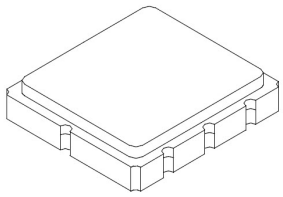
AEC-Q200

RoHS Compliance
This component is compliant with RoHS directive.
This component was always RoHS compliant from the first date of manufacture.

SF2248D

314.45 MHz SAW Filter



SM3838-8

- ***Low-loss RF Filter for 315 MHz Applications***
- ***No Matching Required for Operation in 50 Ω Environment***

Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	10	dBm
DC Voltage on any Non-ground Terminal	3	V
Operating Temperature Range	-40 to +125	°C
Storage Temperature Range - SAW	-40 to +125	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Profile, 5 Cycles/10 seconds Maximum	265	°C

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_C			314.45		MHz
3 dB Bandwidth			1.2	5.7		MHz
Insertion Loss, 313.85 to 315.05 MHz	IL_{MAX}			1.7	2.50	dB
Amplitude Ripple, 313.85 to 315.05 MHz				0.4	1.2	dB_{P-P}
VSWR				1.4:1	1.6:1	
Attenuation Referenced to IL_{MAX}:						dB
270.0 to 293.9 MHz			49	58		
293.9 to 304.6 MHz			37	47		
335.4 to 340.0 MHz			24	34		
340.0 to 500.0 MHz			36	45		
500.0 to 885.0 MHz			50	60		
885.0 to 1200.0 MHz			44	54		
1200.0 to 1578.0 MHz			36	46		
Source Impedance	Z_S			50		Ω
Load Impedance	Z_L			50		Ω

Case Style		SM3838-8 3.8 x 3.8 mm Nominal Footprint
Lid Symbolization, Y=year, WW=week, S=shift, Dot=pin 1 indicator		B59, YWWS
Standard Reel Quantity	Reel Size 7 Inch	500 Pieces/Reel
	Reel Size 13 Inch	3000 Pieces/Reel

