

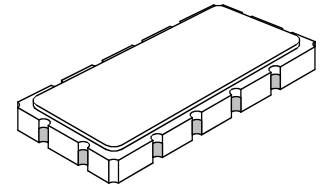
**SF2308A**

**140 MHz  
SAW Filter**

- Precision IF SAW Filter
- Hermetic 13.3 x 6.5 mm Surface-mount Case
- Complies with Directive 2002/95/EC (RoHS)
- Moisture Sensitivity Level: 1

## Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage between any Two Terminals	3	VDC
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Profile	260°C for 30 s	



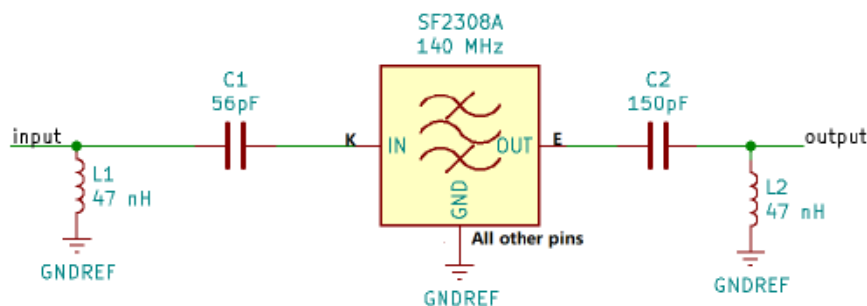
**SM13365-12**

## Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$F_C$			140		MHz
Minimum Insertion Loss	$IL_{MIN}$			9.2	10.75	dB
1 dB Bandwidth	$BW_1$		12	15.1		MHz
3 dB Bandwidth	$BW_3$		15	17.6		MHz
40 dB Bandwidth	$BW_{35}$			26.7	40	MHz
Passband Amplitude Ripple, $F_c \pm 6$ MHz				0.6	1.0	dB <sub>p-p</sub>
Passband Group Delay Ripple, $F_c \pm 6$ MHz				75	180	ns <sub>p-p</sub>
Specification Temperature Range			-5		85	°C
Operable Temperature Range			-45		+125	°C
Frequency Temperature Coefficient				-94		ppm/°C
Source Impedance				50		ohm
Load Impedance				50		ohm

Case Style	SM13365-12 13.3 x 6.5 mm Nominal Footprint
Lid Symbolization (YY = year, WW = week, S = Shift, ## = Sequence Code)	SF2308A YYWWS##

