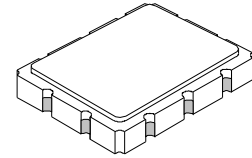



# BP1045A 622.08 MHz SAW Filter



- Designed for SONET and SDH Clock Recovery
- Low Insertion Loss
- 9.1 x 7.1 mm Surface-Mount Case
- 50 W Input and Output



 See Associated Plots

Characteristic	Sym	Min	Typ	Max	Units	Notes	
Center Frequency	Nominal	622.080			MHz	1	
	Center Frequency Limits	621.93		622.23			
Passband	Insertion Loss at $f_c$ Amplitude Variation	IL	13.0	15.5	17.5	dB	1, 2
					1.0		1, 2, 5
	Loaded Q	$Q_{3dB}$	700	800	900	—	1, 2, 4
	3 dB Bandwidth	$BW_3$		780		kHz	1, 2
	Transmission Phase Slope over 3 dB Bandwidth			-0.33		° / kHz	1, 2, 6
Rejection	Phase Deviation from Linear over 3 dB Bandwidth			10	°	1, 2, 7	
		First Sidelobes (at approx. $f_c \pm 1.6$ MHz)	25	30		dB	1, 2, 3
Ultimate (DC to 800 MHz, excluding main & first sidelobes)		28	40				
Operating Temperature Range	$T_A$	-40		+85	°C	1	
Impedance Matching	None to 50 $\Omega$ Source and Load						
Case Style	SM9171-10 9.1 x 7.1 mm Nominal Footprint						
Lid Symbolization (YY = year, WW = week)	RFM BP1045A YYWW						

## 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
Max Soldering Profile	265°C for 10 s	

## Electrical Connections

Connection	Terminals
Port 1 Hot	10
Port 1 Gnd Return	1
Port 2 Hot	5
Port 2 Gnd Return	6
Case Ground	All Others

### Notes:

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board and measured with 50  $\Omega$  network analyzer. Center frequency is defined as:  $(f_{3dB\ HIGH} - f_{3dB\ LOW}) / 2$ .
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. Spurious responses may exceed ultimate rejection specification at  $f_c \times 1.6$  and above.
4. Quality factor, Q, is defined as:  $Q_{3dB} = f_c / (f_{3dB\ HIGH} - f_{3dB\ LOW})$ .
5. Amplitude variation is defined as the difference between the insertion loss at the baud frequency and filter's minimum insertion loss.
6. Transmission phase slope is measured in the frequency domain and is calculated using a linear least-squares fit or straight-line method over the 3 dB bandwidth.
7. Phase deviation from linear is specified over the 3 dB bandwidth. It is defined as the maximum residual deviation of the transmission phase from linear least-square fit over the 3 dB bandwidth.
8. The design, manufacturing process, and specifications of this filter are subject to change.
9. Either Port 1 or Port 2 may be used for either input or output in the design.
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12. Electrostatic Sensitive Device. Observe precautions for handling.

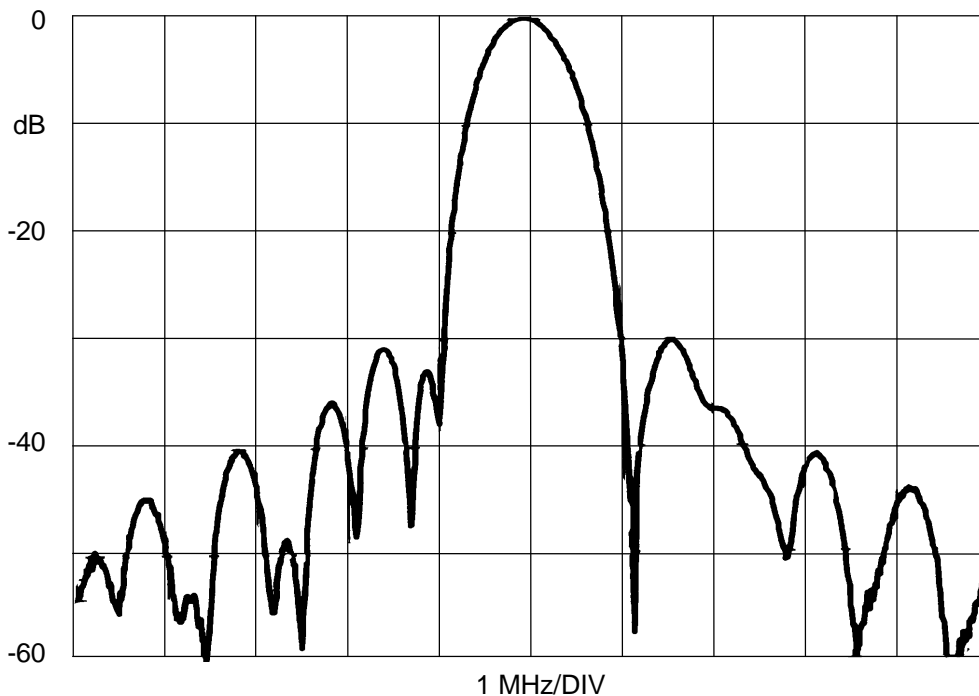


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**European Sales Office**

# BP1045A 622.08 MHz SAW Filter



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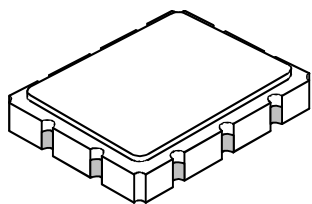
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## 10-Terminal Ceramic Surface-Mount Case 9.1 x 7.1 mm Nominal Footprint

### Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	8.86	9.09	9.40	0.349	0.358	0.370
B	6.88	7.11	7.40	0.271	0.280	0.291
C		1.91	2.00		0.075	0.079
D		0.99			0.039	
E		0.79			0.031	
H		1.0			0.039	
P		2.54			0.100	



### Electrical Connections

Connection		Terminals
Port 1	Input or Return	6
	Return or Input	5
Port 2	Output or Return	1
	Return or Output	10
Ground		All others
<b>Single Ended Operation</b>		<b>Return is ground</b>
<b>Differential Operation</b>		<b>Return is hot</b>

