

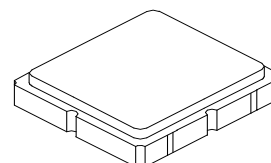


- Precision 140 MHz SAW Filter
- 22 MHz Bandwidth
- 3.8 x 3.8 x 1.4 mm Surface-mount Package
- Complies with Directive 2002/95/EC (RoHS)
- Moisture Sensitivity Level: 1
- AEC-Q200 Qualified

RoHS
Compliant

SF2182D

**140 MHz
SAW Filter**



SM3838-8

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage on any Non-ground Terminal	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	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	F_C			140		MHz
Insertion Loss	IL_{MAX}			13.5	15.0	dB
Insertion Loss Variation over Temperature					1	dB
3 dB Bandwidth			40	43		MHz
Passband Amplitude Ripple, Single-ended Matching, 120 to 160 MHz				0.8	1.5	dB _{P-P}
Passband Amplitude Ripple, Balanced Matching, 120 to 160 MHz				1.2	2.0	dB _{P-P}
Attenuation Referenced to IL_{MAX}						
10 to 70 MHz			45	50		dB
70 to 115 MHz			25	40		
166.5 to 200 MHz			25	40		
200 to 400 MHz			45	50		
Absolute Group Delay in Passband				400	450	ns
Passband Group Delay Ripple, Matching Network A or B, 129 to 151 MHz				20	50	ns _{P-P}
Input Impedance, Unbalanced Matching Network				50		ohm
Input Impedance, Balanced Matching Network				200		ohm
Input Return Loss through any Matching Network			3	8		dB
Output Impedance, Unbalanced Matching Network				50		ohm
Output Impedance, Balanced Matching Network				200		ohm
Output Return Loss through any Matching Network			3	10		dB
Operating Temperature Range			-40		+85	°C
Case Style		SM3838-8 3.8 x 3.8 mm Nominal Footprint				
Lid Symbolization, Y=year, WW=week, S=shift		873_YWWS				

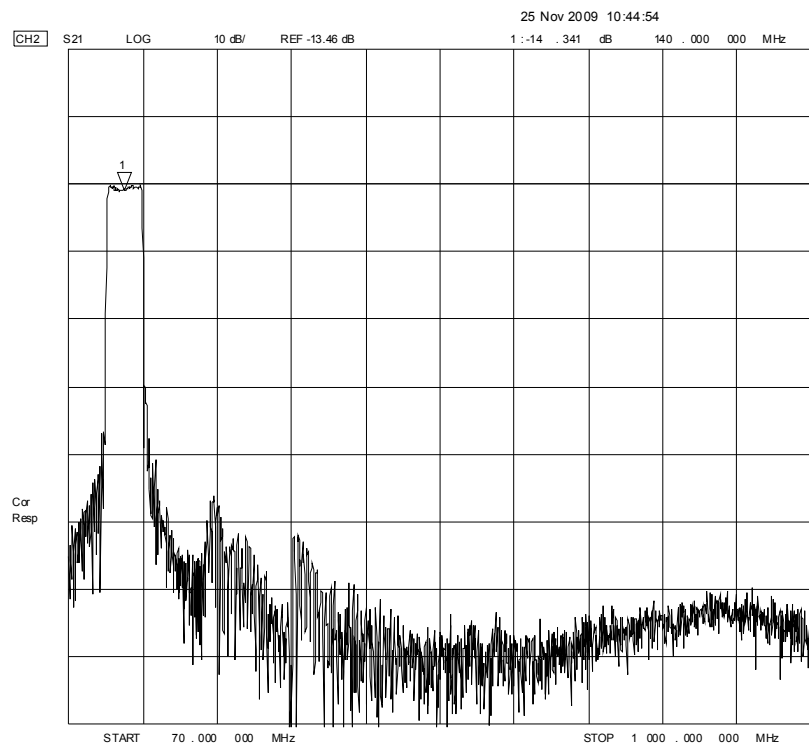
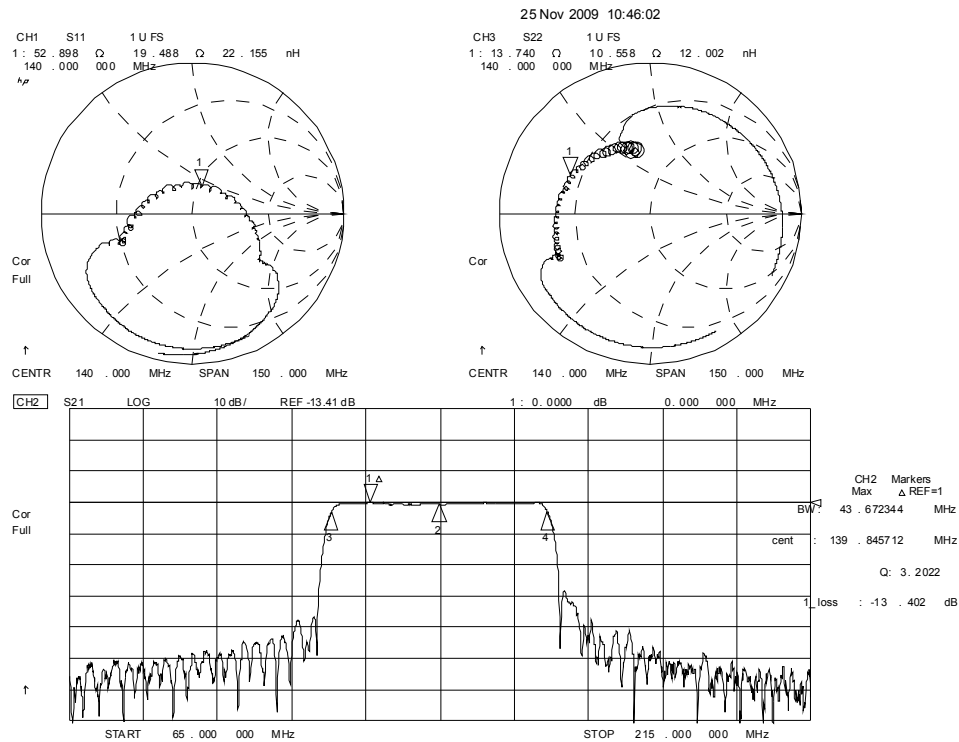


