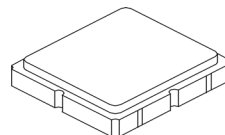


**SF2345E-1**

**2593 MHz  
SAW Filter**



**SM3030-6**

• **Steep Roll-off SAW Filter for 2593 MHz Unlicensed Band**

**Absolute Maximum Ratings**

Rating	Value	Units
Input Power Level	16	dBm
DC Voltage on any Non-ground Terminal	3	V
Operable Temperature Range	-45 to +125	°C
Specification Temperature Range	-30 to +100	°C
Storage Temperature Range in Tape and Reel	-40 to +125	°C
Soldering Profile Maximum Temperature, 5 cycles/10 s maximum	265	°C

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_c$			2594		MHz
Pass Band Width			194	293		
Max Insertion Loss, 2496 to 2690 MHz	IL max			3.69	4.5	dB
2555 to 2655 MHz				3.7	4.2	
Amplitude Ripple, 2490 to 2690 MHz	$\Delta\alpha$			1.0	3.0	
2555 to 2655 MHz				0.63	1.4	
Input Return Loss, 2490 to 2690 MHz			7.5	8.1		
2555 to 2655 MHz			7.5	8.1		
Output Return Loss, 2490 to 2690 MHz			7.5	8.1		dB
2555 to 2655 MHz			7.5	8.1		
Attenuation Referenced to IL min dB:						
10 to 1880 MHz			16	21.65		
1880 to 1920 MHz			18	22.50		
1920 to 2000 MHz			19	22.65		
2000 to 2010 MHz			20	23.65		
2010 to 2025 MHz			20	23.85		
2025 to 2300 MHz			20	23.48		
2300 to 2400 MHz			6.3	12.25		
2800 to 3000 MHz			5.5	8.85		
3000 to 3500 MHz			25	26.85		
3500 to 4000 MHz			16	24.25		
Source Impedance - L1	$Z_S$			50		$\Omega$
Load Impedance - L2	$Z_L$			50		$\Omega$
Temperature Coefficient	ppm/K			-80		

Case Style	SM3030-6 3.0 x 3.0 mm Nominal Footprint
Lid Symbolization, Y=year, WW=week, S=shift, Dot=pin 1 indicator	6E, YWWS



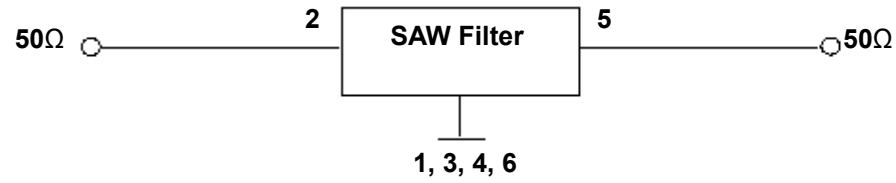
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

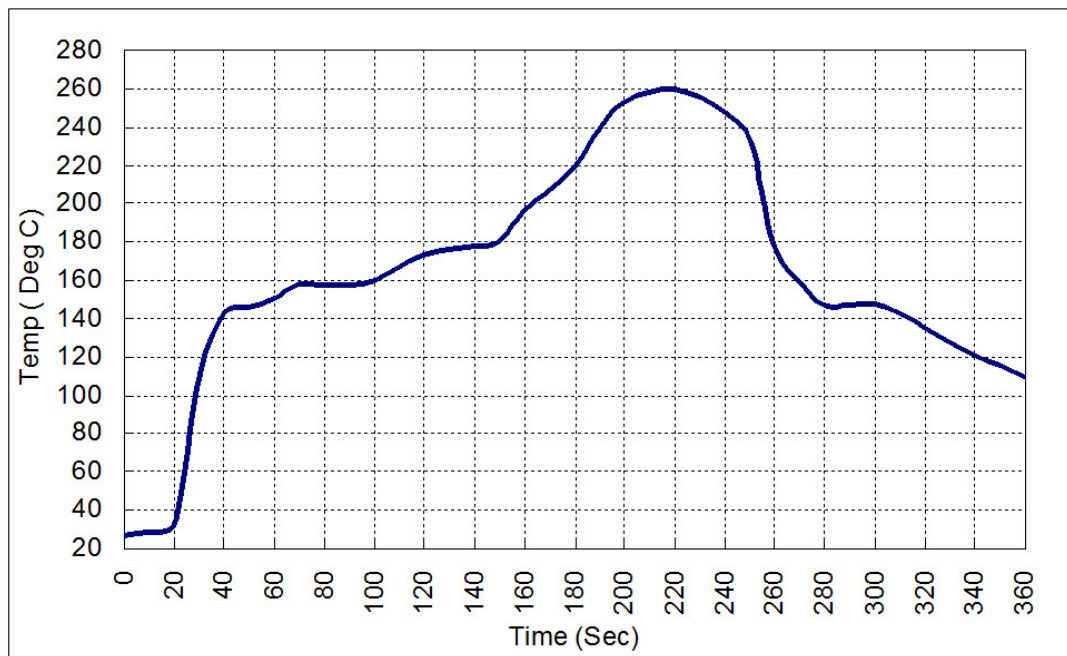
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50  $\Omega$  and measured with 50  $\Omega$  network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency,  $f_c$ .
3. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
4. The design, manufacturing process, and specifications of this filter are subject to change.
5. US and international patents may apply.
6. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

