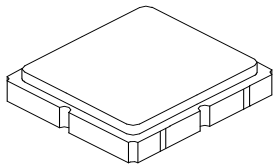
muRata
INNOVATOR IN ELECTRONICS

SF2393E

1570 MHz SAW Filter

- ***Surface Mount 3.0 x 3.0 mm Package***
- ***Complies with Directive 2002/95/EC (RoHS)***
- ***Meets AEC-Q200 criteria***



SM3030-6

Absolute Maximum Ratings

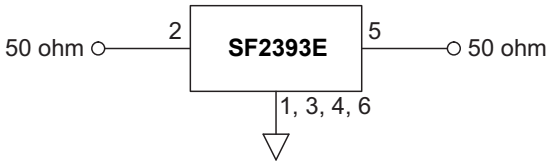
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage on any Non-ground Terminal	3	V
Operable Temperature Range	-45 to +125	°C
Specification Temperature Range	-40 to +105	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_C			1570		MHz
Insertion Loss, (1530 to 1610 MHz)	IL			3.6	4.2	dB
Pass Band Ripple, (1530 to 1610 MHz)				1.3	2.2	
Group Delay Variation (1530 to 1610 MHz)				4	30	ns
Return Loss (1530 to 1610 MHz)			6	7.5		dB
Attenuation, Referenced from 0 dB:						
50 to 1370 MHz			20	28		dB
1700 to 2000 MHz			10	24		
Temperature coefficient of frequency				-80		Ppm/°C
Case Style	SM3030-6 3.0 x 3.0 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	6Z, YWWS					