Electrical Connections

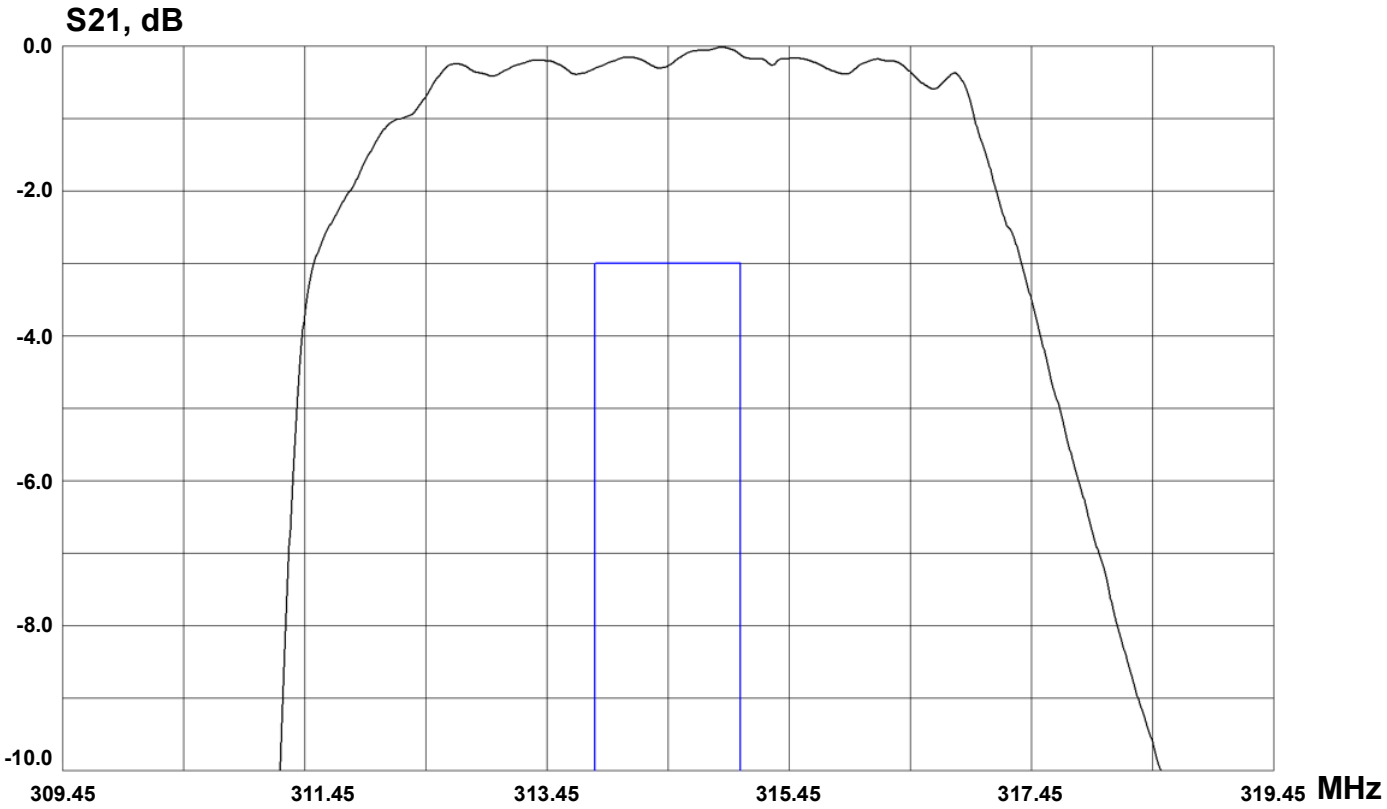
Connection	Terminals
Input	1
Output	5
Case Ground	All others

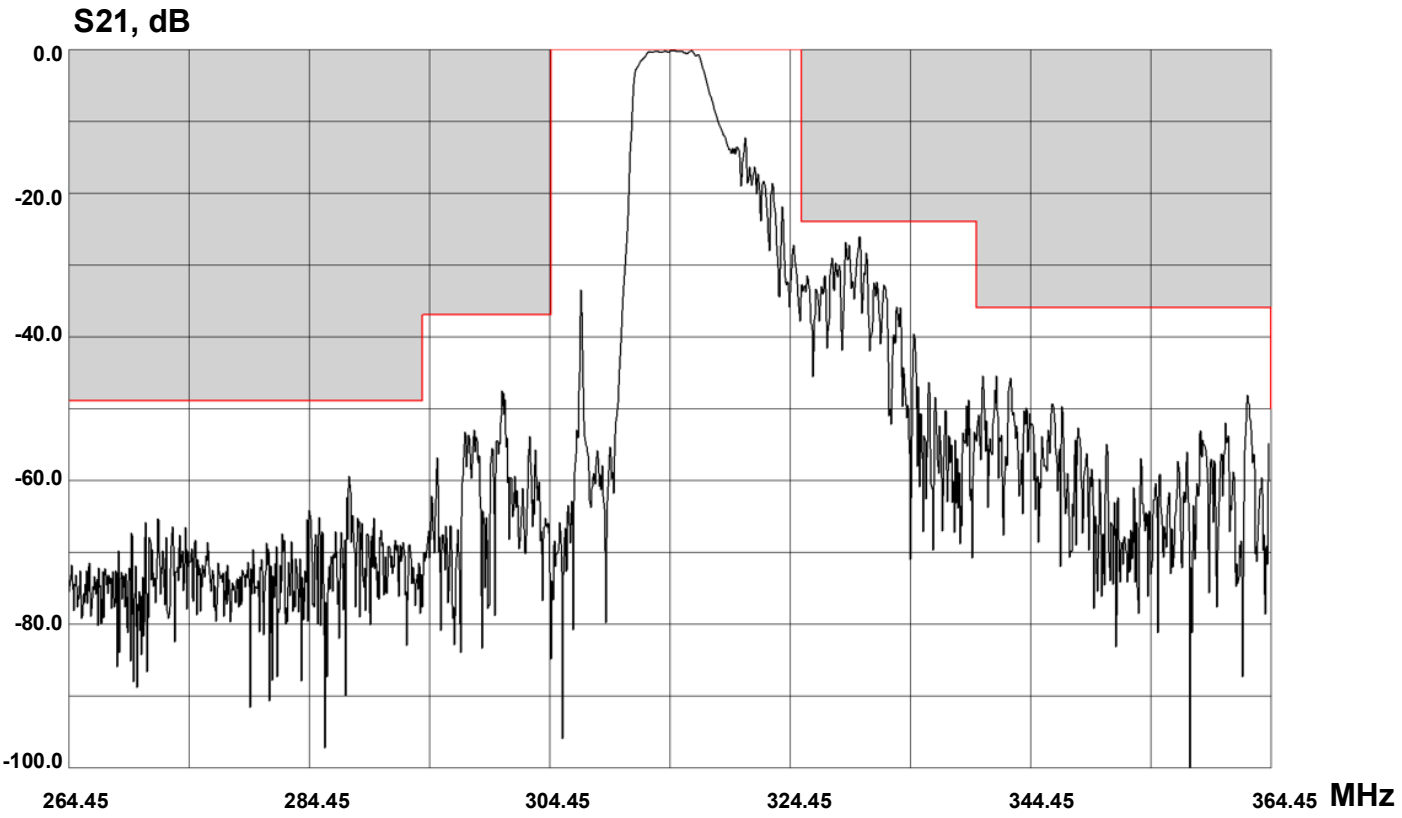
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