### Electrical Connections

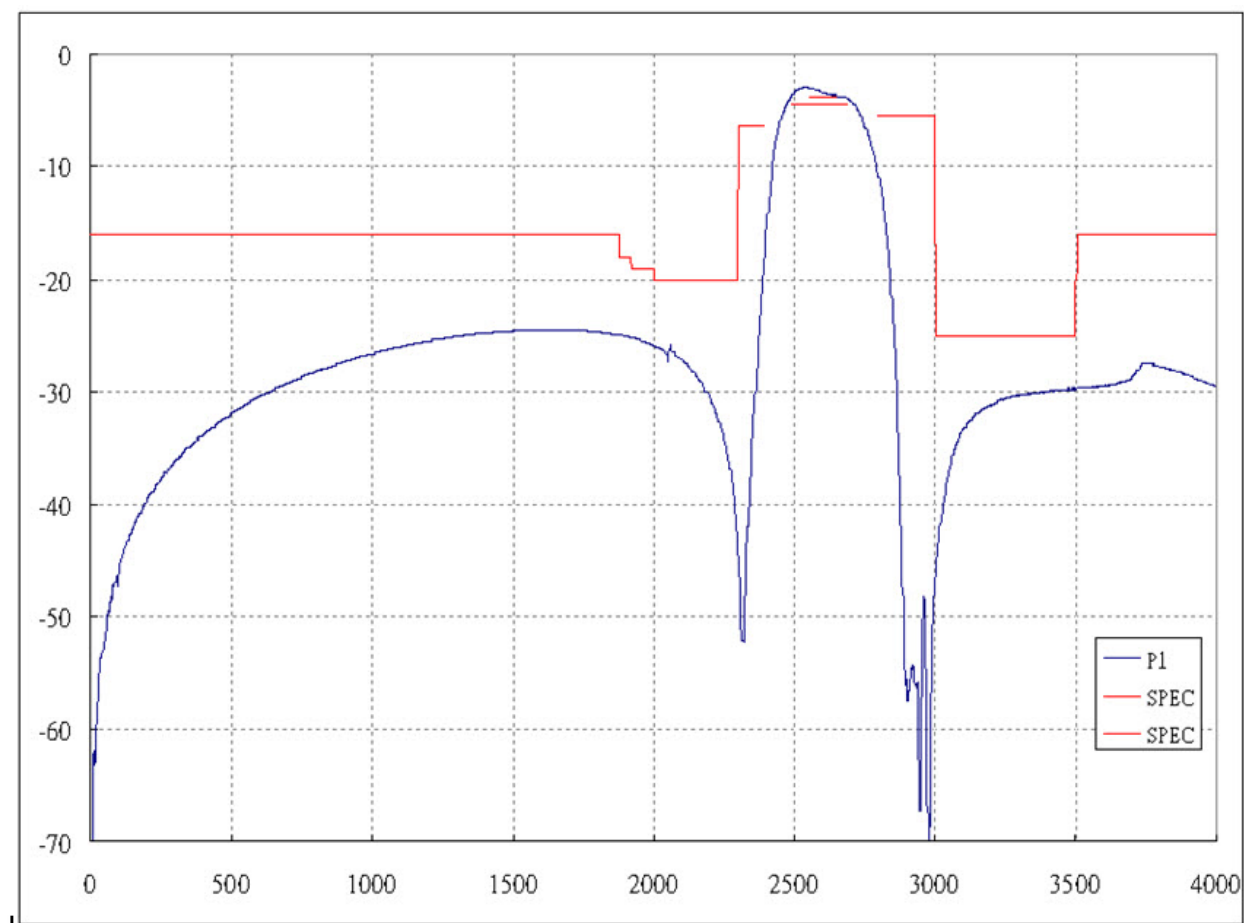
Connection	Terminals
Port 1	2
Port 2	5
Case Ground	All others