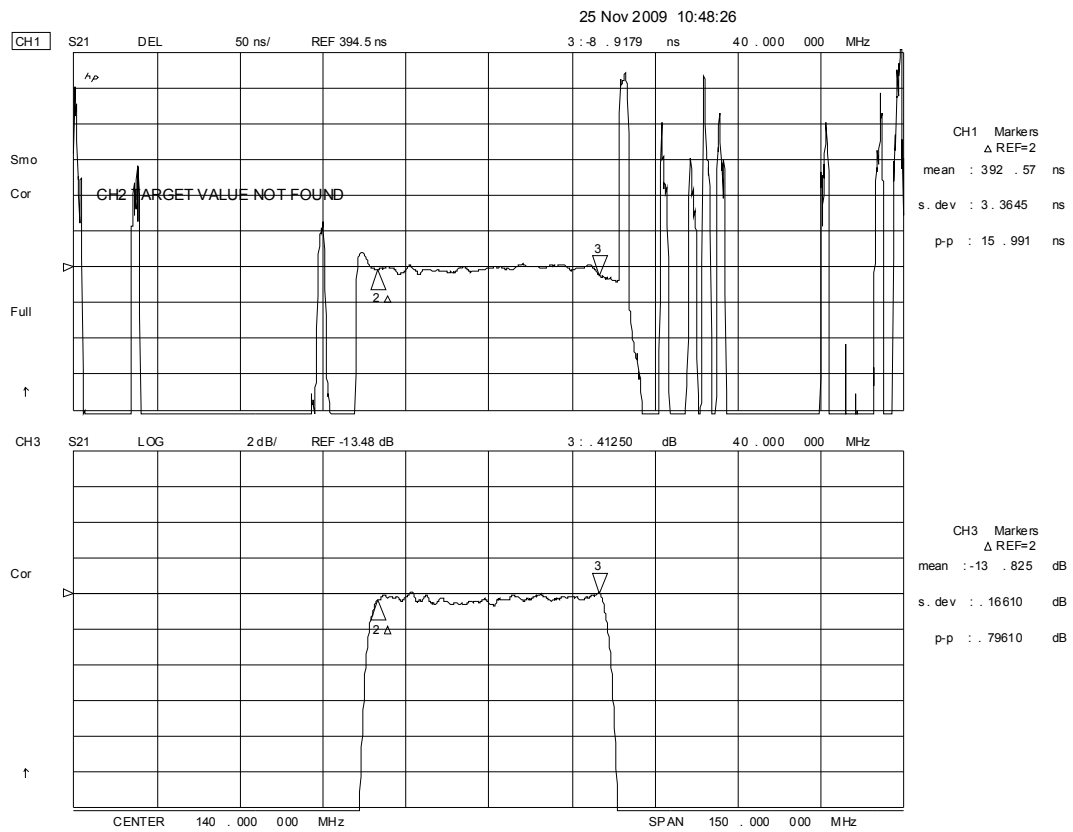
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

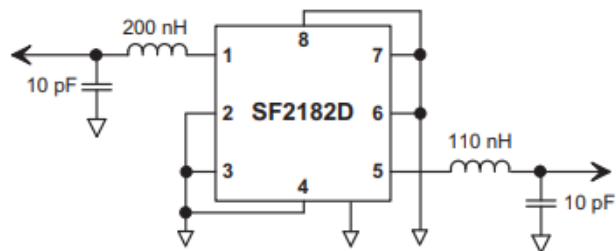
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