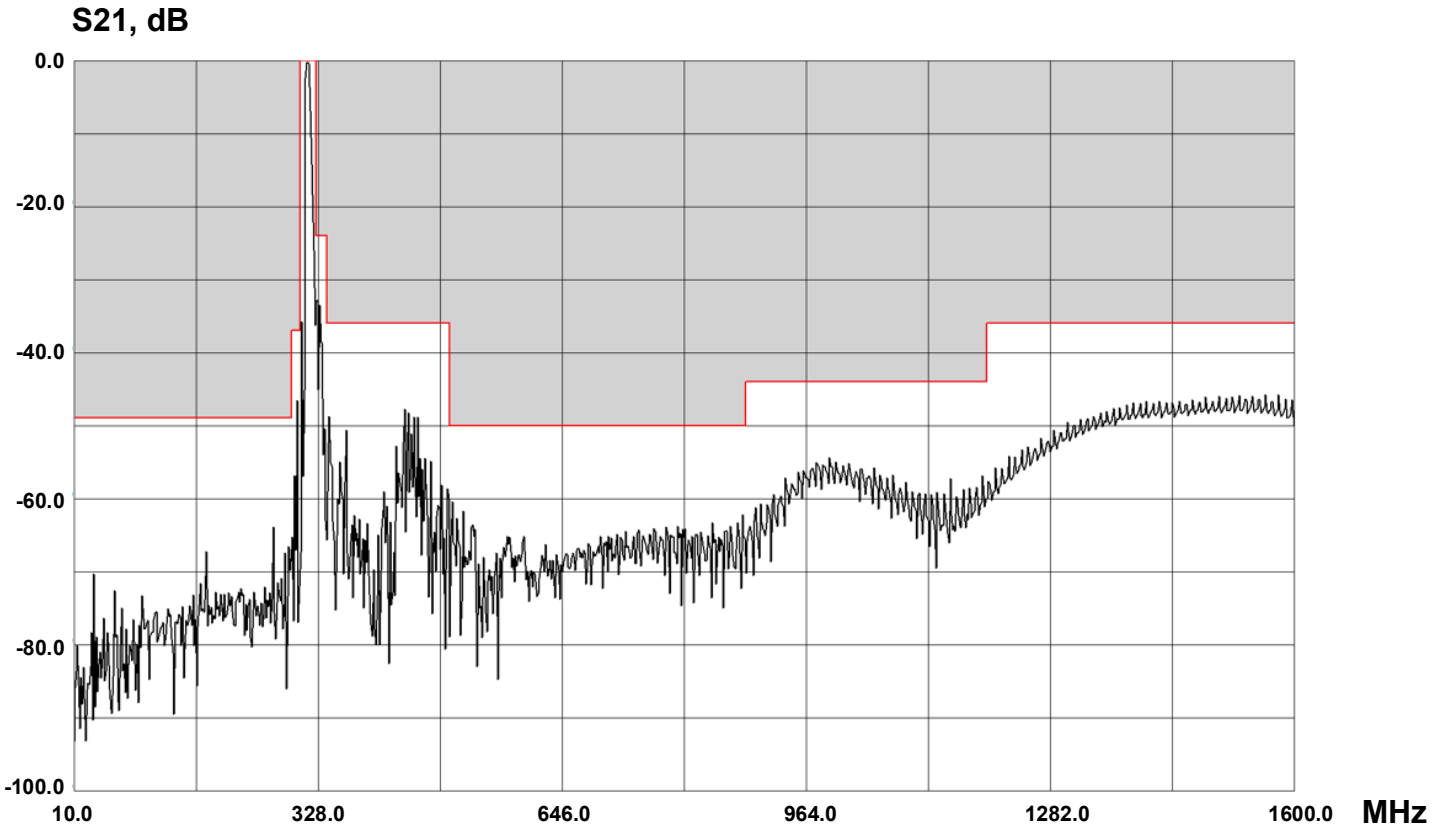
Notes:

