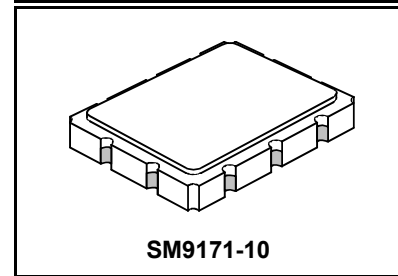


**SF1115A**

**199 MHz  
SAW Filter**



- *Designed for GSM BTS Receiver IF Applications*
- *Compatible with National Semiconductor Chip Set*
- *Very Flexible Impedance Matching*
- *Unbalanced or Balanced Input or Output*
- *9.1 x 7.1 mm Version of the SF1115A-1*
- *Complies with Directive 2002/95/EC (RoHS)*
- *Tape and Reel Standard per ANSI/EIA-481*
- *Moisture Sensitivity Level: 1*

**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	+15	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**

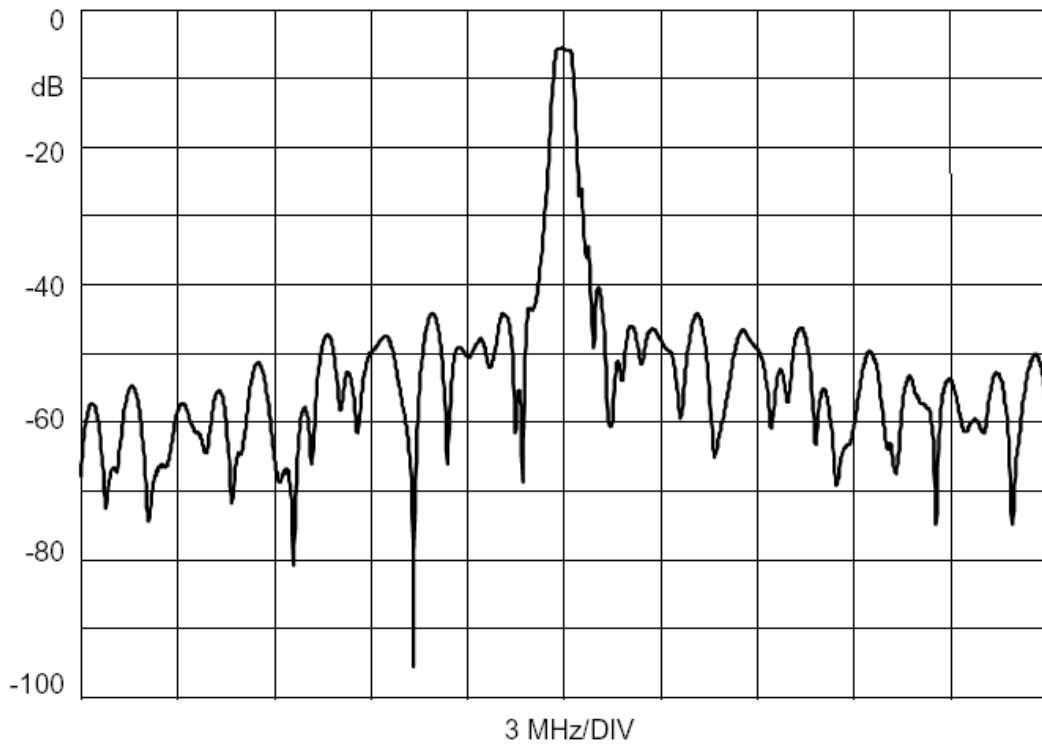
Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	$f_c$			199.000		MHz
Passband	Insertion Loss at $f_c$ 1 db Passband	IL			7.0	dB
		$BW_1$	$\pm 100$			kHz
	Amplitude Ripple over $f_c \pm 100$ kHz				0.5	dB <sub>P-P</sub>
	Group Delay Variation over $f_c \pm 100$ kHz	GDV			500	ns <sub>P-P</sub>
Rejection	Room Temperature $f_c + 800$ to $f_c + 400$ kHz Room Temperature $f_c - 800$ to $f_c - 400$ kHz $f_c - 800$ to $f_c - 600$ and $f_c + 600$ to $f_c + 800$ kHz $f_c - 30$ MHz to $f_c - 800$ kHz $f_c + 800$ kHz to $f_c + 17$ MHz $f_c - 80$ MHz to $f_c - 30$ MHz $f_c + 17$ MHz to $f_c + 80$ MHz		10			dB
			10			
			20			
			30			
			30			
			35			
			35			
Operating Temperature Range	$T_A$		-35		+85	°C
Frequency Temperature Coefficient	FTC			0.032		ppm/°C <sup>2</sup>

Impedance Matching to 50Ω Unbalanced	External L-C
Impedance Matching to 200Ω Balanced	External L-C
Impedance Matching to 50Ω Input / 400Ω Output	External L-C
Case Style	SM9171-10 9.1 x 7.1 mm Nominal Footprint
Lid Symbolization (YY = year, WW = week, S= shift, ## = Sequence Code)	RFM, SF1115A, YYWWS##

 **CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

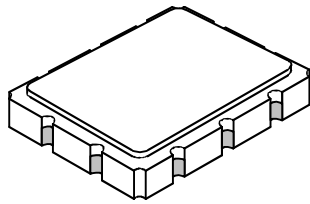
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.



# SM9171-10 Case

## 10-Terminal Ceramic Surface-Mount Case

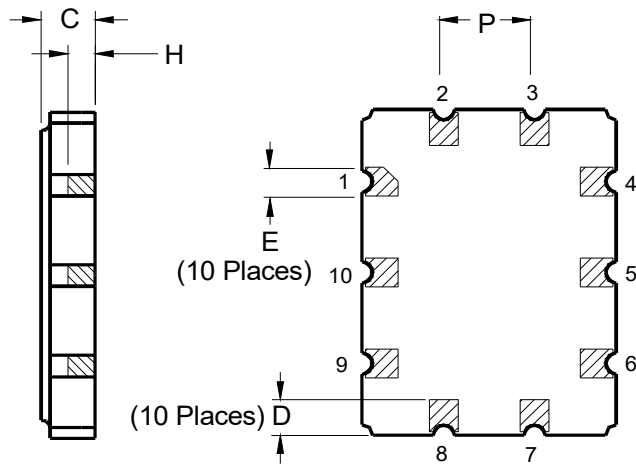
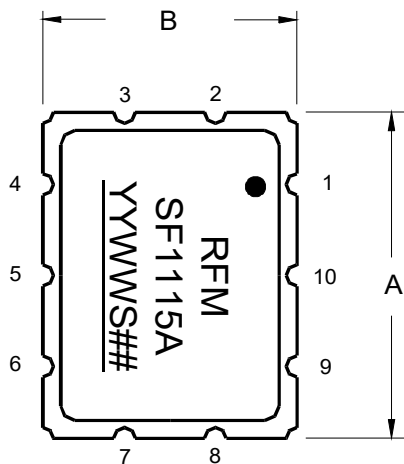
### 9.1 x 7.1 mm Nominal Footprint



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	

Materials	
Solder Pad Termination	Au plating 30 - 60 pinches (76.2-152 $\mu\text{m}$ ) over 80-200 pinches (203-508 $\mu\text{m}$ ) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 pinches Thick
Body	$\text{Al}_2\text{O}_3$ Ceramic

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>



## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

