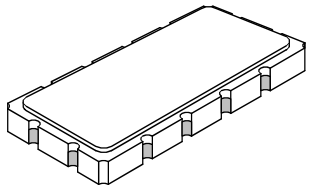
Discontinued

RFM products are now Murata products.

SF2045A

140 MHz SAW Filter

- ***Designed for IF Applications***
- ***Excellent Size-to-Performance Ratio***
- ***Hermetic 13.3 x 6.5 mm Surface-mount Case***
- ***Complies with Directive 2002/95/EC (RoHS)***



SM13365-12

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 +85	°C
Suitable for lead-free soldering - Max. Soldering Profile	260°C for 30 s	

Electrical Characteristics

Characteristic		Sym	Notes	Min	Typ	Max	Units
Center Frequency (3dB points) at 25°C		f_C	1	139.60	140.000	140.40	MHz
Passband	Insertion Loss at fc	IL			7.7	11	dB
	1 db Passband	BW_1	1, 2	8	9.8		MHz
	3 db Passband	BW_3		10	10.8		
	Amplitude Ripple over 1 dB BW				0.4	0.8	dB_{P-P}
	Phase Linearity over 1 dB BW				2.7	8	$^{\circ}_{P-P}$
	Group Delay Variation over 1 dB BW	GDV			50	100	ns_{P-P}
	Absolute Group Delay				1.057		µsec
Rejection	35 dB BW		1, 2, 3		13.9	15	MHz
	10 - 120 MHz			40	52		dB
	120 - 130 MHz			40	47		
	150 - 1000 MHz			40	45		
Operating Temperature Range		T_A	1	-40	25	85	°C
Frequency Temperature Coefficient		FTC			-94		ppm/°C

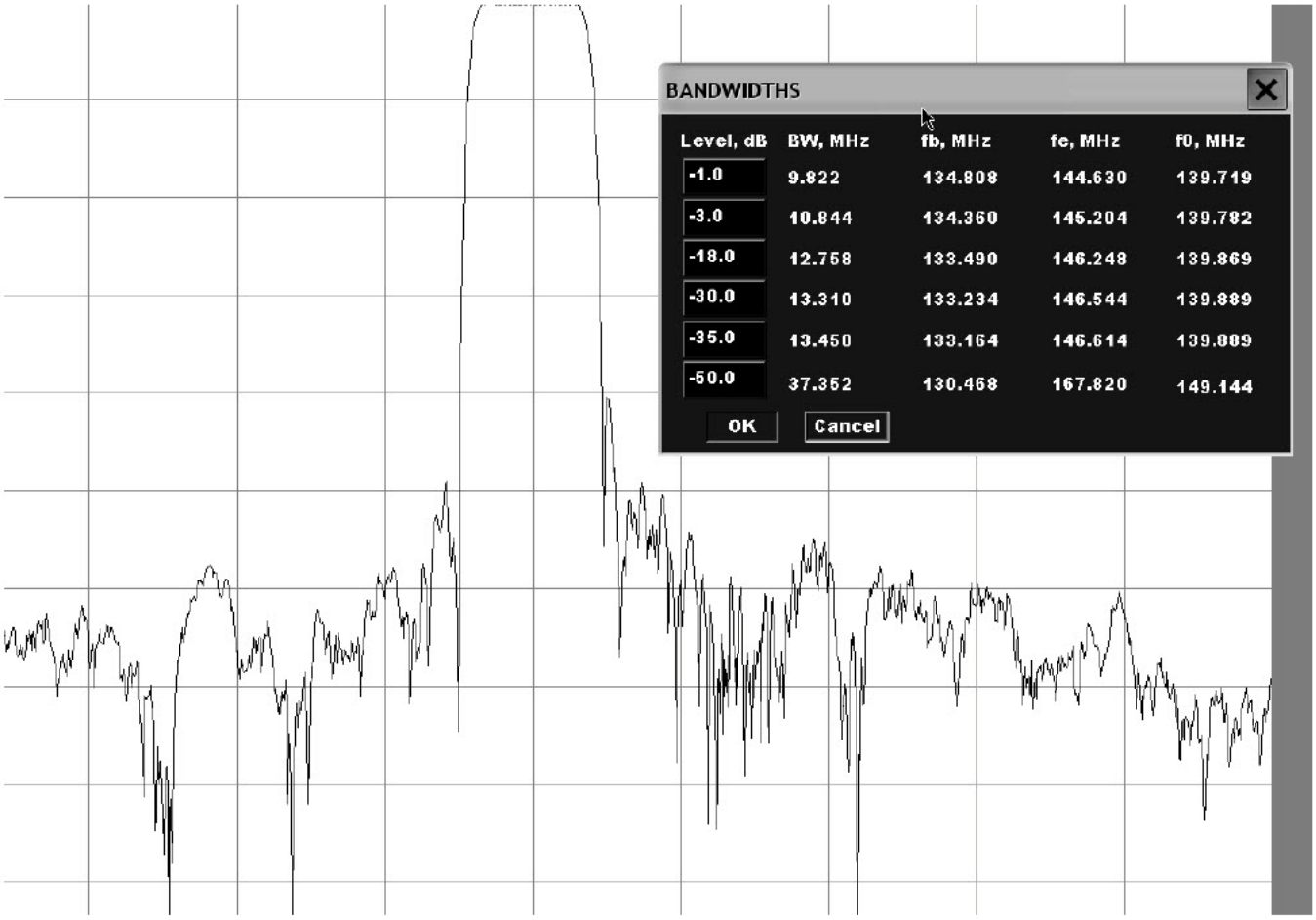
Impedance Matching to 50Ω Unbalanced	External L-C
Case Style	SM13365-12 13.3 x 6.5 mm Nominal Footprint
Lid Symbolization (YY = year, WW = week)	RFM SF2045A YYWW

