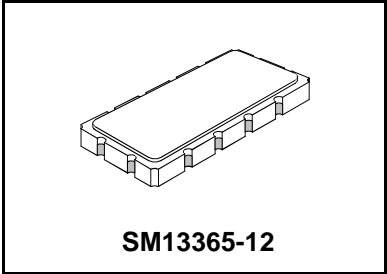


- **Low Insertion Loss**
- **Excellent Selectivity**
- **Hermetic 13.3 X 6.5 mm Surface-mount Case**
- **Single-ended Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**

RoHS  
Compliant

**PX1004-1**

**82.2 MHz  
SAW Filter**



**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage Between any 2 Terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Profile	260°C for 30 s	

**Electrical Characteristics**

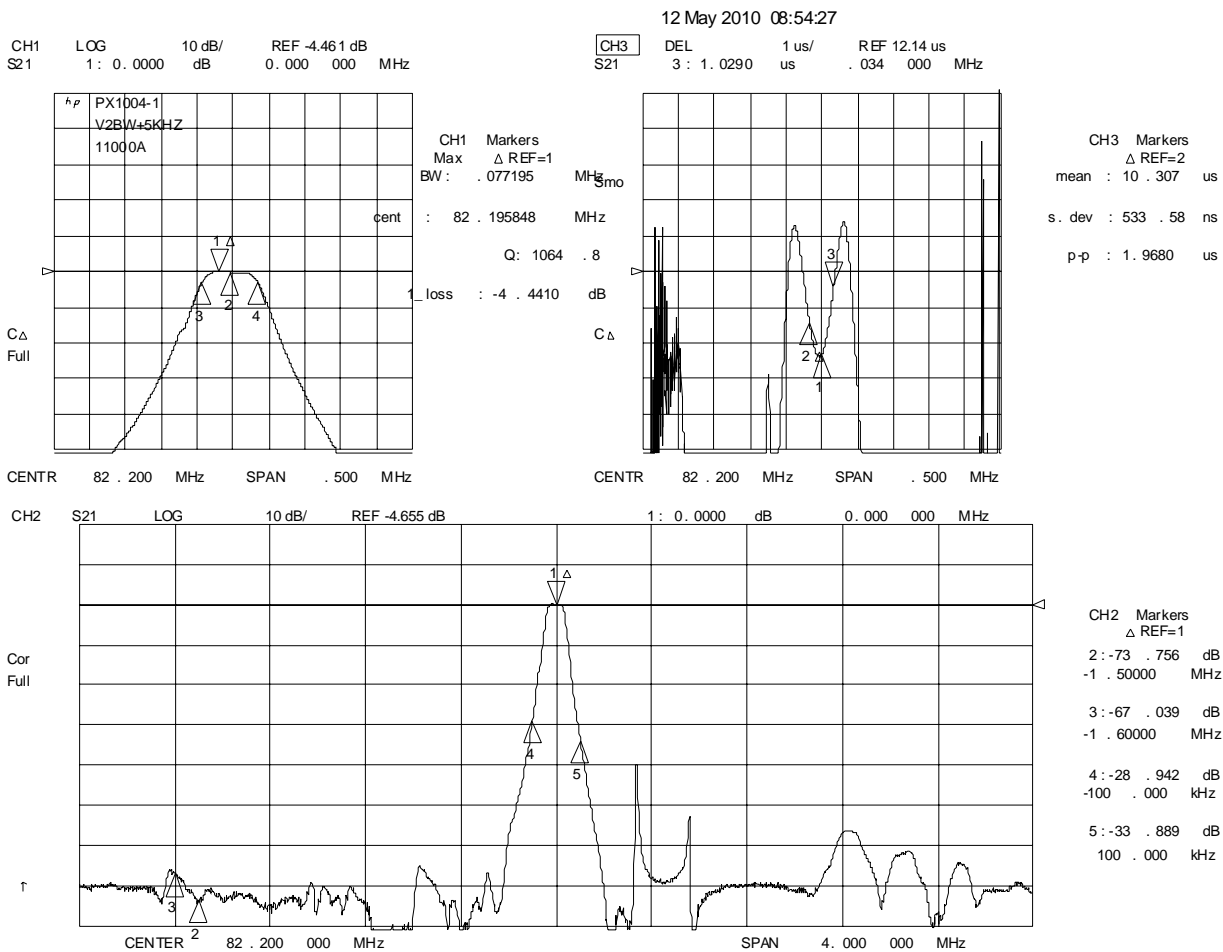
Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	$f_C$		82.20			MHz
Passband	Insertion Loss at $f_C$	IL		3.0	5.5	dB
		3 dB Passband	$BW_3$	$\pm 25$	$\pm 42$	kHz
	Amplitude Ripple over $f_C \pm 15$ kHz				1.0	dB <sub>P-P</sub>
	Group Delay Variation over $f_C \pm 17$ kHz	GDV			6.0	$\mu$ s <sub>P-P</sub>
Third-Order Intermod. for -20 dBm tones at $f_C \pm 100$ & 200 kHz					-95	dBm
Rejection	$f_C \pm 100$ kHz		11	16		dB
		$f_C - 1500$ kHz to $f_C - 1600$ kHz	65			
		Ultimate		65		
Operating Temperature Range	$T_A$		-20		+70	°C