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. 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.

Amplitude Response Plots

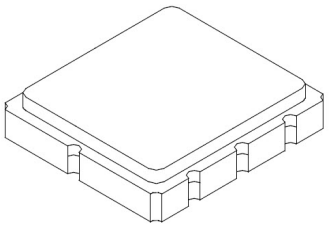


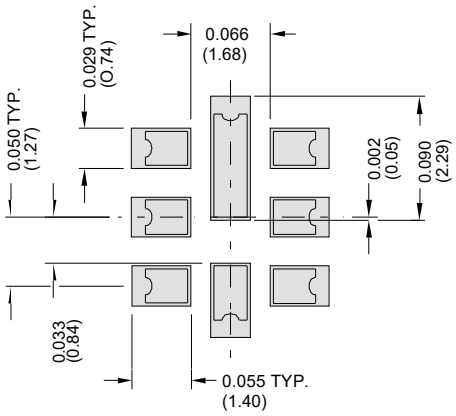




SM3838-8 Case

8-Terminal Ceramic Surface-Mount Case
3.8 X 3.8 mm Nominal Footprint





PCB Footprint Top View

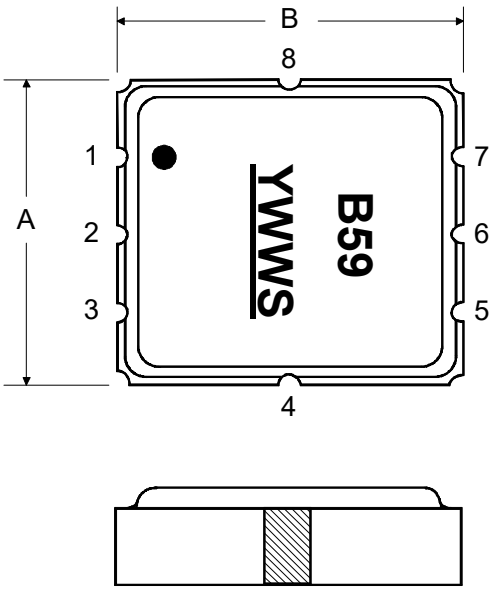
Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.60	3.80	4.00	0.140	0.150	0.160
B	3.60	3.80	4.00	0.140	0.15	0.160
C	1.00	1.20	1.40	0.040	0.05	0.055
D	0.95	1.10	1.25	0.033	0.043	0.050
E	0.90	1.0	1.10	0.035	0.040	0.043
F	0.50	0.60	0.70	0.020	0.024	0.028
G	2.39	2.54	2.69	0.090	0.100	0.110
H	1.40	1.75	2.05	0.055	0.069	0.080

