

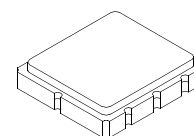
Preliminary



SF2025D

259.861 MHz SAW Filter

- **Designed for SDARS Receiver IF Application**
- **Low Insertion Loss**
- **3.8 X 3.8 mm Surface-Mount Case**
- **Differential Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**



SM3838-8

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Max. DC voltage between any 2 terminals	30	VDC
Storage Temperature Range	-40 to +105	°C
Suitable for lead-free soldering - Max Soldering Temperature	260°C for 30 s	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	f_c			259.861		MHz
Passband	IL	1		16	18	dB
			Minimum Insertion Loss			
				13.6		MHz
	$BW_{1.5}$			14.3		MHz
	BW_3			0.5	1	dB
1.5 dB Passband				0.5	1.5	dB _{P-P}
3 dB Passband				0.5	1	dB _{P-P}
Amplitude Ripple from $f_c-6.354$ MHz to $f_c-4.2885$ MHz (-20 to 85°C)				0.5	1	dB _{P-P}
Amplitude Ripple from $f_c-6.354$ MHz to $f_c-4.2885$ MHz (-40 to -20°C)				0.5	1	dB _{P-P}
Amplitude Ripple from $f_c-4.4965$ MHz to $f_c-2.431$ MHz				0.5	1	dB _{P-P}
Amplitude Ripple from $f_c-2.639$ MHz to $f_c+0.079$ MHz				0.5	1	dB _{P-P}
Amplitude Ripple from $f_c-0.079$ MHz to $f_c+2.639$ MHz				0.5	1	dB _{P-P}
Amplitude Ripple from $f_c+2.431$ MHz to $f_c+4.4965$ MHz				0.5	1	dB _{P-P}
Amplitude Ripple from $f_c+4.2885$ MHz to $f_c+6.354$ MHz (-40 to 60°C)				0.5	1	dB _{P-P}
Amplitude Ripple from $f_c+4.2885$ MHz to $f_c+6.354$ MHz (60 to 85°C)				0.5	1.15	dB _{P-P}
Group Delay Variation over $f_c-6.354$ MHz to $f_c-2.431$ MHz and from $f_c+2.431$ MHz to $f_c+6.354$ MHz	GDV1			90	120	ns _{P-P}
Group Delay Variation over $f_c \pm 2.639$ MHz	GDV2			60	120	ns _{P-P}
Rejection		1, 2, 3	f_c-28 to f_c-12 MHz and f_c+12 to f_c+33 MHz	36	43	dB
			f_c-12 to $f_c-10.5$ MHz	30	40	dB
			f_c+9 to f_c+12 MHz	26	36	dB
Operating Temperature Range	T_A	1	-40		+85	°C
Frequency Temperature Coefficient				-18		ppm/°C
Differential Input and Output Impedance			L & C Match to 150 ohms			
Case Style			SM3838-8 3.8 x 3.8 mm Nominal Footprint			
Lid Symbolization (YY=year, WW=week, S=shift)		7	634 YYWW			

Notes:

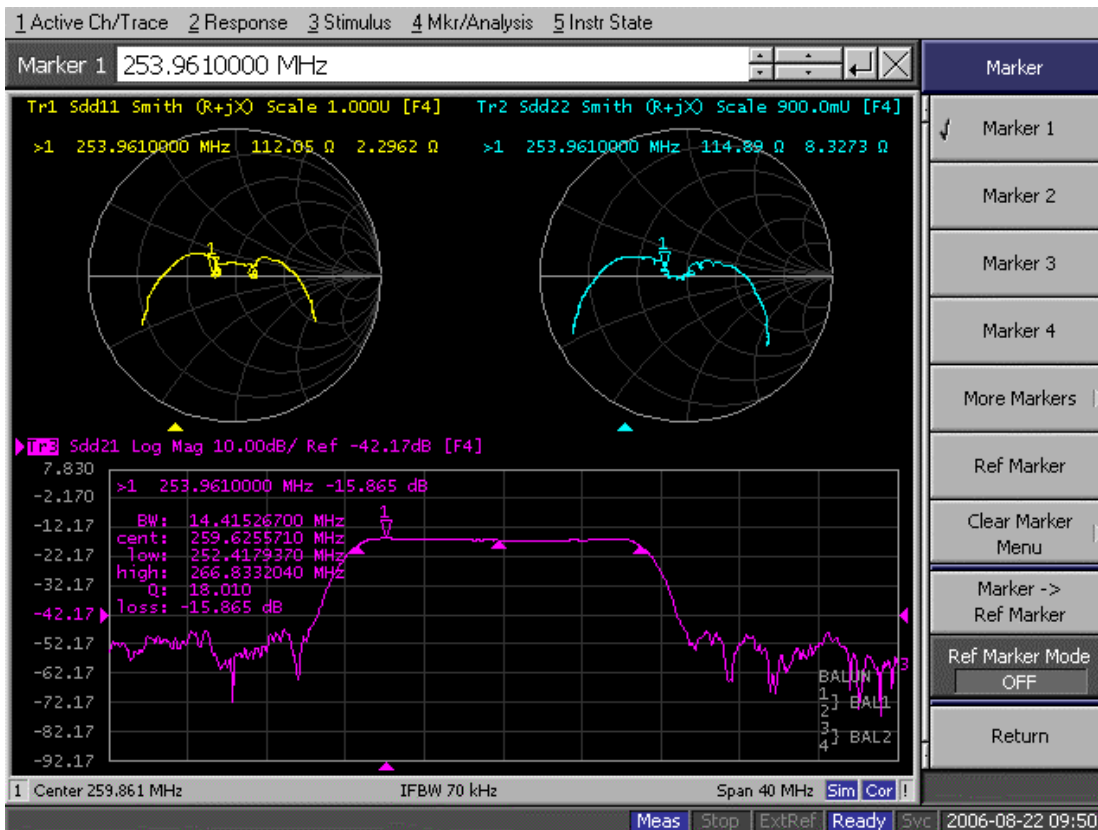
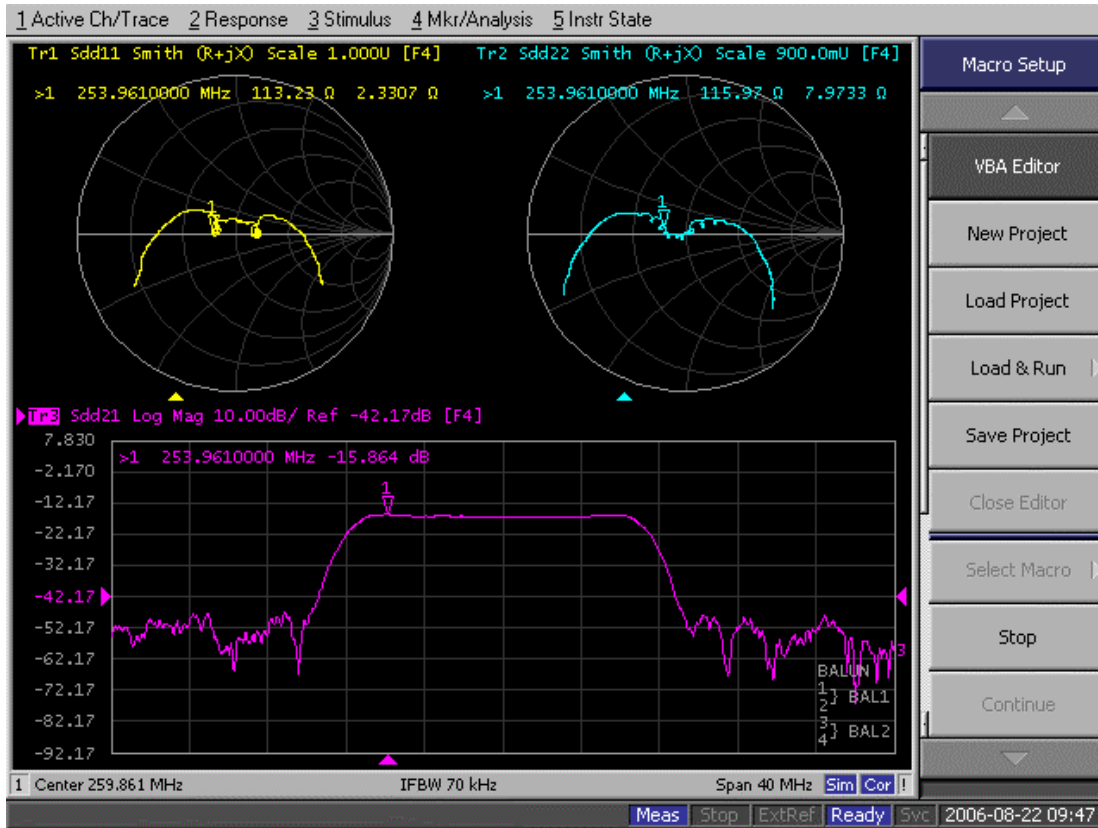
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, 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. Tape and Reel Standard Per ANSI / EIA 481.
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.
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Electrostatic Sensitive Device. Observe precautions for handling.