SF2182D, Single-ended Matching

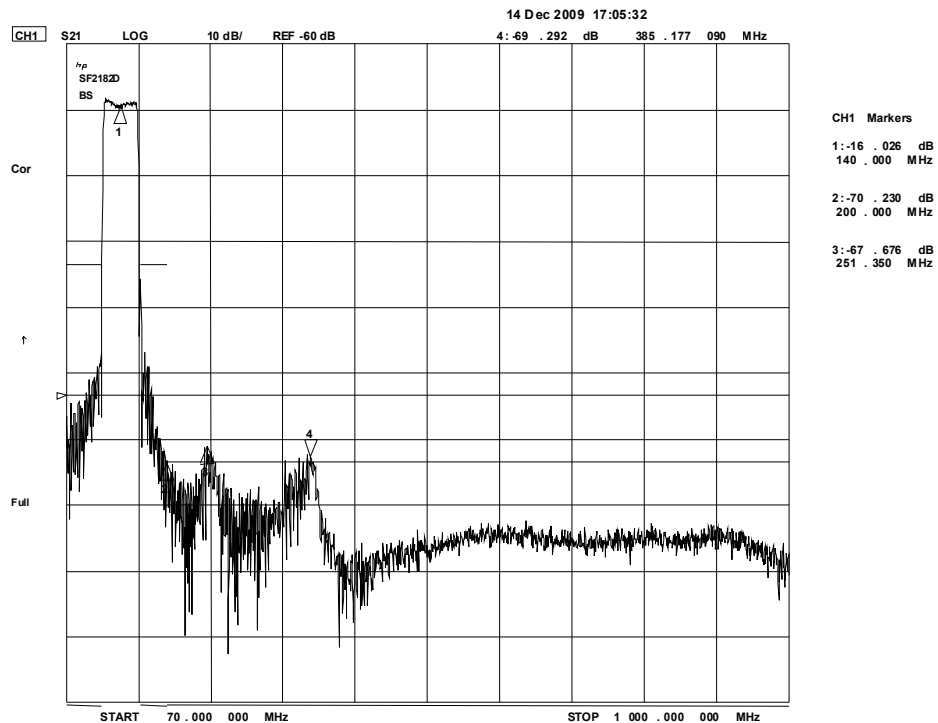
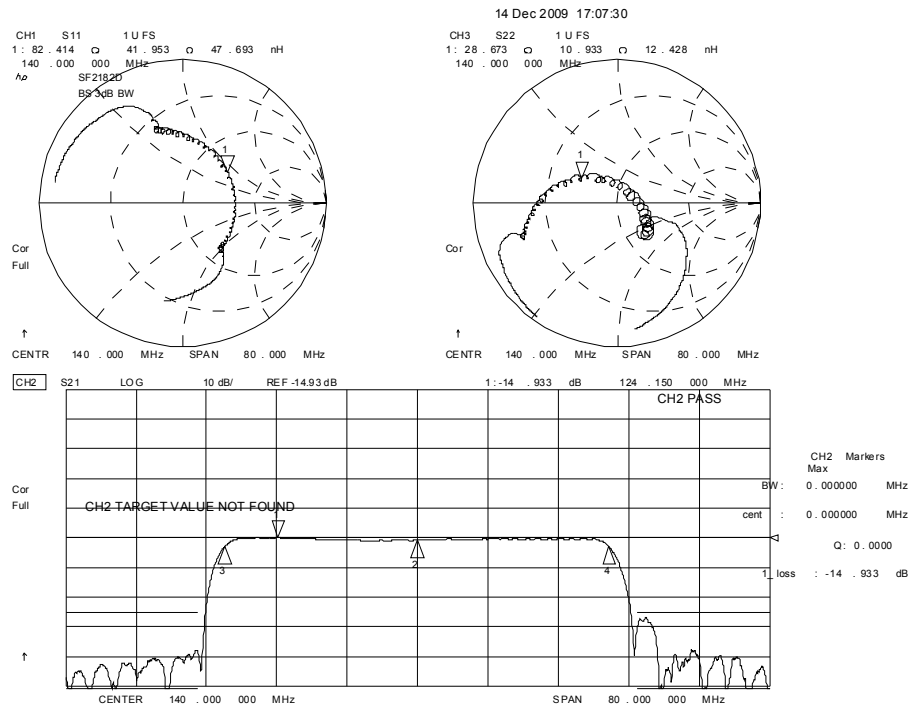


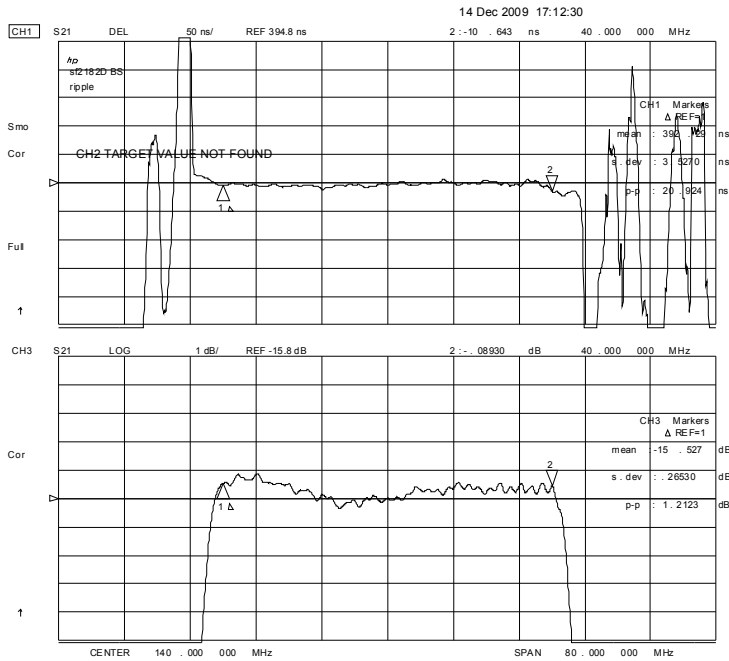
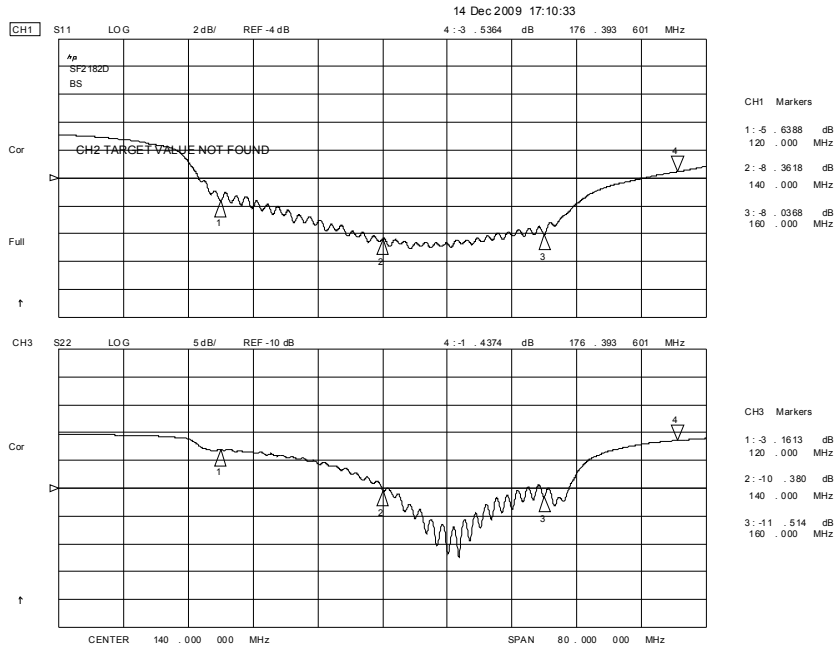