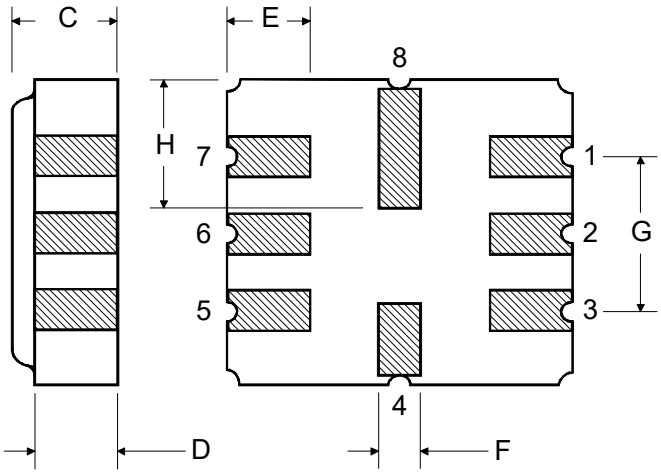
Case Material

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	

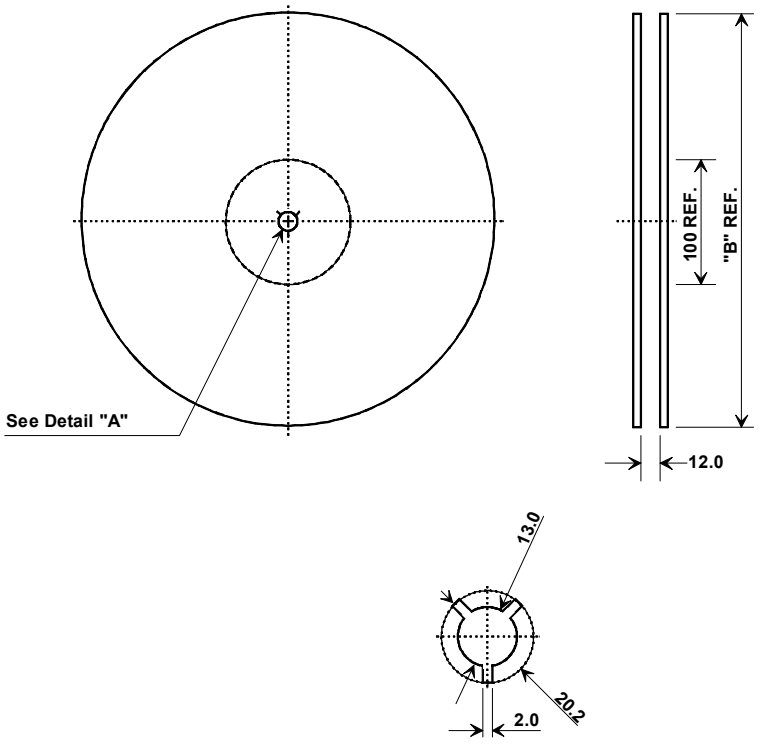
Top View



Bottom View



Tape and Reel Specifications



"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000

COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	4.25 mm
Bo	4.25 mm
Ko	1.3 mm
Pitch	8.0 mm
W	12.0 mm