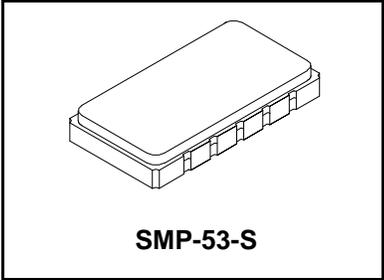




**SF2027B**

**199.0 MHz  
SAW Filter**



- **GSM BTS Receiver IF Applications**
- **Small Size**
- **Hermetic 13.3 X 6.5 mm Surface Mount Case**

Input power Level short test	+18 dBm
standard operation, max	+10 dBm
Max DC Voltage between any 2 terminals	10V
Input: possible for balanced and unbalanced operation (TBD)	
Output: Balanced	
External matching to 50 or 200 ohms	

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Frequency	$f_N$	1		199.0		MHz
Insertion Loss (including matching to 200 ohms)	IL			< 7.0		dB
Group Delay Ripple, peak - peak (198.9 .. 199.1 MHz)				< 700		ns
Amplitude Ripple, peak - peak (198.9 .. 199.1 MHz)				< 1.0		dB
Relative attenuation $f_n - 100$ kHz .. $f_n + 100$ kHz (passband)				< 0.7		
$f_n - 300$ kHz, $f_n + 300$ kHz				> 10		dB
$f_n - 500$ kHz, $f_n + 500$ kHz				> 27		dB
$f_n - 600$ kHz, $f_n + 600$ kHz				> 36		dB
< $f_n - 700$ kHz,> $f_n + 700$ kHz				> 45		dB

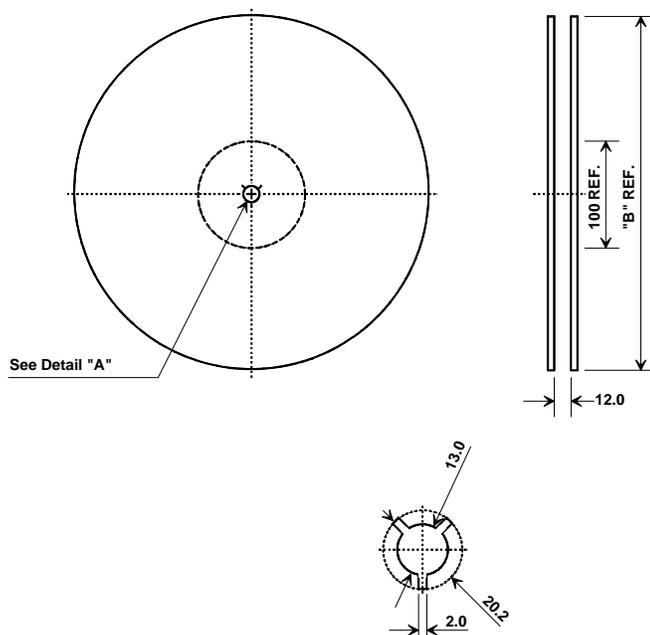
Case Style	SMP-53-S 13.3 X 6.5 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) See note 4	RFM SF2027B YWWS

**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  $\Omega$  and measured with 50  $\Omega$  network analyzer. A dB offset exists for RFM because of the loss introduced by using transformers on the Input and Output.
2. Rejection is measured as attenuation below the minimum IL point in the pass-band. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
3. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
4. The design, manufacturing process, and specifications of this filter are subject to change.
5. 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.
6. US and international patents may apply.
7. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.
8. ©Copyright 1999, RF Monolithics Inc.
9. Electrostatic Sensitive Device. Observe precautions for handling.

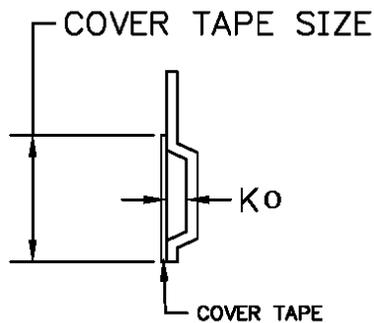


## Tape and Reel Specifications

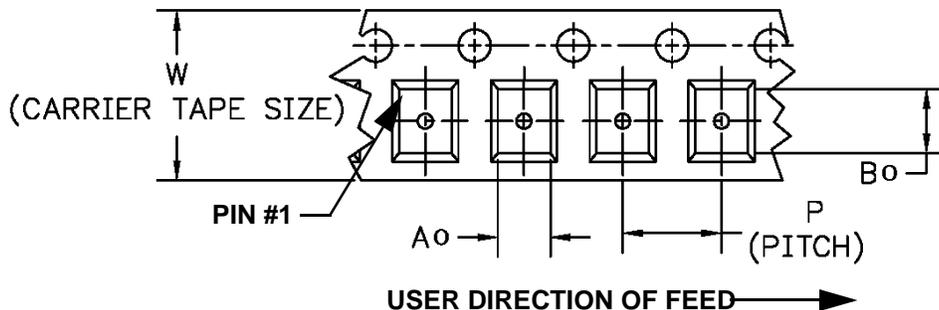


"B "		Quantity Per Reel
Nominal Size		
Inches	millimeters	
7	178	500
13	330	1000

### COMPONENT ORIENTATION and DIMENSIONS

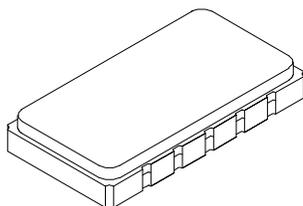


Carrier Tape Dimensions	
<b>Ao</b>	.274 ± .004 (7.0)
<b>Bo</b>	.542 ± .004 (13.76)
<b>Ko</b>	.088 ± .004 (2.2)
<b>P</b>	12mm
<b>W</b>	24mm
<b>Tape Length</b>	86M
<b>Pockets/M</b>	83/M