SF2182D Single-ended Test Circuit

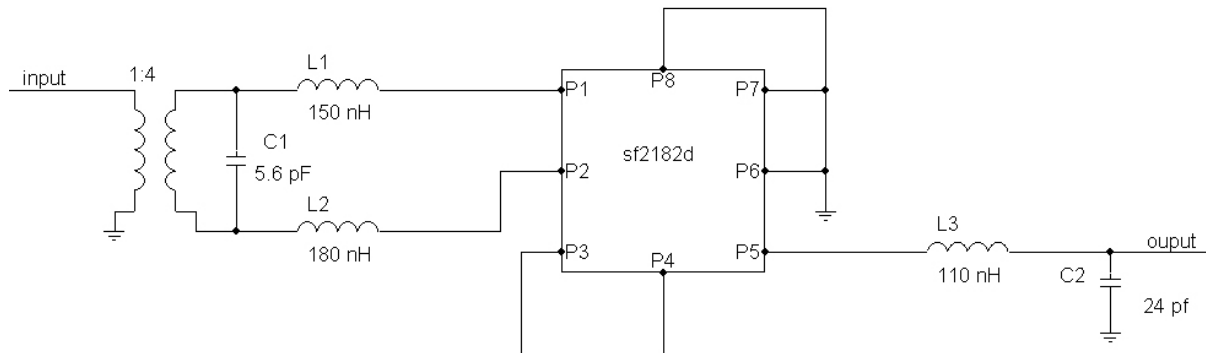


SF2182D, Balanced Input Matching

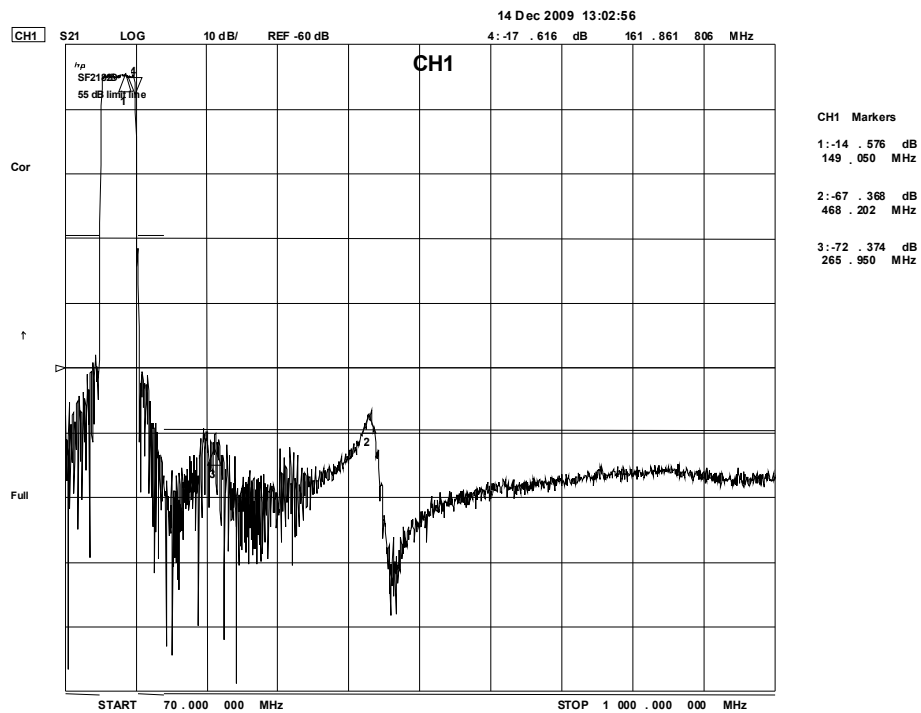
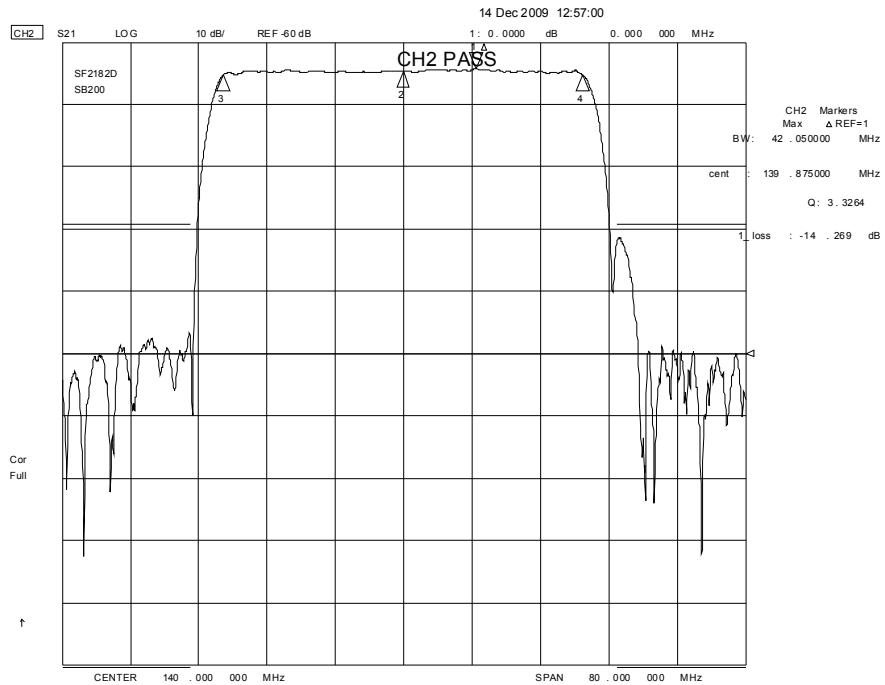


