

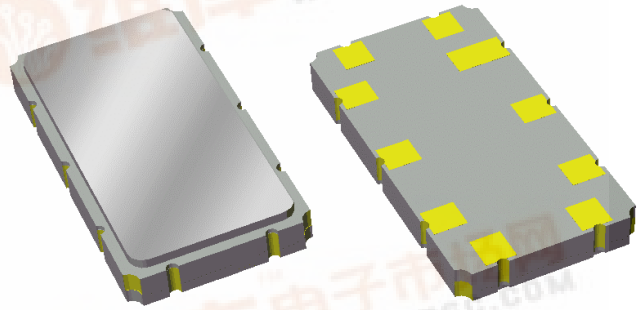


Part Number 856158
183.6 MHz SAW Filter

Preliminary Data Sheet

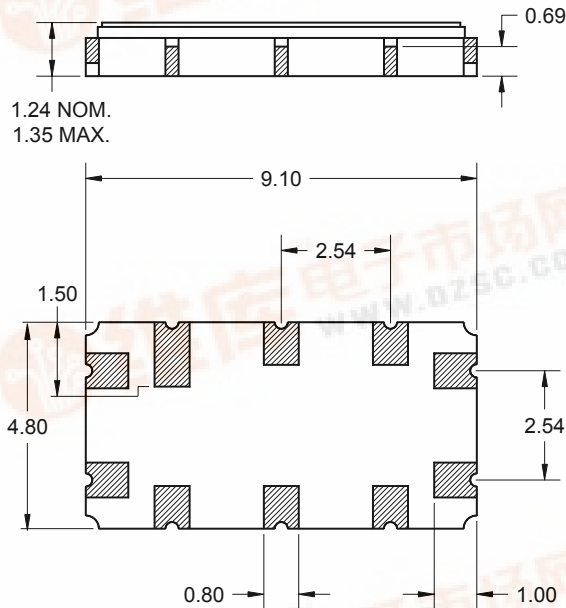
Features

- For CDMA handset IF applications
- Usable bandwidth of 1.26 MHz
- Low loss
- High attenuation at tones
- Single-ended or balanced operation
- Ceramic Surface Mount Package (SMP)
- Small size



Package

Surface Mount 9.10 x 4.80 x 1.24 mm



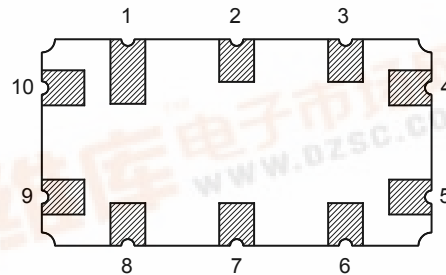
Dimensions shown are nominal in millimeters
All tolerances are ± 0.15 mm except overall length and width ± 0.10 mm

Body: Al_2O_3 ceramic
Lid: Kovar, Ni plated

Terminations: Au plating 0.5 - 1.0 μ m,
over a 2 - 6 μ m Ni plating

Pin Configuration

Bottom View



Pin No.	Description
4	Output
5	Output return
9	Input
10	Input return
1,2,3	Case ground
6,7,8	Case ground



Preliminary Data Sheet

Electrical Specifications ⁽¹⁾

Operating Temperature Range: ⁽²⁾ -30 to +85 °C

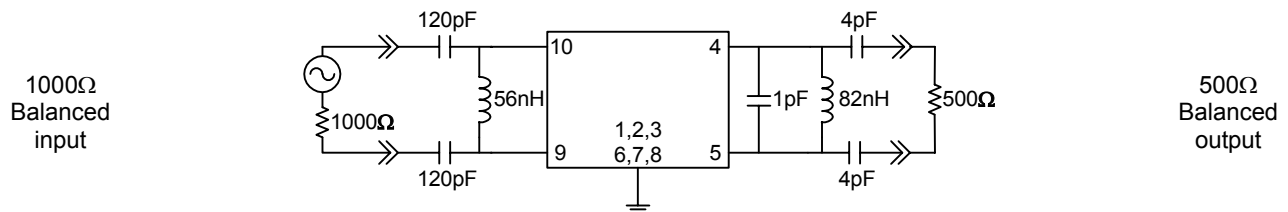
Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency, f_0	-	183.6	-	MHz
Insertion Loss at 183.6 MHz Excluding losses due to matching	-	4.8	6.4	dB
	-	9.5	11.1	dB
Lower 5 dB Point	-	182.886	182.970	MHz
Upper 5 dB Point	184.230	184.320	-	MHz
Amplitude Variation 183.3 - 183.9 MHz	-	0.70	1.25	dB p-p
RMS Phase Variation 182.97 - 184.23 MHz	-	2.4	3.2	deg RMS
Attenuation ⁽⁴⁾	$f_0 \pm 0.90$ MHz	33	45	dB
	$f_0 \pm 1.25$ MHz	33	38	dB
	$f_0 \pm 1.70$ MHz	33	40	dB
	$f_0 \pm 2.05$ MHz	33	38	dB
Rejection ⁽⁴⁾	10.00 - 171.60 MHz	45	50	dB
	171.60 - 174.60 MHz	38	42	dB
	174.60 - 182.70 MHz	33	36	dB
	184.50 - 192.60 MHz	33	36	dB
	192.60 - 195.60 MHz	38	42	dB
	195.60 - 367.20 MHz	45	50	dB
Optimal Source Impedance ⁽⁵⁾	-	1160 Ω 69nH	-	-
Optimal Load Impedance ⁽⁵⁾	-	3395 Ω 121nH	-	-