## Test Circuit





**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.

## Frequency Characteristics :

### 1. S21 Response

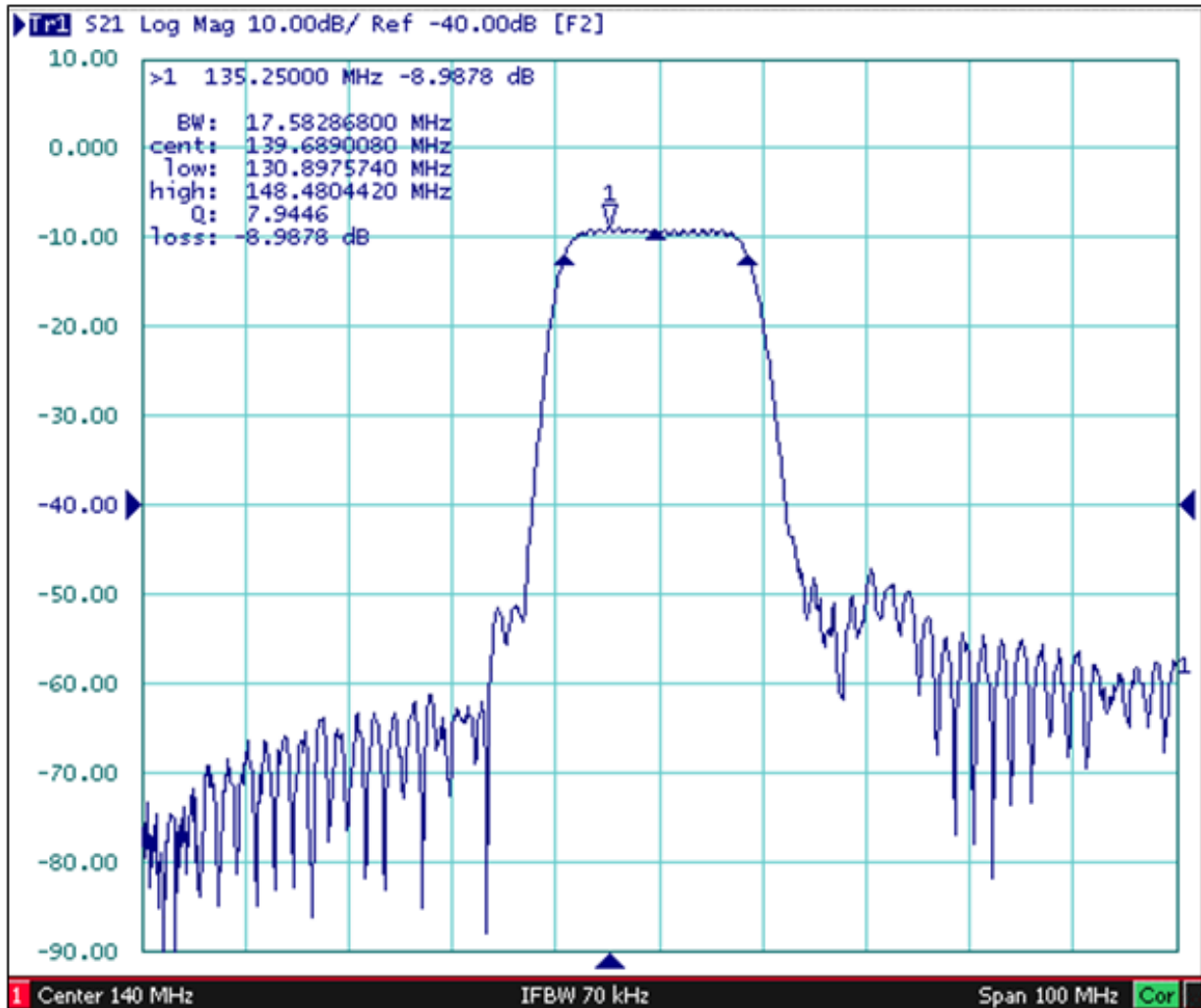


Fig1. Horizontal: 100MHz/Div Vertical: 10dB/Div

## 2. Pass band Ripple and Group Delay Ripple

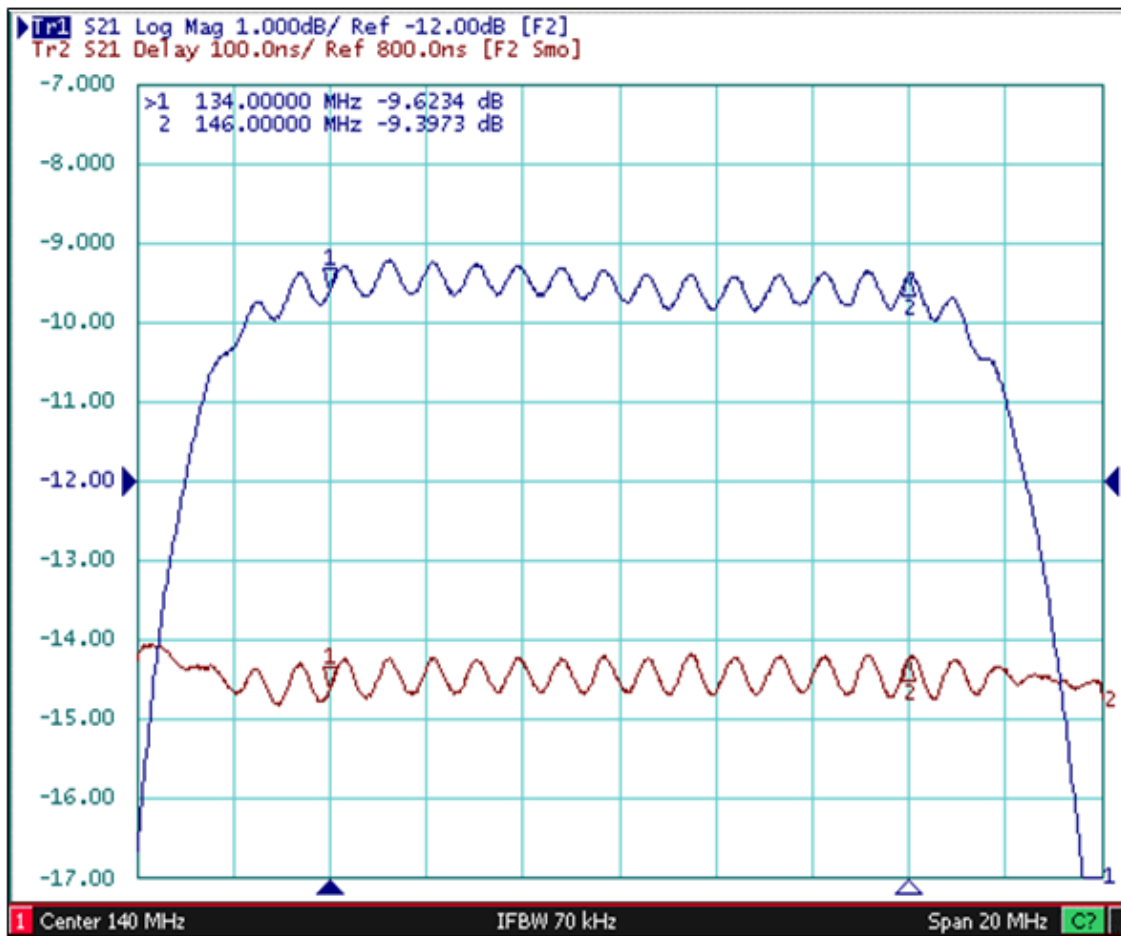
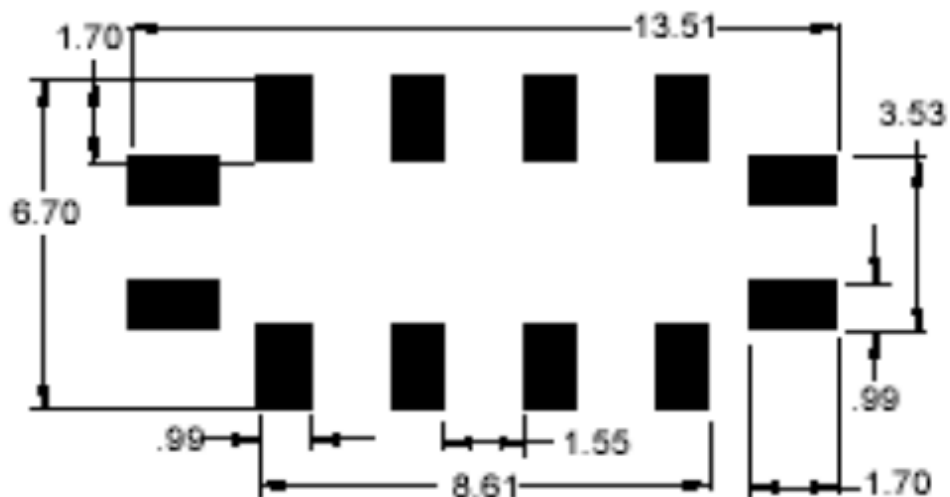