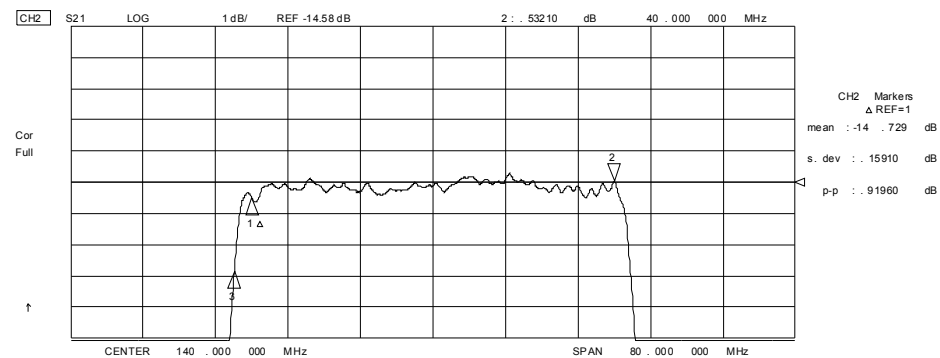
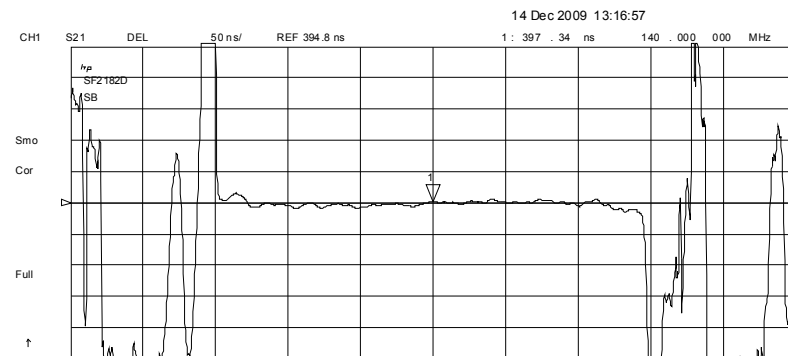
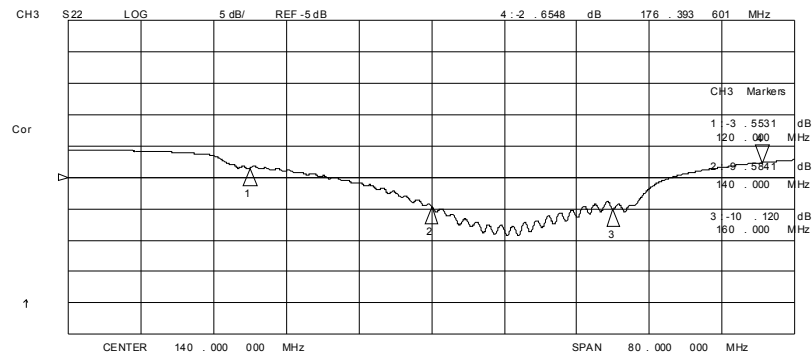
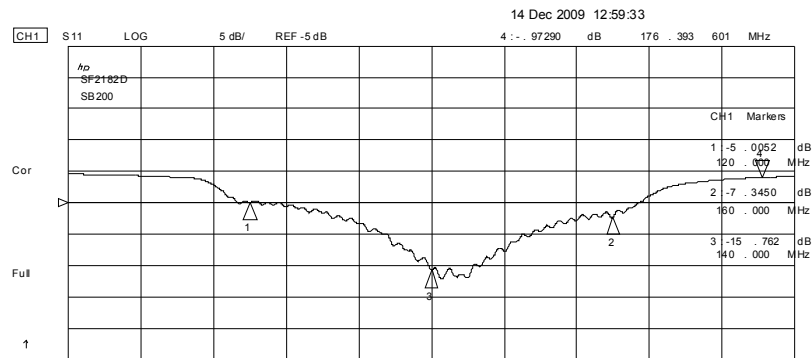