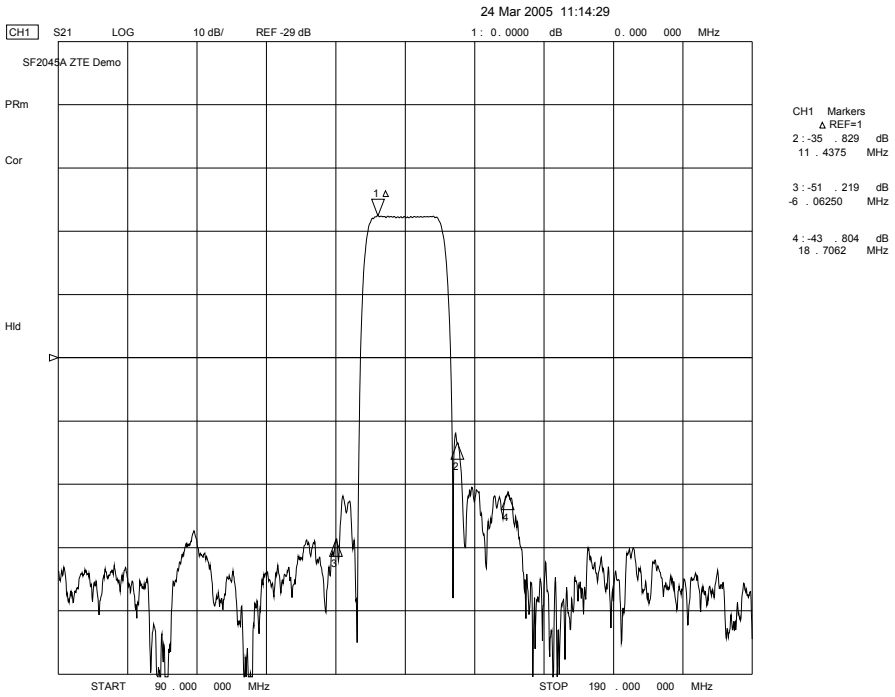
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