Impedance Matching to 50 $\Omega$ unbalanced	External L-C
Case Style	SM13365-12 13.3 X 6.5 mm Nominal Footprint
Lid Symbolization (YY=year, WW=week, S=shift)	RFM PX1004-1 <u>YYWWS</u>

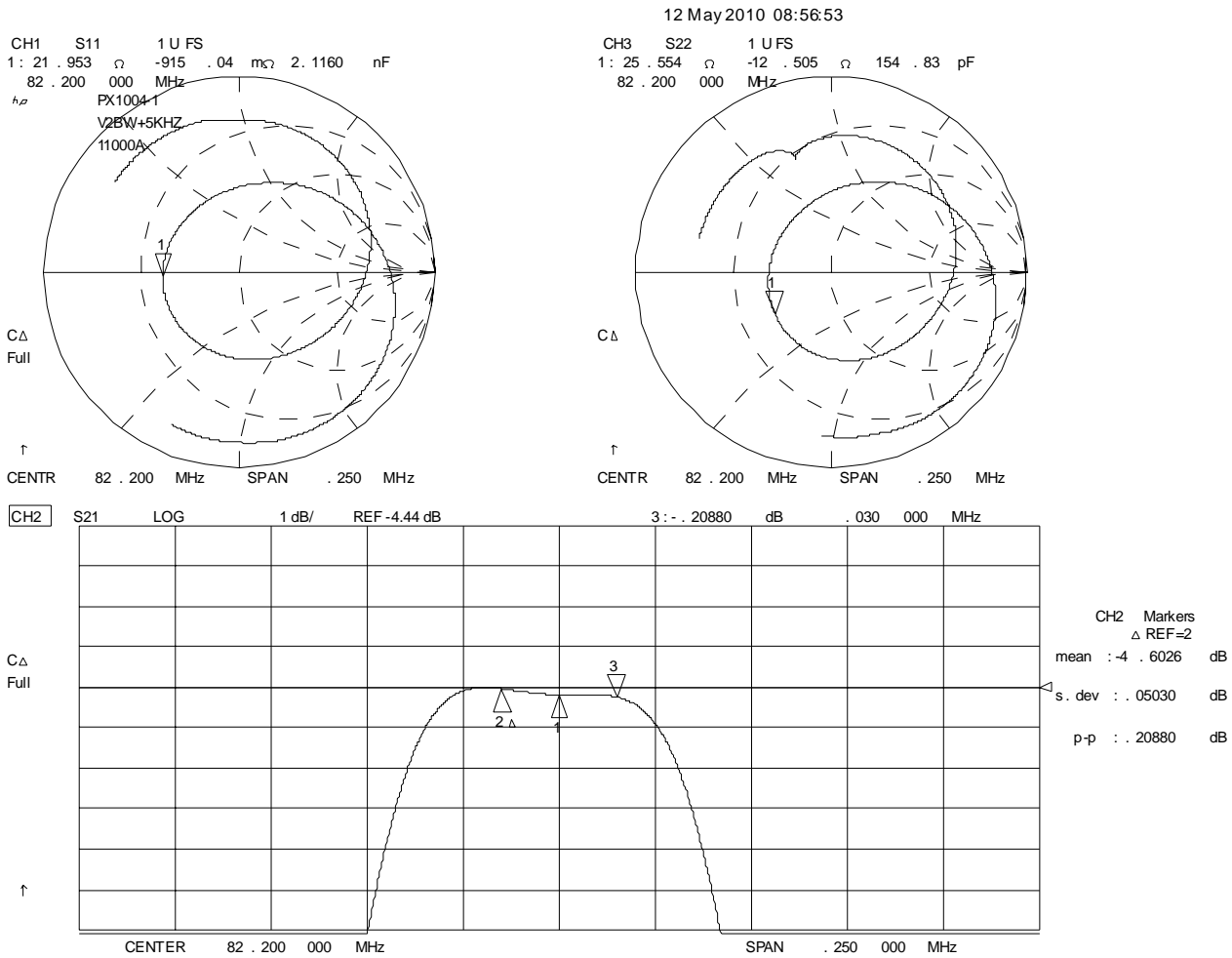
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**  
**NOTES:**