# SMP-53-S Case

## 10-Terminal Ceramic Surface-Mount Case 13.3 x 6.5 mm Nominal Footprint

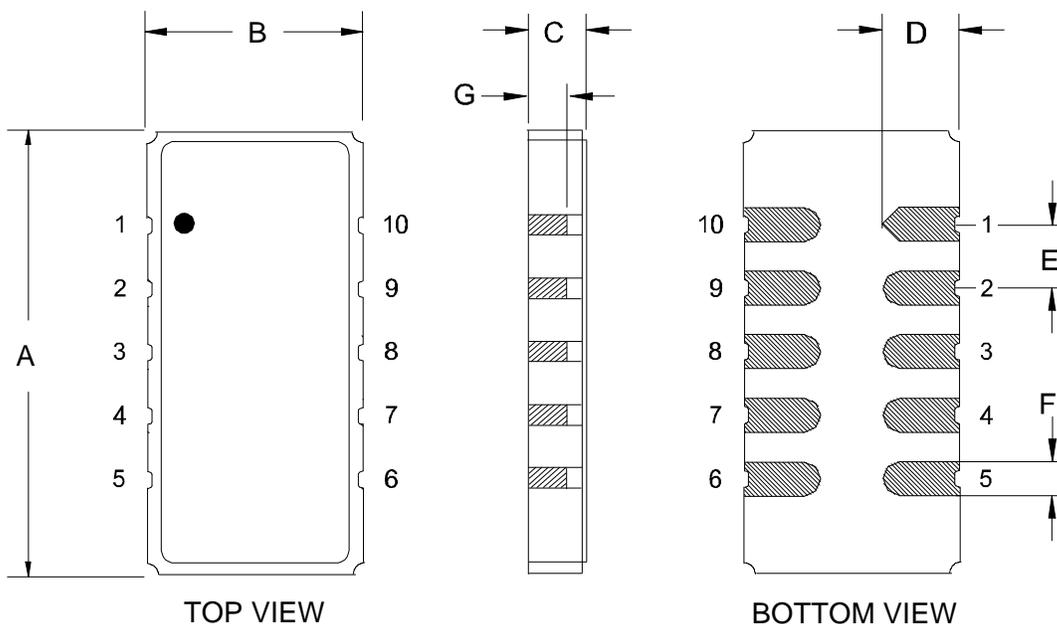


### Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A		13.3			.524	
B		6.5			.256	
C			2.00			.078
D		2.3			.091	
E		1.91			.075	
F		1.02			.040	
G		1.0			0.039	

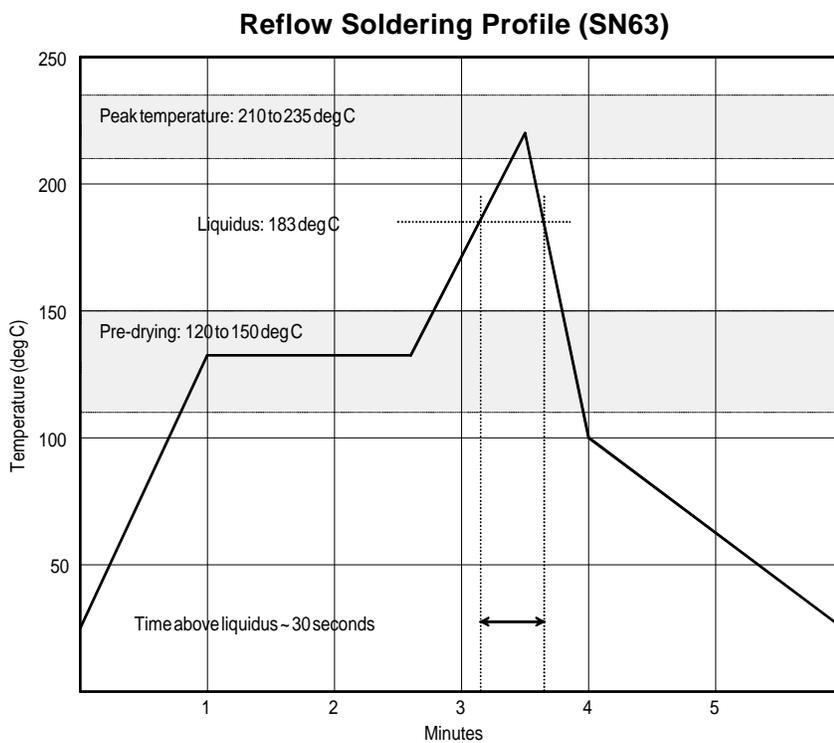
### Electrical Connections

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



## Solder Temperature Profile

Figure 1 shows the recommended temperature profile for reflow soldering SMP-03 and SMP53-S packages. The package consists of a ceramic base with a metal lid that is attached with high-temperature solder. The filter package is hermetically sealed and the solder seal must not be compromised with excessive heat in assembly. It is critical that the filter package is never heated above 250°C. It is recommended that the package be heated no higher than 240°C for no more than 10 seconds.



**Figure 1**