SF2182D, Balanced Input Matching Network

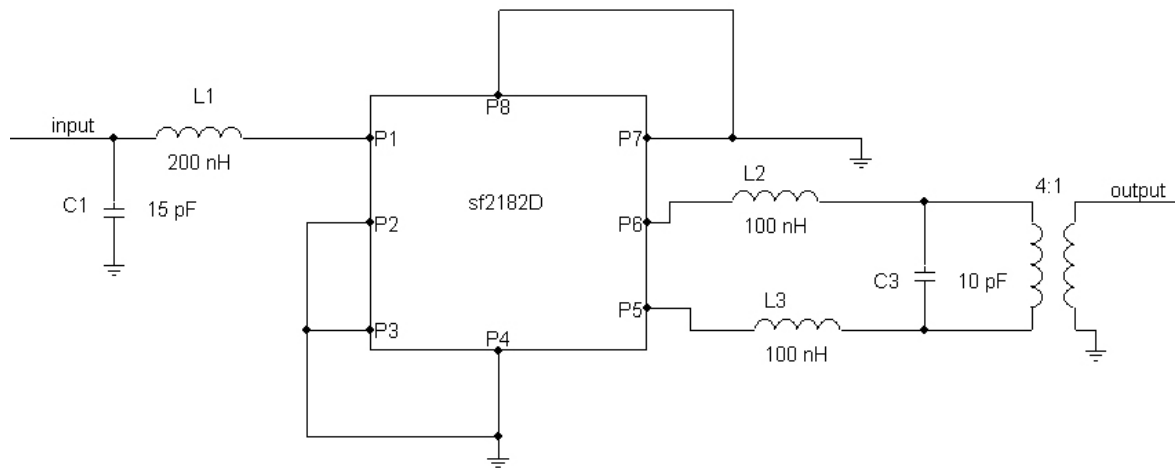


SF2182D, Balanced Output Matching

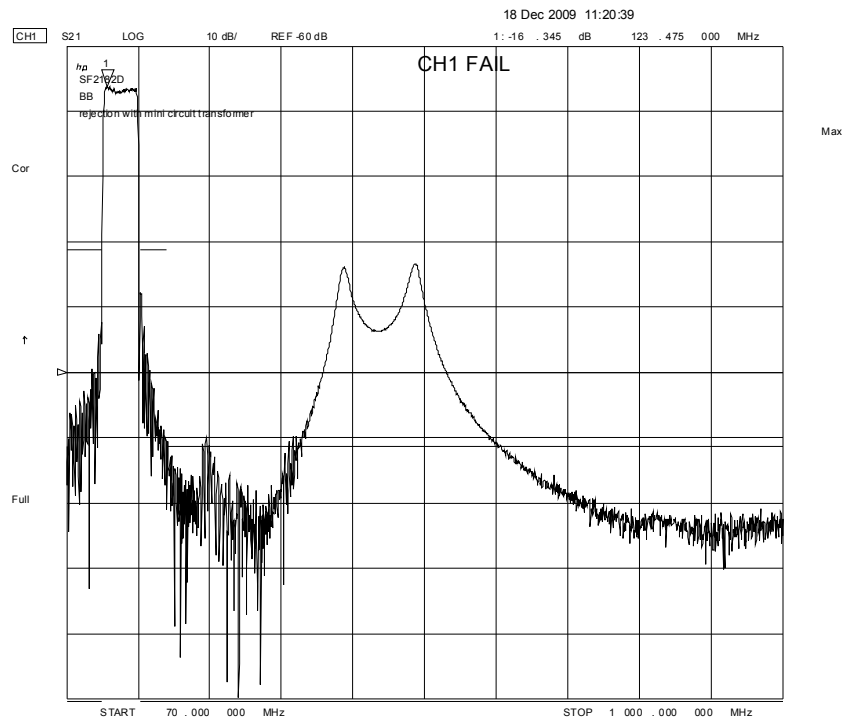
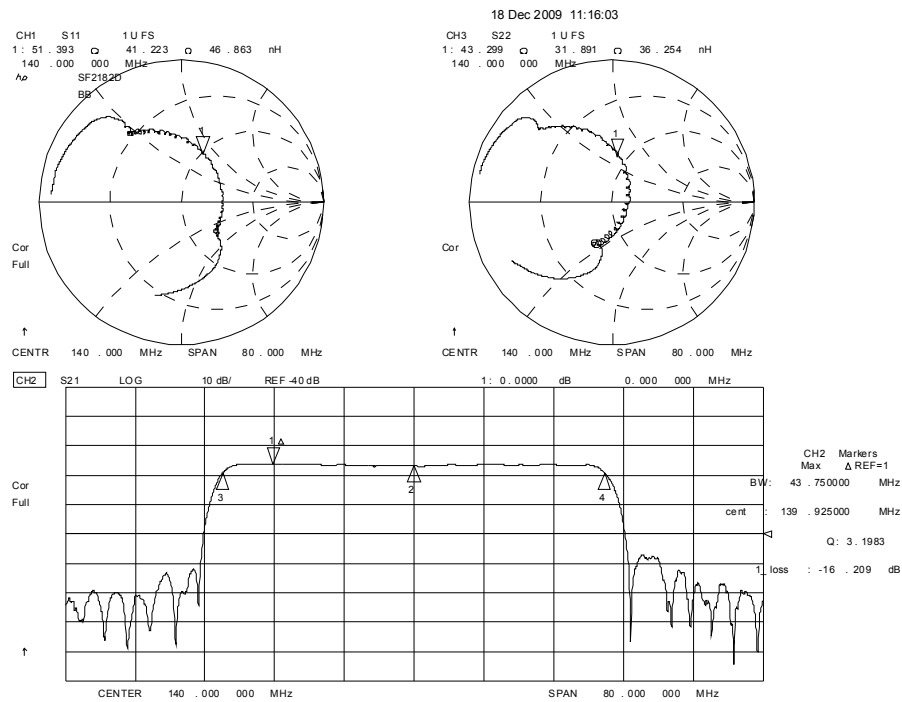