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.

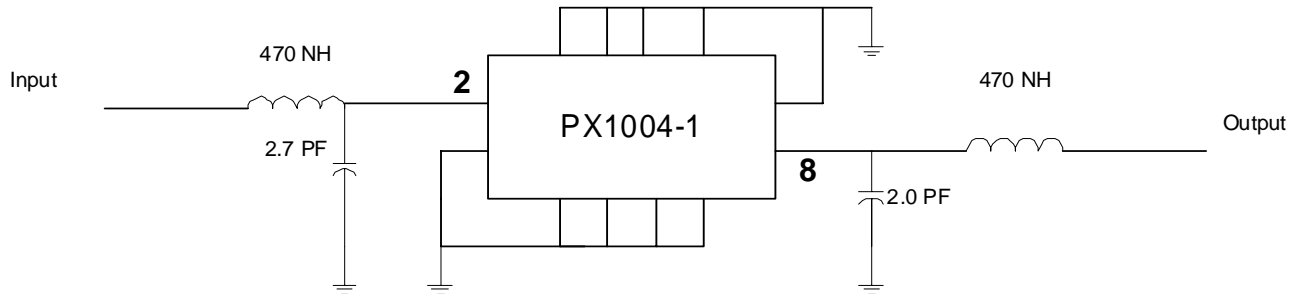
## Amplitude and Group Delay Plots



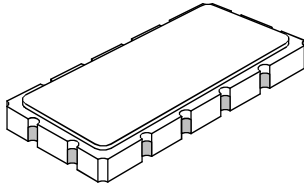
## Input/Output Impedance and Passband Amplitude Plots



## Filter Test Circuit



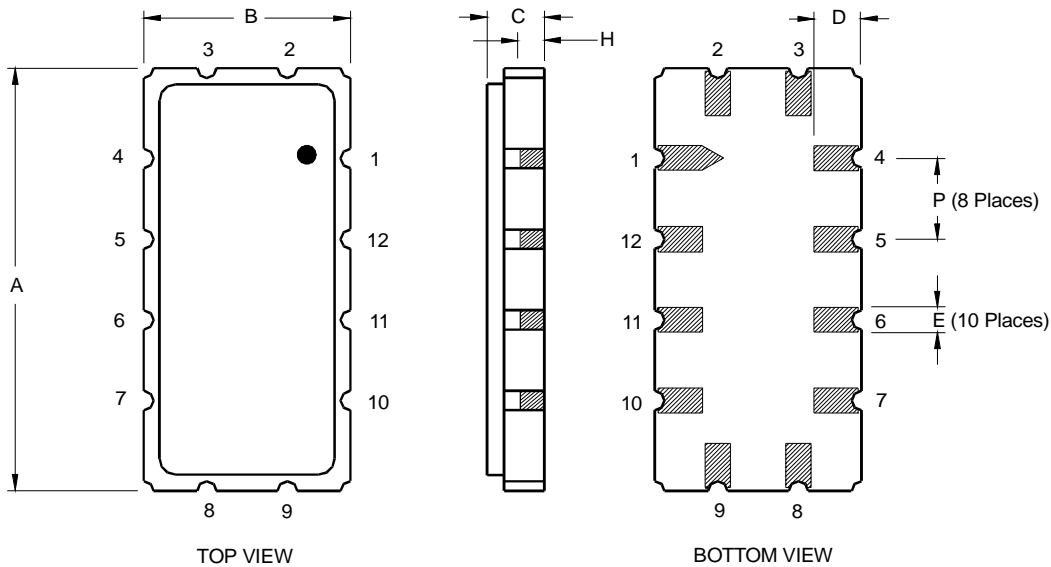
SM13365-12 Ceramic 12-Terminal Surface-Mount Case  
13.3 x 6.5 mm Nominal Footprint