Fig2. Horizontal: 2MHz/Div; Vertical: 1dB/Div,  
Vertical: 100nS/Div,

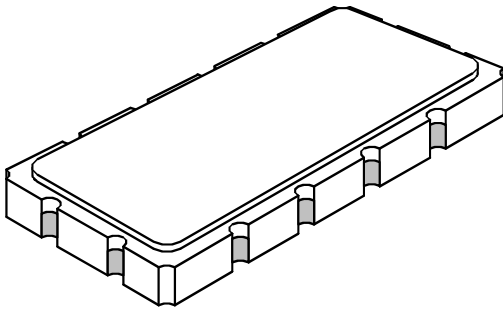
## PCB Footprint



# SM13365-12 Case

## 12-Terminal Ceramic Surface-Mount Case

### 13.3 x 6.5 mm Nominal Footprint



#### Case Dimensions

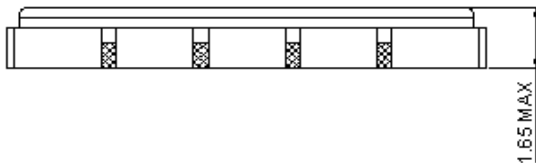
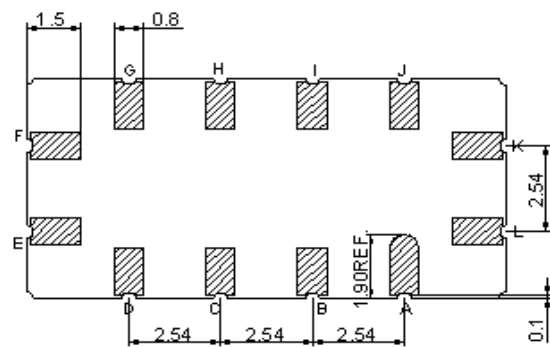
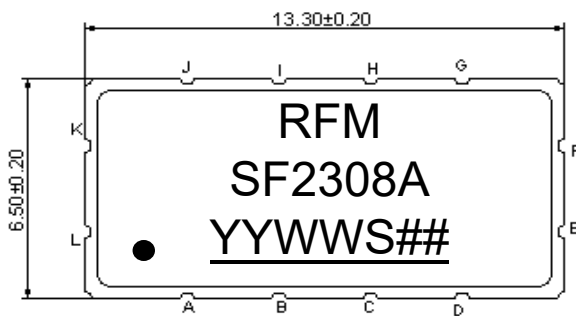
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	13.08	13.31	13.60	0.515	0.524	0.535
B	6.27	6.50	6.80	0.247	0.256	0.268
C		1.91	2.00		0.075	0.079
D		1.50			0.059	
E		0.79			0.031	
H		1.0			0.039	
P		2.54			0.100	