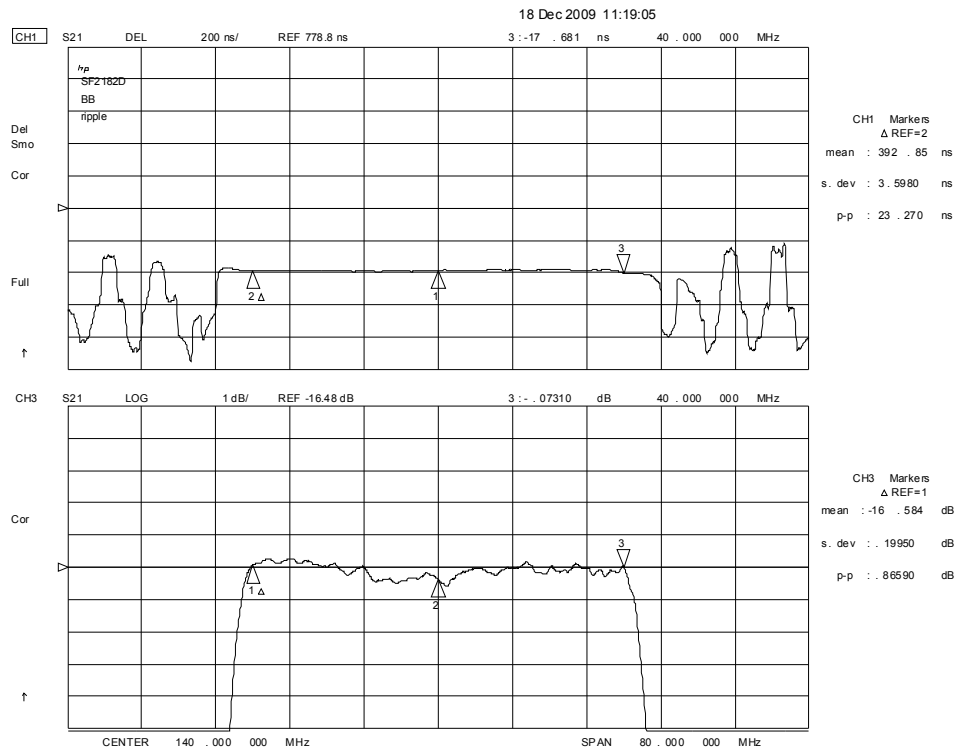
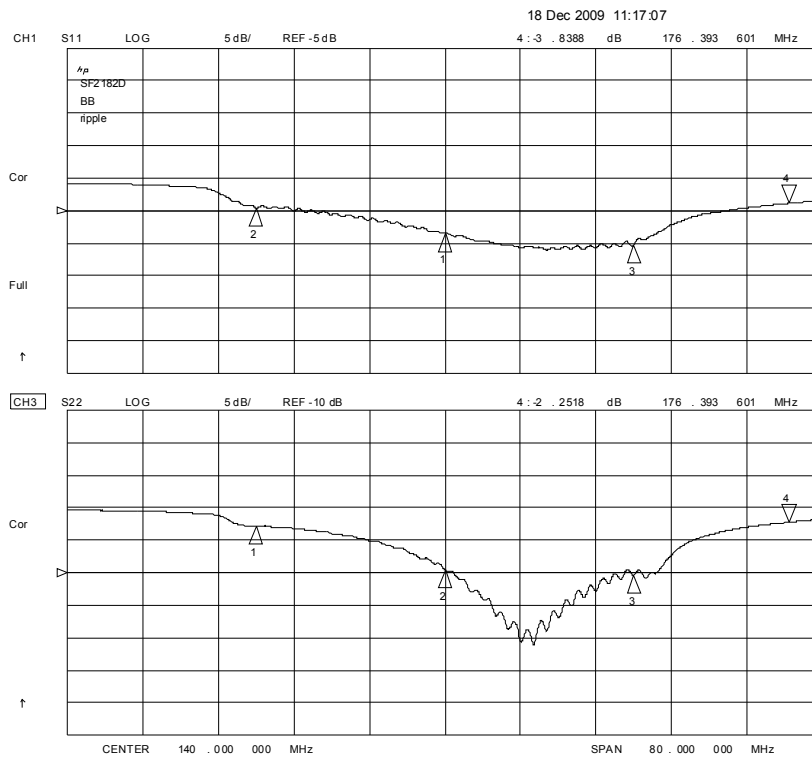


SF2182D, Balanced Output Matching Network

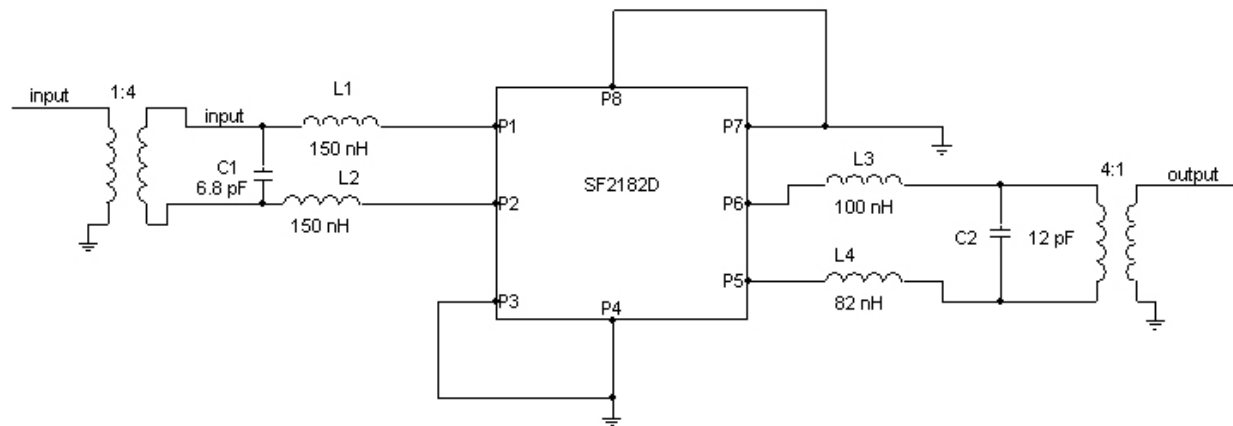


SF2182D, Balanced Input/Output Matching





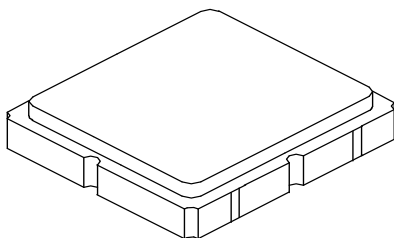
SF2182D, Balanced Input/Output Matching Network