Electrical Connections

Connection	Terminals
Input	2
Output	5
Case Ground	All others

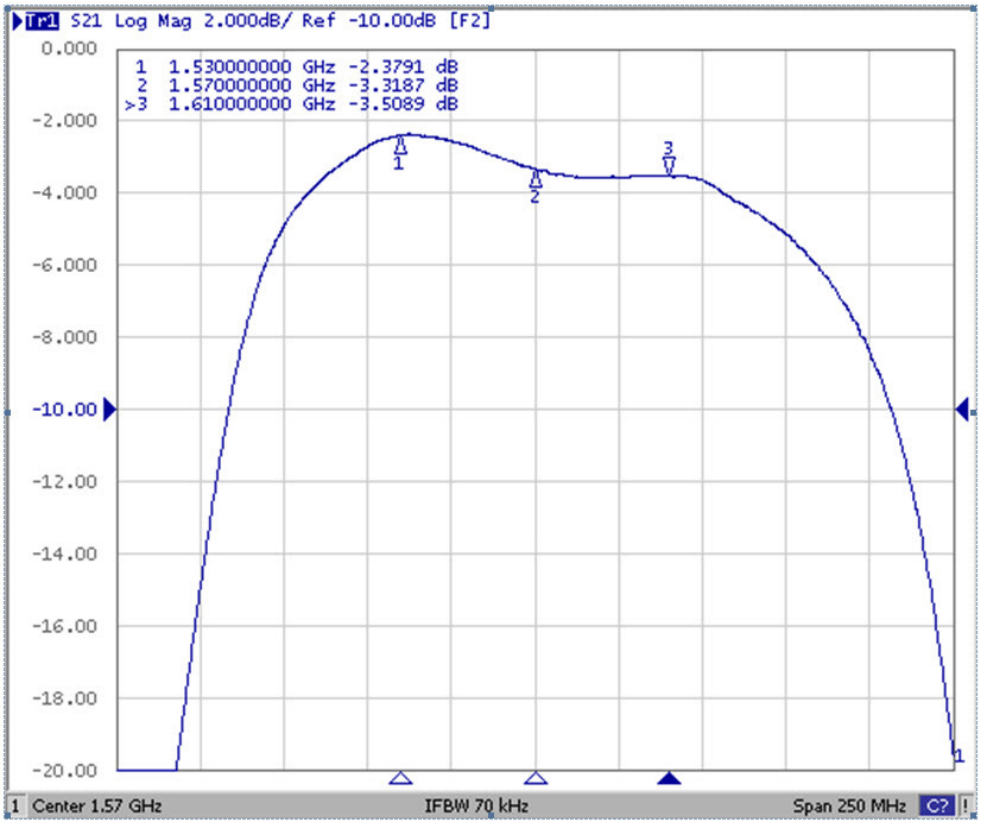


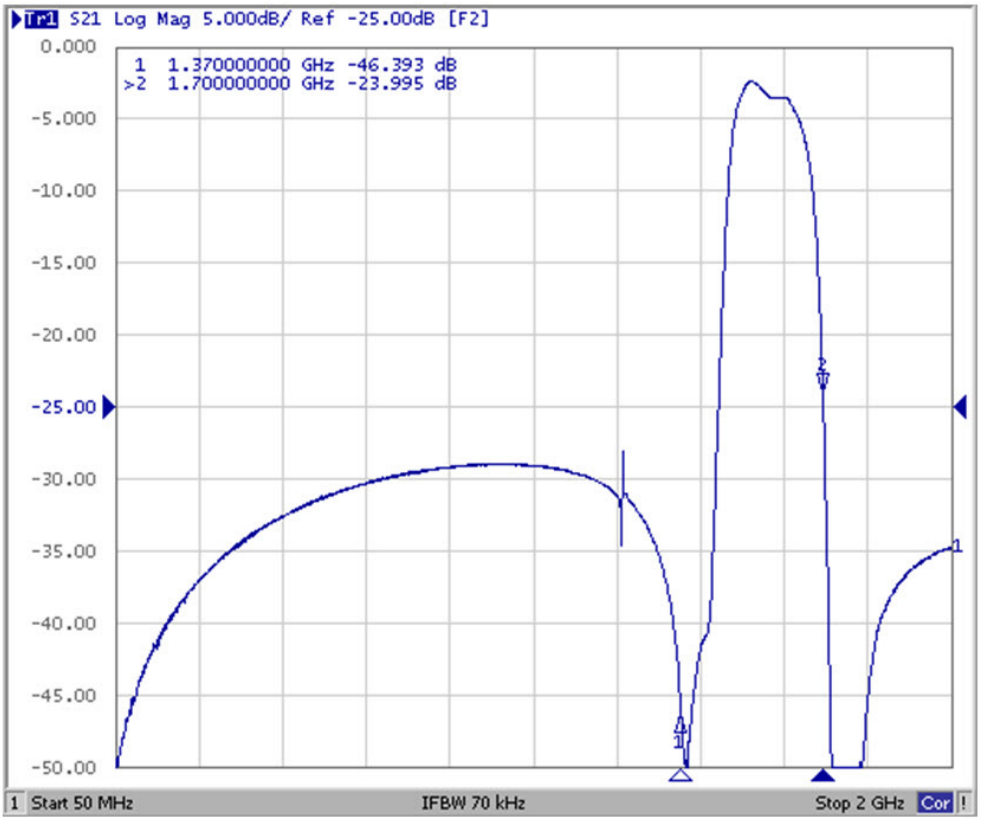
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

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 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, fc.
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. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
7. US and international patents may apply.
8. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