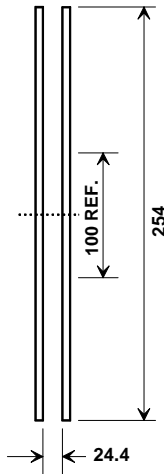
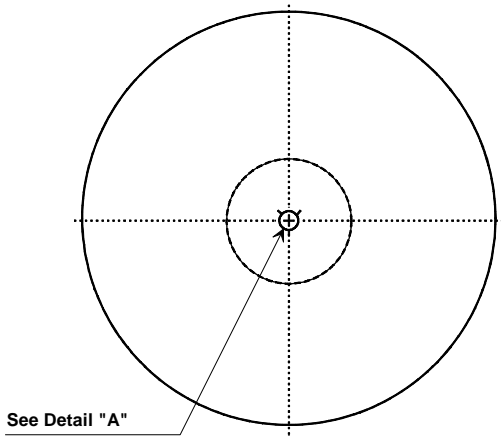
Dimension	Case Dimensions					
	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	13.08	13.31	13.60	0.515	0.524	0.535
B	6.27	6.50	6.80	0.247	0.256	0.268
C		1.91	2.00		0.075	0.079
D		1.50			0.059	
E		0.79			0.031	
H		1.0			0.039	
P		2.54			0.100	

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
	Pb Free

Electrical Connections		
Connection		Terminals
Port 1	Input	2
	Return	3
Port 2	Output	8
	Return	9
	Ground	All others
Single-ended Operation		Return is ground

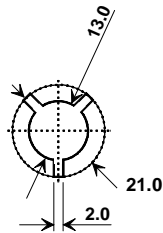


Tape and Reel Specifications



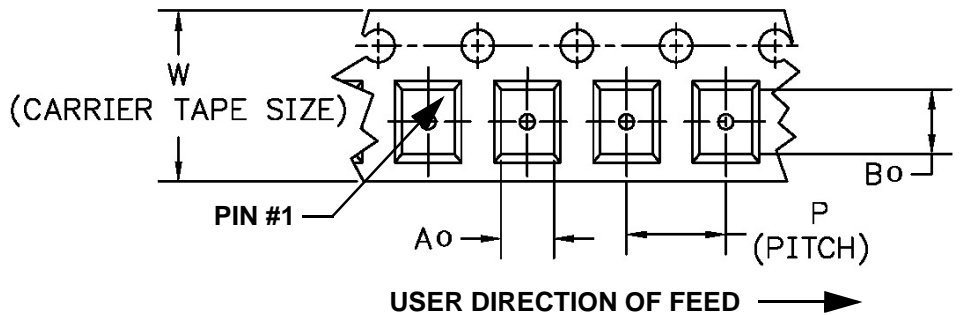
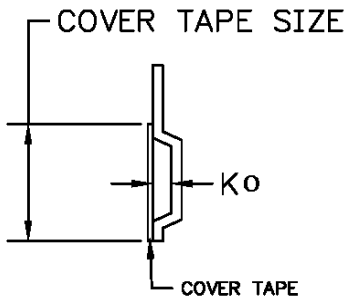
Tape and Reel Standard per ANSI/EIA-481

Quantity Per Reel
1000



COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	7.0 mm
Bo	13.8 mm
Ko	2.0 mm
Pitch	12.0 mm
W	24.0 mm



## 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.

