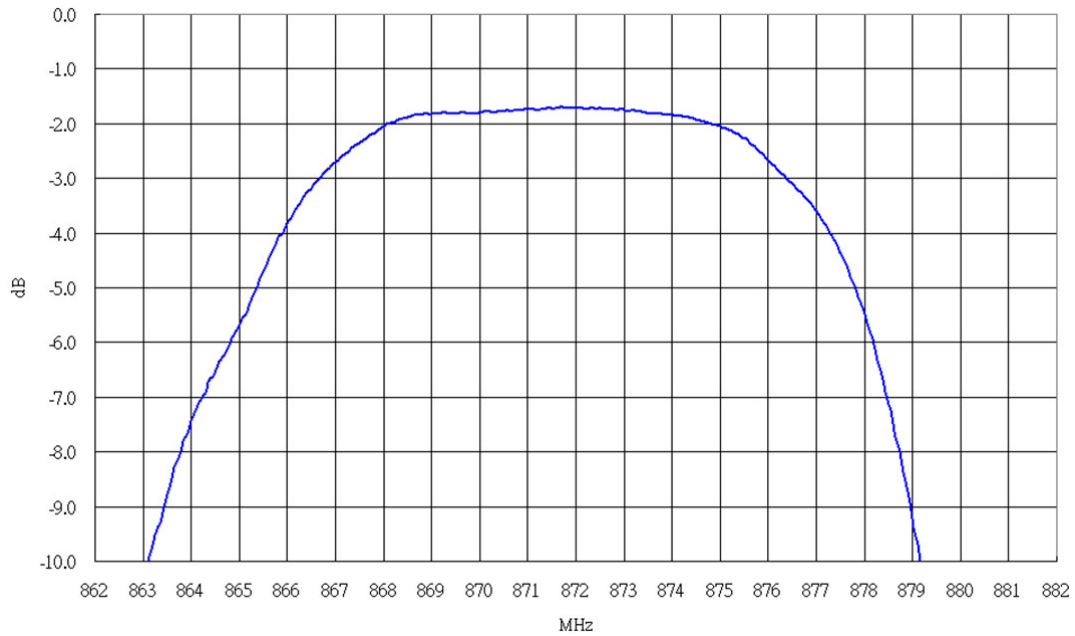
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