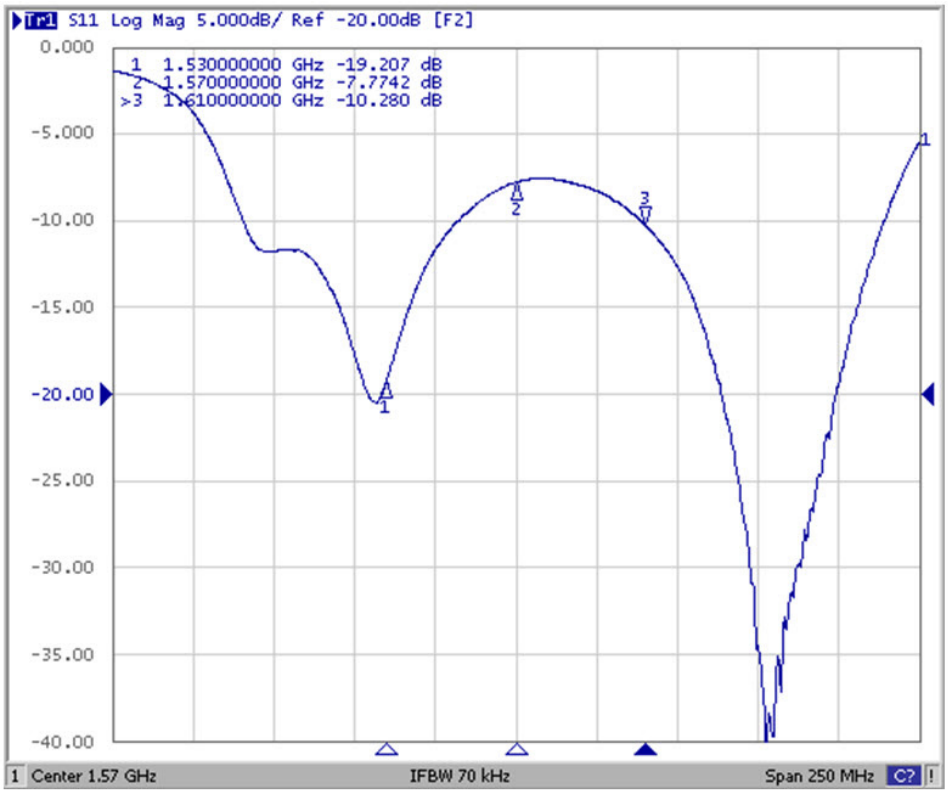
Frequency Characteristics



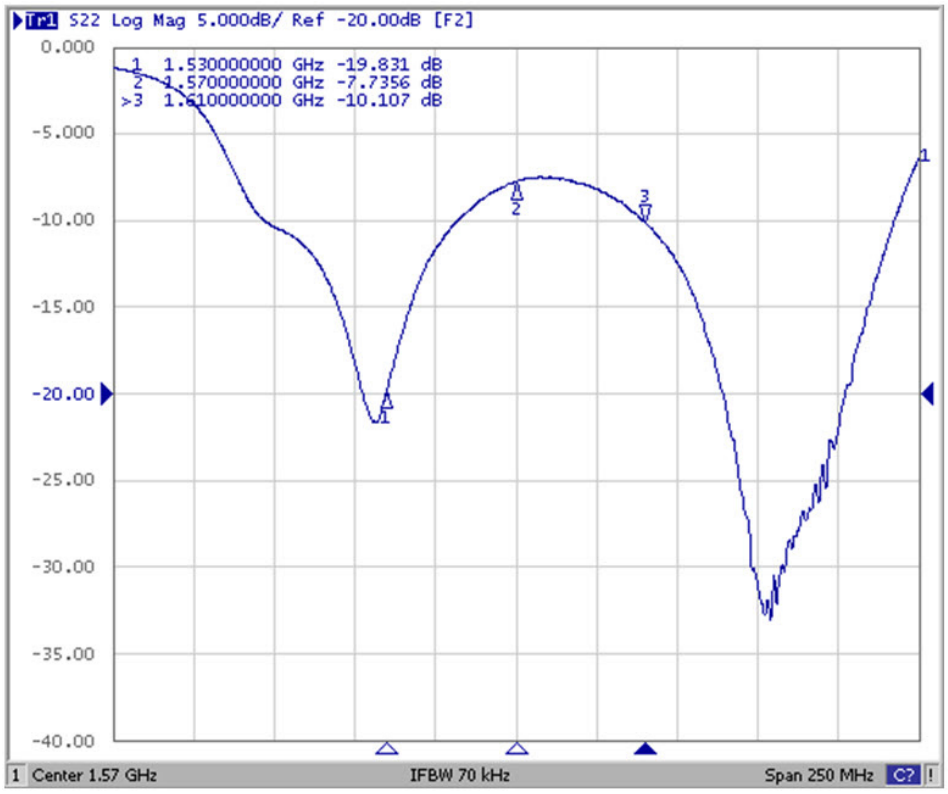


Reflection Functions

S11

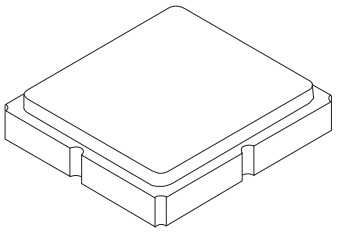


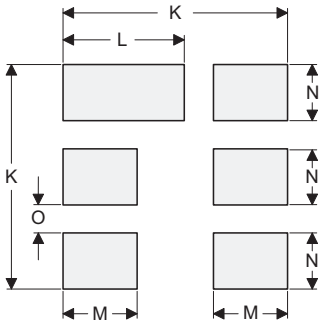
S22



SM3030-6 Case

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





Case and PCB Footprint Dimensions

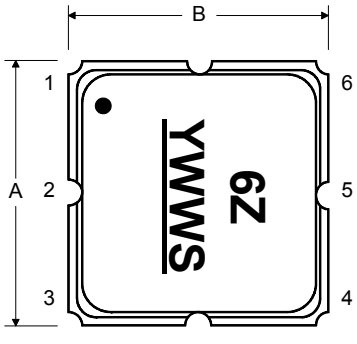
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.90	3.00	3.10	0.114	0.118	0.122
B	2.90	3.00	3.10	0.114	0.118	0.122
C	-	-	1.40	-	-	0.054
D	0.77	0.90	1.03	0.030	0.035	0.040
E	2.39	2.54	2.69	0.094	0.110	0.105
F	1.45	1.60	1.75	0.057	0.063	0.068
G	0.70	0.85	1.00	0.027	0.033	0.039
H	1.35	1.50	1.65	0.053	0.059	0.064
I	0.45	0.60	0.75	0.017	0.024	0.029
J	1.15	1.30	1.45	0.045	0.051	0.057
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	-

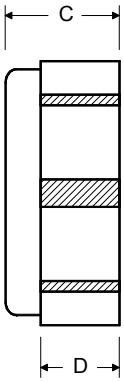
Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic
Pb Free	