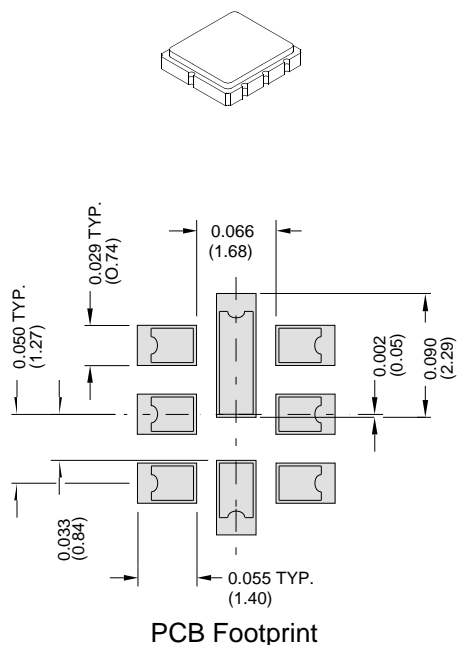


400-1724-001	PCB, 4 PORT, 3X3MM	PCB
SF2025D	FILTER, 259.861 MHZ	FILTER
501-0857-056	CAP, 5.6 PF, 0402CS	C1,C2
501-0857-050	CAP, 5.0 PF, 0402CS	C3,C4
501-0857-010	CAP, 1.0 PF, 0402CS	C5
500-1282-390	IND, 39 NH, 0402CS	L1 COILCRAFT
500-1282-510	IND, 51 NH, 0402CS	L2 COILCRAFT



SM3838-8 Case

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



Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.6	3.8	4.0	0.142	0.150	0.157
B	3.6	3.8	4.0	0.142	0.150	0.157
C	0.95	1.10	1.25	0.037	0.043	0.049
D	0.60	0.85	1.00	0.023	0.033	0.039
E	0.90	1.00	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	1.35	1.5	1.65	0.053	0.059	0.065

Electrical Connections		
	Connection	Terminals
Port 1	Differential Input	1, 2
Port 2	Differential Output	5, 6
	Ground	All Others
Single Ended Operation		Return is Ground
Differential Operation		Return is Hot
Dot Indicates Pin 1		

Materials	
Solder Pad Termination	Au plating 30 - 60 ulnches (76.2-152 uM) over 80-200 ulnches (203-508 uM) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 ulnches Thick
Body	Al ₂ O ₃ Ceramic
Pb Free	

TOP VIEW

BOTTOM VIEW