# Frequency Characteristics

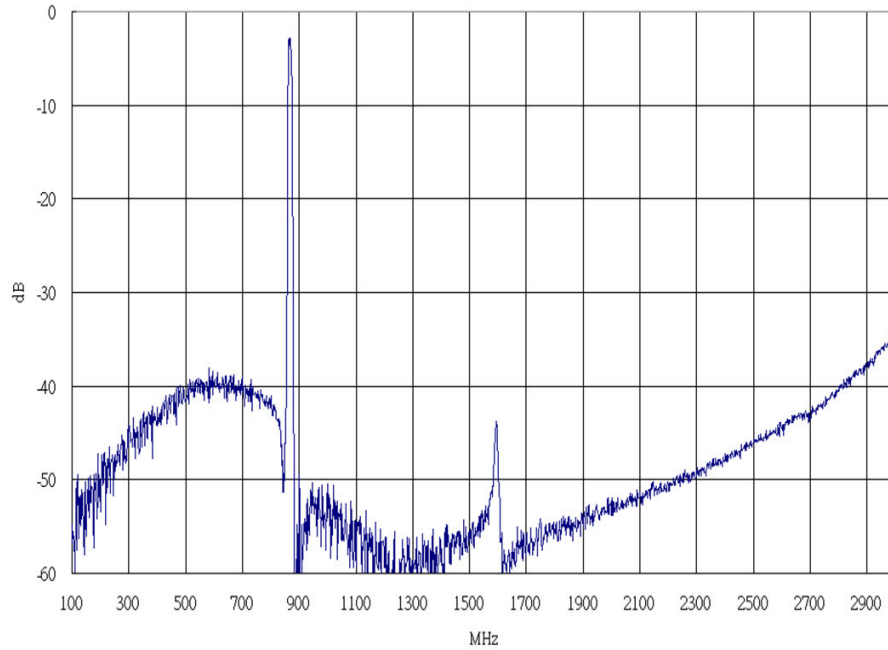
## S21 Response: Span 100MHz



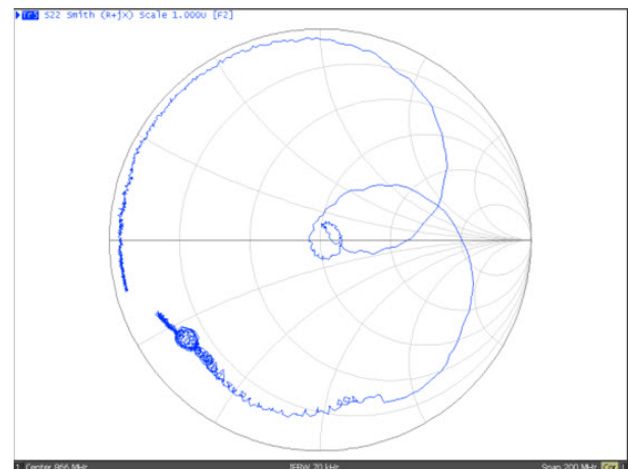
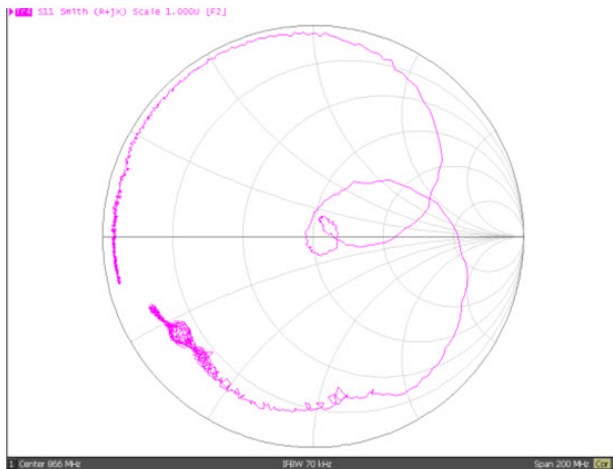
## S21 Response: Span 20MHz



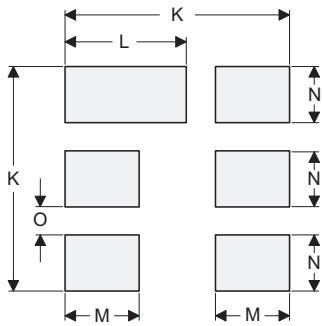
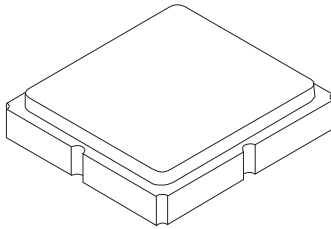
## S21 Response: Span 1MHz to 3 GHz



## S11/S22 Response



## 6-Terminal Ceramic Surface-Mount Case 3.0 X 3.0 mm Nominal Footprint



**PCB Footprint Top View**

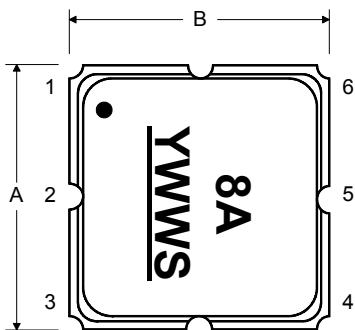
### Case and PCB Footprint Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
<b>A</b>	2.99	3.00	3.01	0.117	0.118	0.118
<b>B</b>	2.99	3.00	3.13	0.117	0.118	0.118
<b>C</b>	-	-	1.40	-	-	0.055
<b>D</b>	-	0.90	-	-	0.035	-
<b>E</b>	-	2.80	-	-	0.110	-
<b>F</b>	-	1.60	-	-	0.063	-
<b>G</b>	-	0.85	-	-	0.033	-
<b>H</b>	-	1.50	-	-	0.059	-
<b>I</b>	-	0.60	-	-	0.024	-
<b>J</b>	-	1.30	-	-	0.051	-
<b>K</b>	-	3.20	-	-	0.126	-
<b>L</b>	-	1.70	-	-	0.067	-
<b>M</b>	-	1.05	-	-	0.041	-
<b>N</b>	-	0.81	-	-	0.032	-
<b>O</b>	-	0.38	-	-	0.015	-

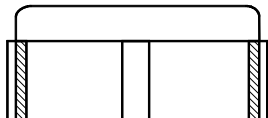
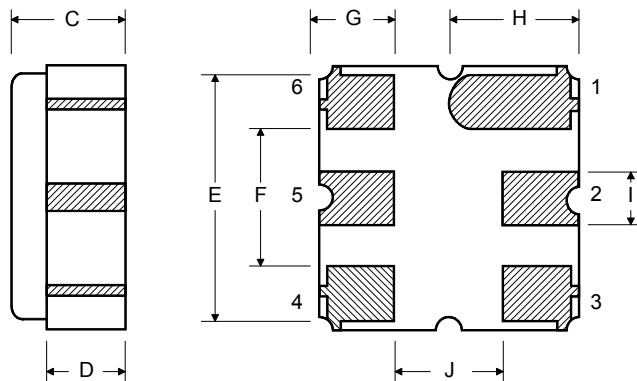
### Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu$ m Gold over 1.27 to 8.89 $\mu$ m Nickel
Lid Plating	2.0 to 3.0 $\mu$ m Nickel
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic

### TOP VIEW



### BOTTOM VIEW





## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