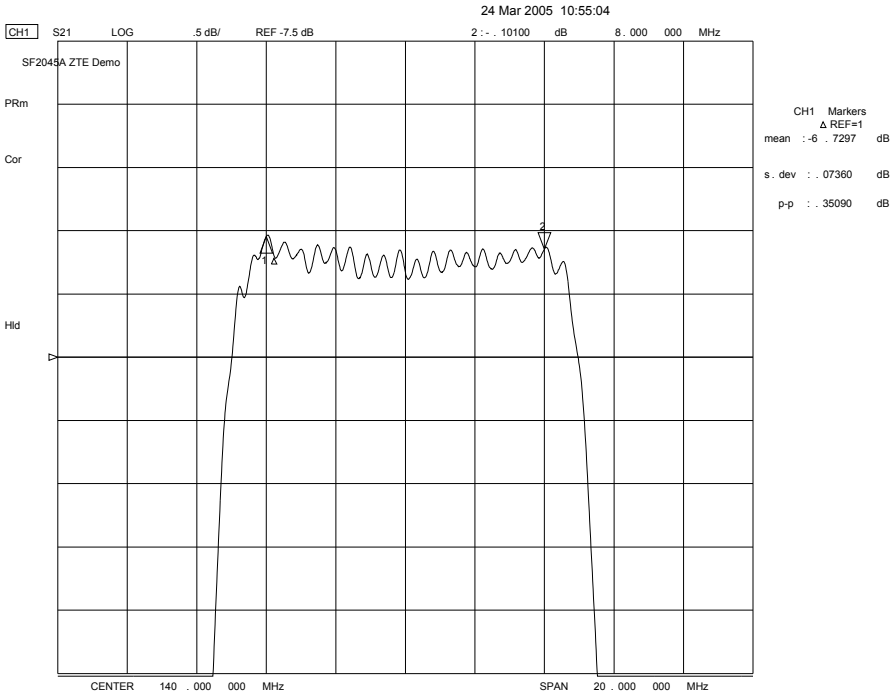
NOTES:

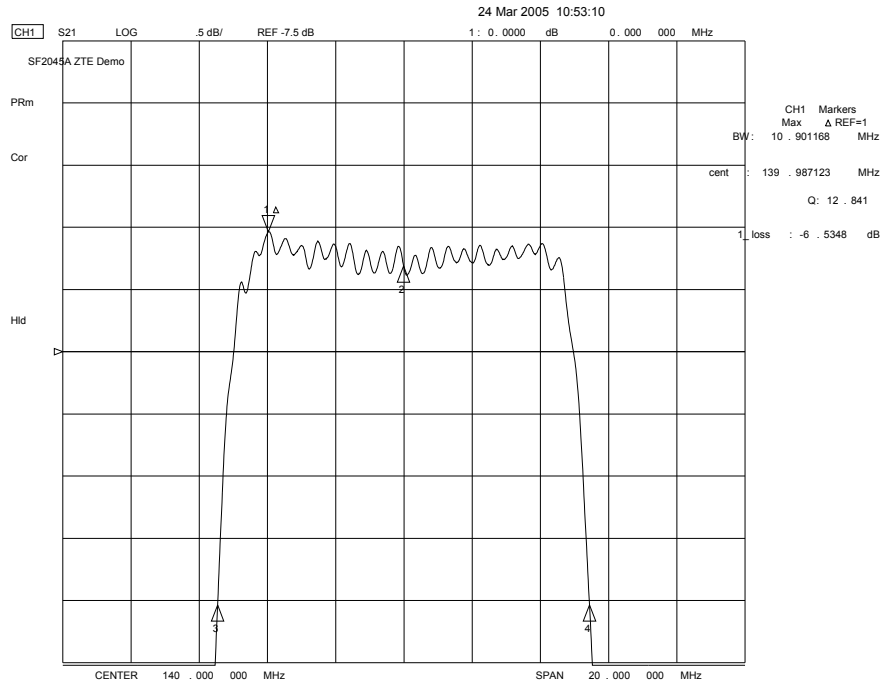
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. The design, manufacturing process, and specifications of this filter are subject to change.
3. 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.
4. US and international patents may apply.