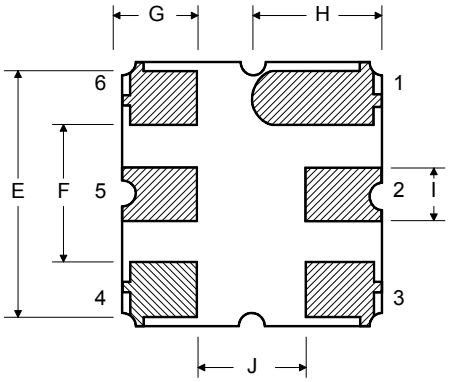
PCB Footprint Top View

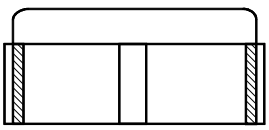
TOP VIEW



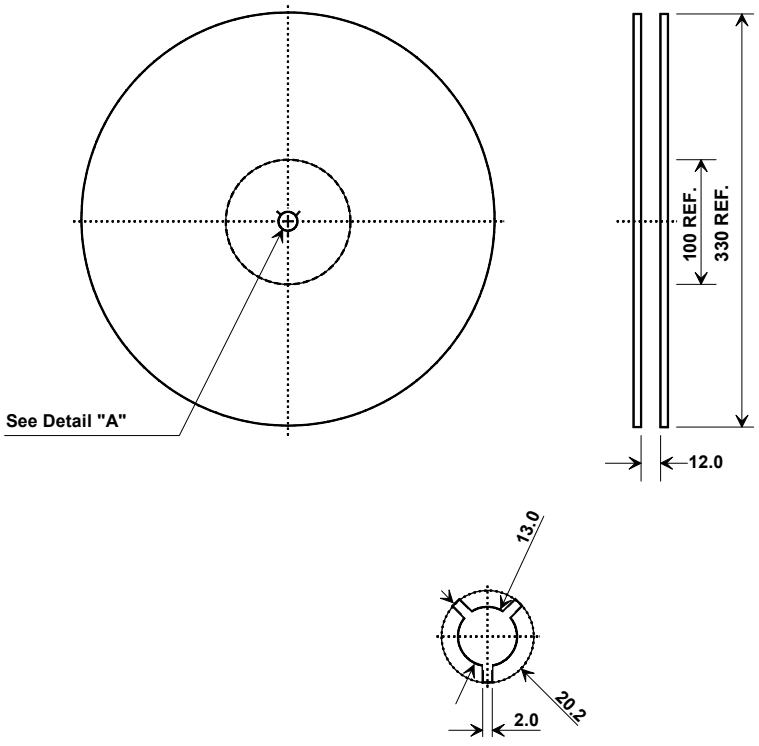


BOTTOM VIEW



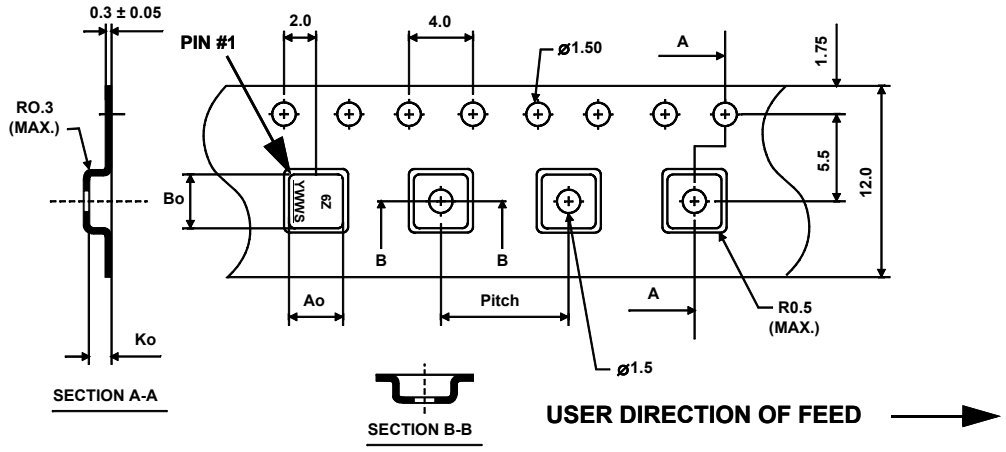


Tape and Reel Specifications



COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	3.35 mm
Bo	3.35 mm
Ko	1.40 mm
Pitch	8.0 mm
W	12.0 mm



List of Revisions		
SF2393E Rev A	08-06-15	Specification Operating Temperature range: -40 to +85°C
SF2393E Rev B	04-26-17	Specification Operating Temperature range: -40 to +105°C