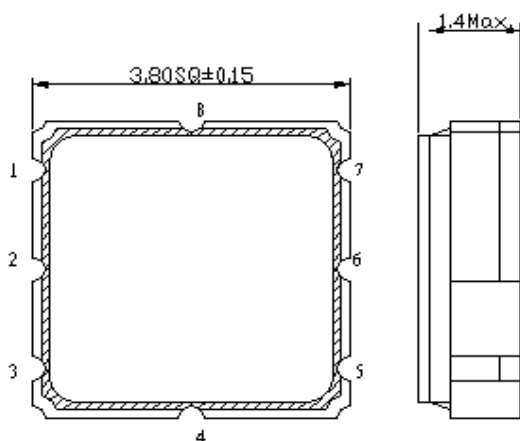
SM3838-8 Case

8-Terminal Ceramic Surface-Mount Case

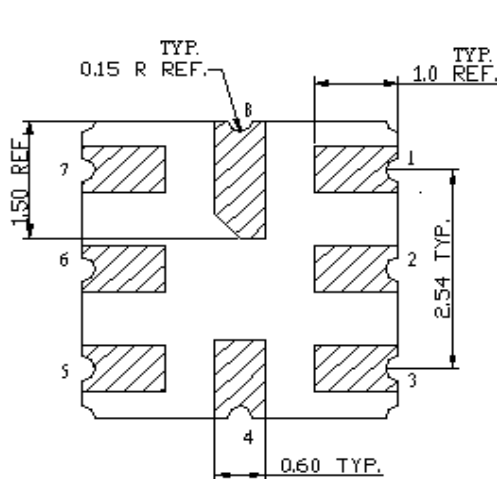
3.8 X 3.8 mm Nominal Footprint



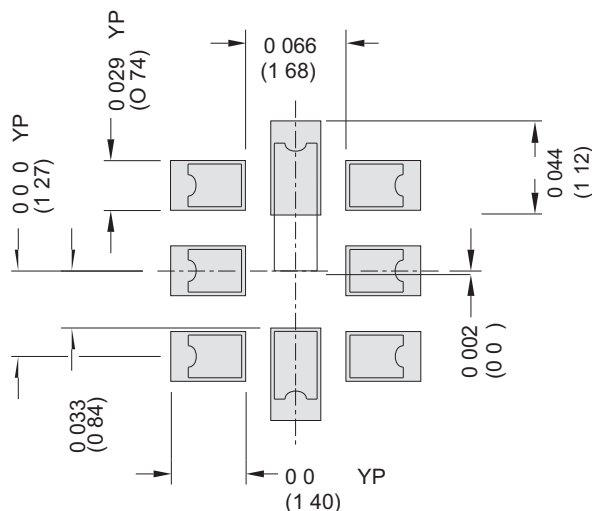
Top View



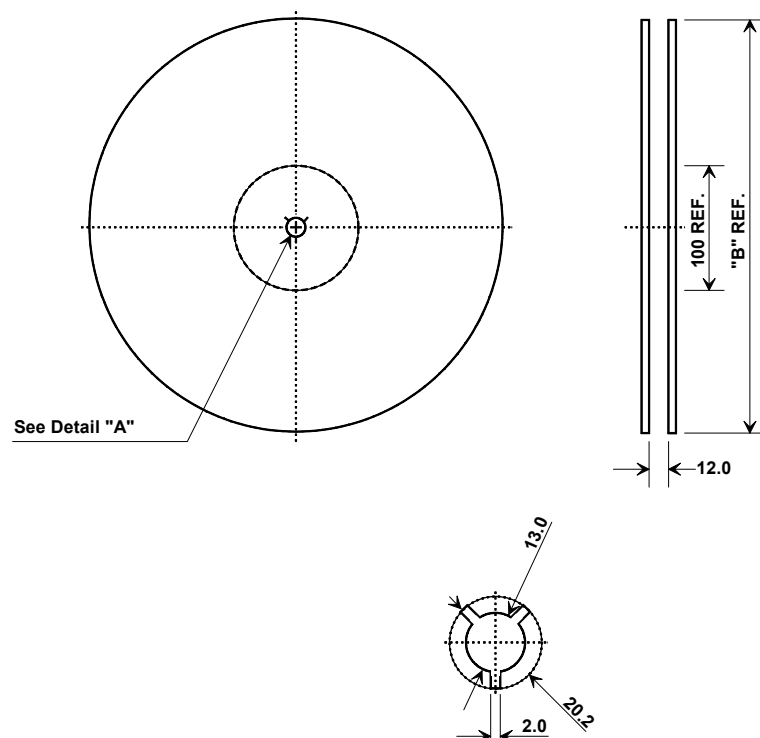
Bottom View



PCB Footprint for 180 Degree Rotation Option



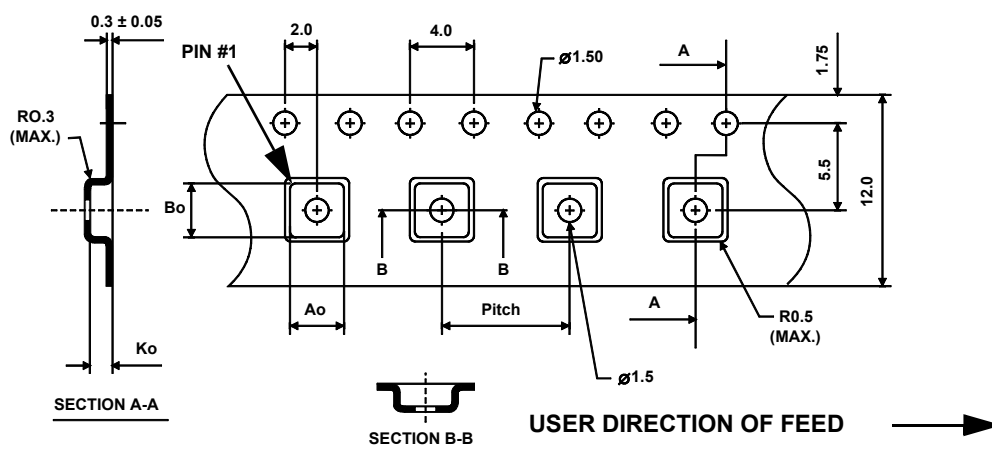
Tape and Reel Standard per ANSI/EIA-481



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

COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	4.25 mm
Bo	4.25 mm
Ko	1.30 mm
Pitch	8.0 mm
W	12.0 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.