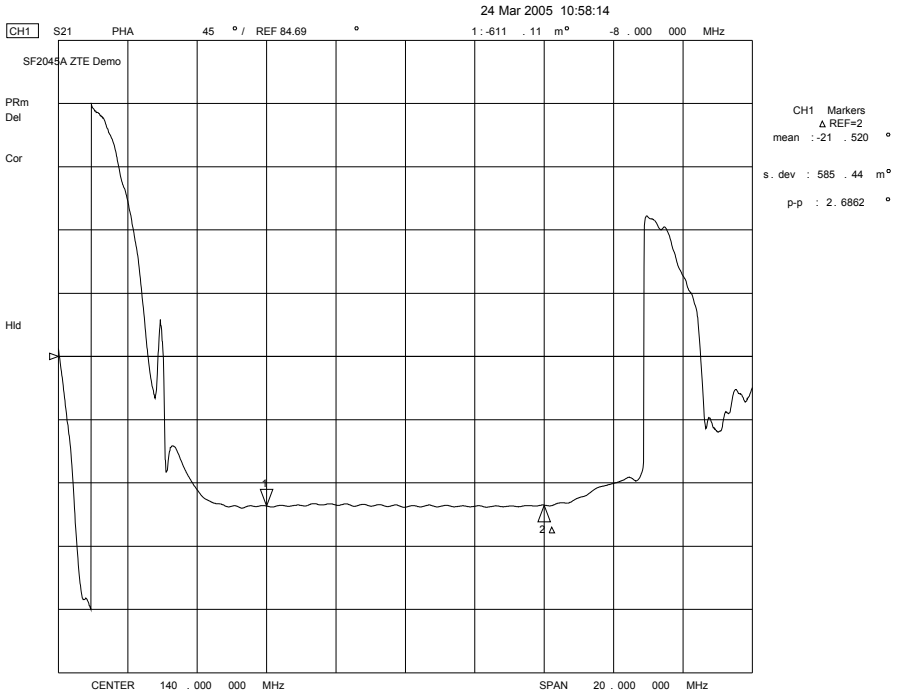
Filter Response Plots

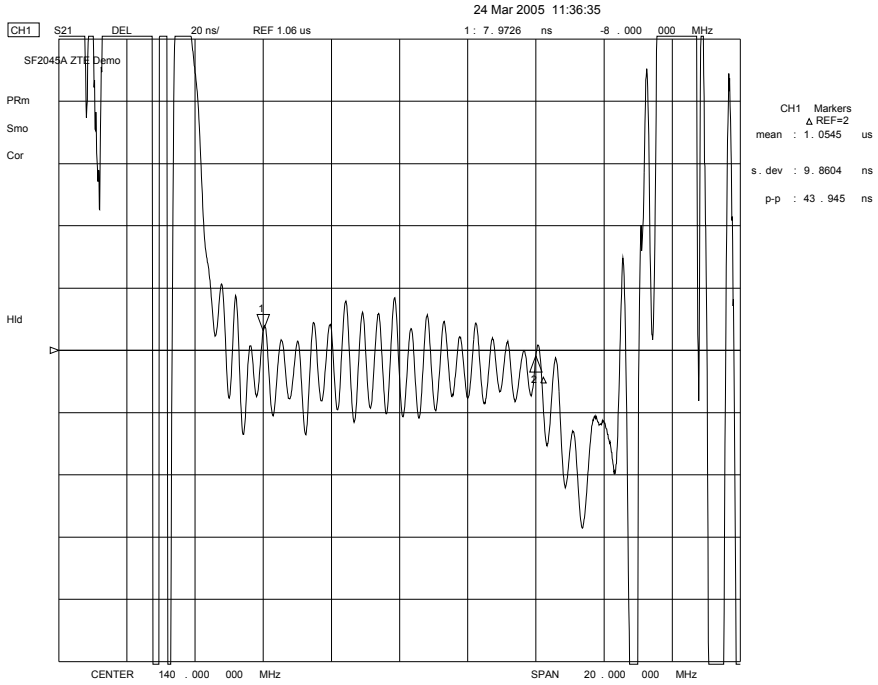


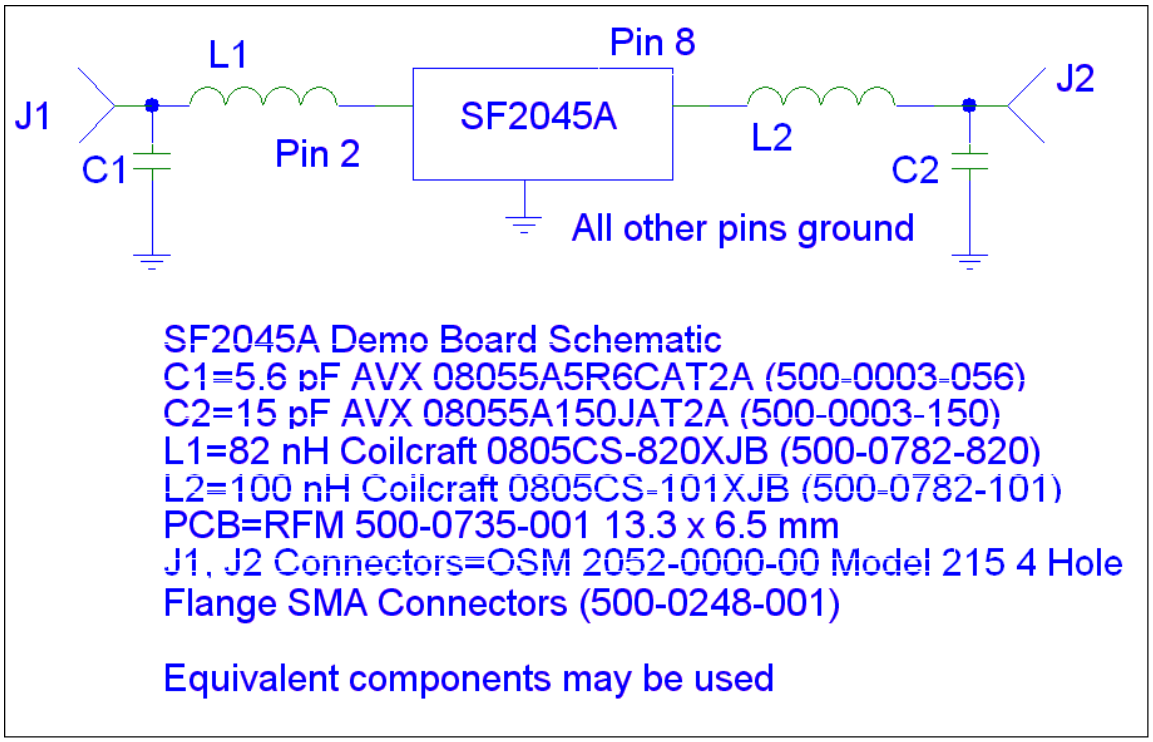












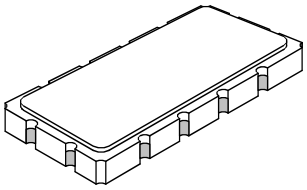
SF2045A Demo Board Schematic
C1=5.6 pF AVX 08055A5R6CAT2A (500-0003-056)
C2=15 pF AVX 08055A150JAT2A (500-0003-150)
L1=82 nH Coilcraft 0805CS-820XJB (500-0782-820)
L2=100 nH Coilcraft 0805CS-101XJB (500-0782-101)
PCB=RFM 500-0735-001 13.3 x 6.5 mm
J1, J2 Connectors=OSM 2052-0000-00 Model 215 4 Hole Flange SMA Connectors (500-0248-001)

Equivalent components may be used

SM13365-12 Case

12-Terminal Ceramic Surface-mount Case

13.3 x 6.5 mm Nominal Footprint



Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	13.08	13.31	13.60	0.515	0.524	0.535
B	6.27	6.50	6.80	0.247	0.256	0.268
C		1.91	2.00		0.075	0.079
D		1.50			0.059	
E		0.79			0.031	
H		1.0			0.039	
P		2.54			0.100	

Electrical Connections		
Connection		Terminals
Port 1	Input	2
	Ground	3
Port 2	Output	8
	Ground	9
	Ground	All others
See Note 3 on Data Sheet		

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