#### Electrical Connections

Connection	Terminals
Input	K
Output	E
Case Ground	All others

#### Materials

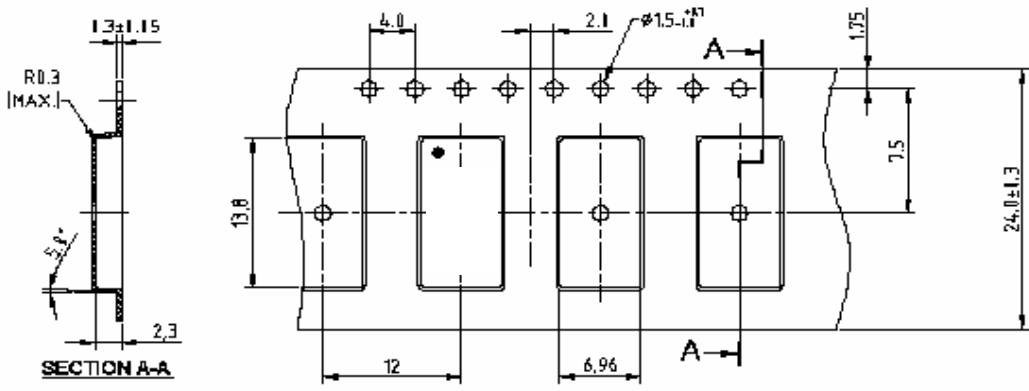
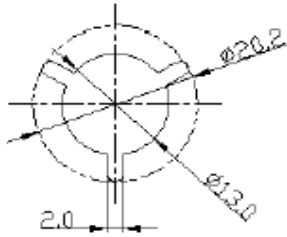
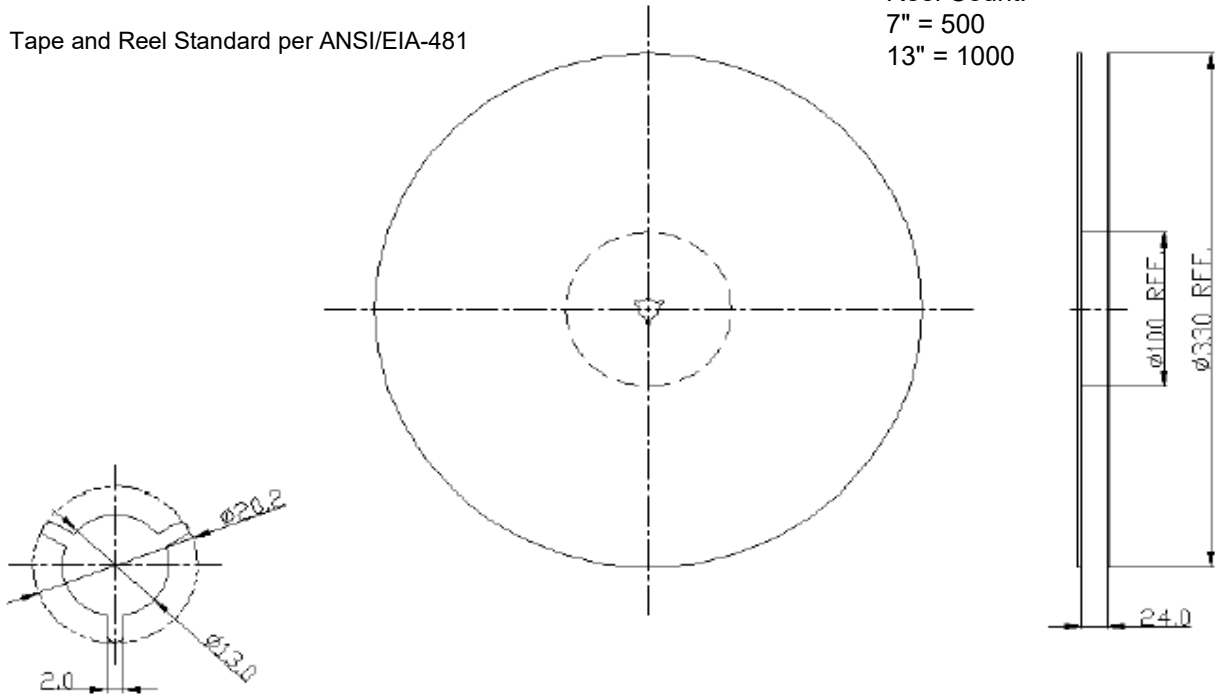
Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ Gold over 1.27 to 8.89 $\mu\text{m}$ Nickel
Lid Plating	2.0 to 3.0 $\mu\text{m}$ Nickel
Body	$\text{Al}_2\text{O}_3$ Ceramic



# Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

Reel Count:  
 7" = 500  
 13" = 1000



## 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.

