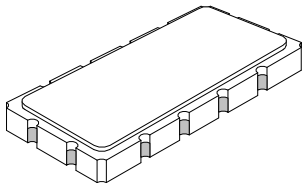
SF1087A

208 MHz SAW Filter

- ***Designed for GSM BTS Transmitter IF Applications***
- ***Low Insertion Loss***
- ***Excellent Size-to-Performance Ratio***
- ***Hermetic 13.3 x 6.5 mm Surface-Mount Case***
- ***Unbalanced Input and Output***
- ***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
Nominal Center Frequency		f_C	1		208.000		MHz
Passband	Insertion Loss at fc	IL			5	7.0	dB
	1 dB Passband	BW_1	1, 2	±150	±260		kHz
	Amplitude Ripple over fc±150 kHz					1.25	dB_{P-P}
	Group Delay Variation over fc ±150 kHz	GDV			<100	150	ns_{P-P}
	Absolute Group Delay	GD		0.7	1.0	1.7	µs
Rejection	fc-0.6 to fc-0.4 and fc+0.4 to fc+0.6 MHz		1, 2, 3	2			dB
	fc-1.2 to fc-0.6 and fc+0.6 to fc+1.2 MHz			8			
	fc-1.8 to fc-1.2 and fc+1.2 to fc+1.8 MHz			20	22		
	fc-3.4 to fc-1.8 and fc+1.8 to fc+3.4 MHz			25	36		
	fc-9.5 to fc-3.4 and fc+3.4 to fc+9.5 MHz			30	47		
	fc-13 to fc-9.5 and fc+9.5 to fc+13 MHz			43	64		
	DC to fc-13 and fc+13 to 450 MHz			55	65		
	Except Spurious Rejection near 1.6, 1.8, and 2.0 x fc			50			
Operating Temperature Range		T_A	1	-10		+85	°C

Impedance Matching to 50 Ω unbalanced	External L-C
Case Style	SM13365-12 13.3 x 6.5 mm Nominal Footprint
Lid Symbolization (YY = year, WW = week)	RFM SF1087A 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 W 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. Electrostatic Sensitive Device. Observe precautions for handling.

Electrical Connections

Connection	Terminals
Port 1 Hot	2
Port 1 Gnd Return	3
Port 2 Hot	8
Port 2 Gnd Return	9
Case Ground	All others

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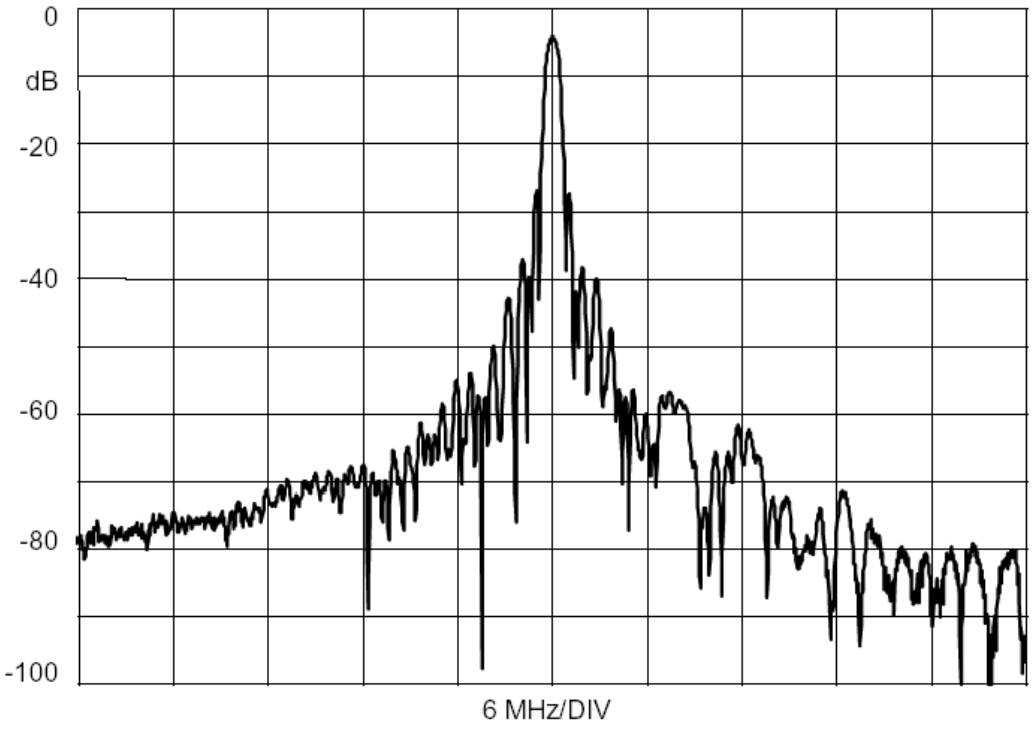
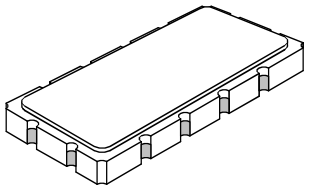
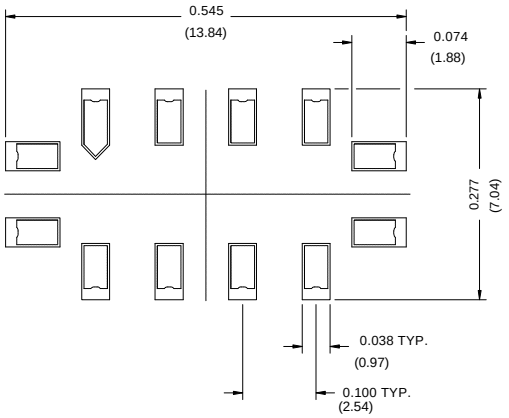


SM13365-12 Case

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 or Return	2
	Return or Input	3
Port 2	Output or Return	8
	Return or Output	9
	Ground	All others
Single Ended Operation		**Return is ground**
Differential Operation		**Return is hot**

Materials	
Solder Pad Termination	Au plating 30 - 60 µinches (76.2-152 µm) over 80-200 µinches (203-508 µm) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 µinches Thick
Body	Al_2O_3 Ceramic
Pb Free