### Recommended Reflow Profile

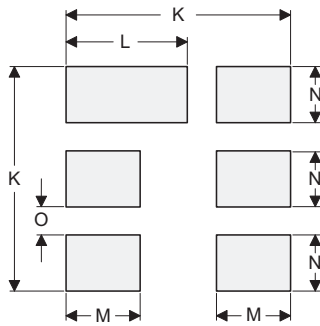
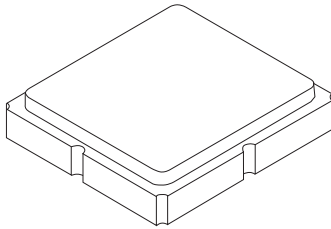


# Frequency Characteristics



# SM3030-6 Case

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



PCB Footprint Top View

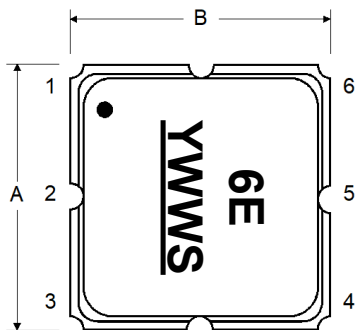
Case and PCB Footprint Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.00	3.13	0.113	0.118	0.123
B	2.87	3.00	3.13	0.113	0.118	0.123
C	1.12	1.25	1.40	0.044	0.049	0.055
D	0.77	0.90	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.60	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	1.50	1.63	0.054	0.059	0.064
I	0.47	0.60	0.73	0.019	0.024	0.029
J	1.17	1.30	1.43	0.046	0.051	0.056
K		3.20			0.126	
L		1.70			0.067	
M		1.05			0.041	
N		0.81			0.032	
O		0.38			0.015	

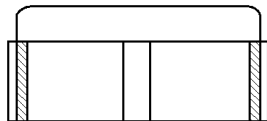
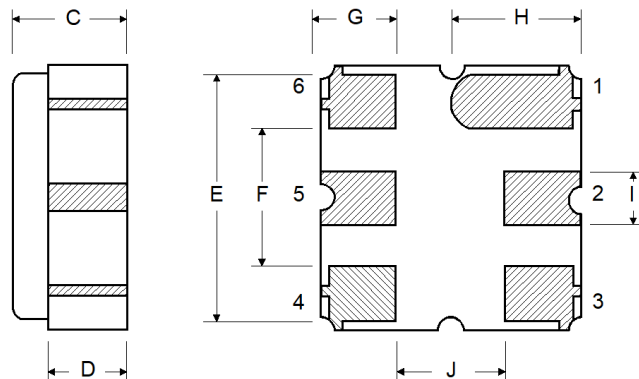
Case Materials

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
Pb Free	

Top View



Bottom View



Technical drawing of a circular component, likely a flange or end plate, showing three views: a top view, a side view, and a detail view.

**Top View:** A large circle with a smaller concentric circle in the center. A horizontal dashed line and a vertical dashed line intersect at the center. A leader line points from the text "See Detail 'A'" to the center of the inner circle.

**Side View:** A vertical cross-section showing the thickness of the component. The total thickness is dimensioned as 12.0. The inner hole has a diameter of 100 REF. The outer diameter is dimensioned as "B" REF.

**Detail View (Detail A):** A cross-section of the central hole. It shows a circular hole with a diameter of 13.0. The hole is surrounded by a flange with a thickness of 2.0. The outer diameter of the flange is dimensioned as 20.2.

“B”		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000

Technical drawing of a multi-hole punch die. The drawing includes a side view on the left and a top view on the right. The side view shows a cross-section of the die with a thickness of 0.25 and a width of  $B \pm 0.1$ . The top view shows a rectangular die with a length of  $12.00 \pm 0.3$  and a width of  $1.40 \pm 0.1$ . The die has a series of holes along its length, with a pitch of  $4.00 \pm 0.1$  and a diameter of  $\phi 1.50 \pm 0.1$ . The holes are arranged in a staggered pattern, with a stagger distance of  $2.00 \pm 0.05$ . The die is labeled with "A" and "A" at the ends, indicating the direction of feed. The die is also labeled with "K" and "K" at the ends, indicating the direction of feed. The die is shown with a "Direction of Feed" arrow pointing to the right.