Notes:

- All specifications are based on the test circuit shown below
- In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
- Electrical margin has been built into the design to account for the variations due to manufacturing tolerances
- Relative to insertion loss at 183.6 MHz
- This is the complex conjugate of the unmatched filter's impedance resulting in maximum power transfer

Test Circuit:

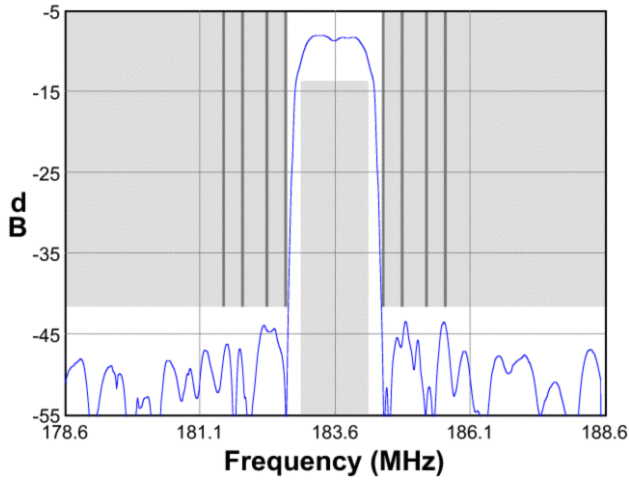
Actual matching values may vary due to PCB layout and parasitics



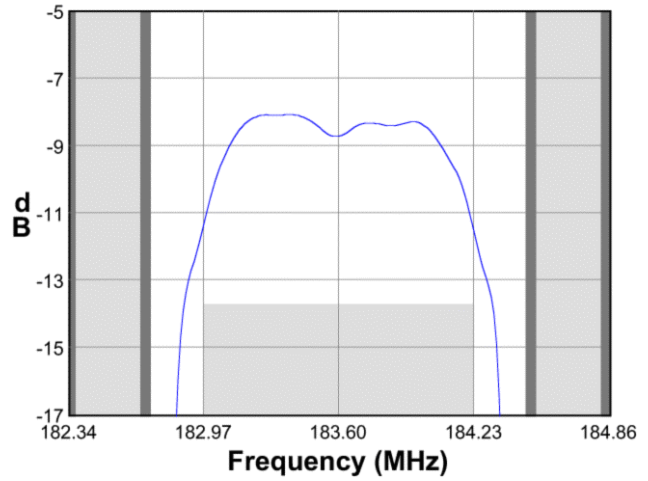
Preliminary Data Sheet

Typical Performance (at +25°C)

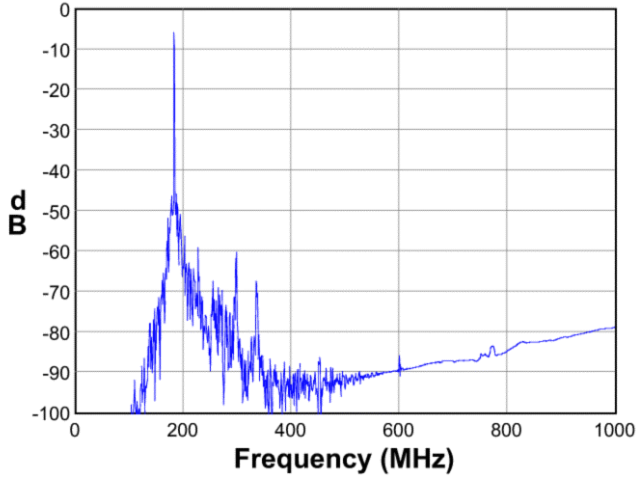
Frequency Response



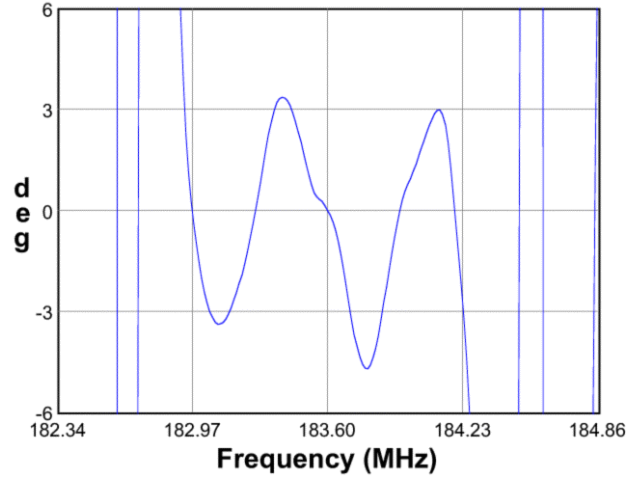
Passband Response



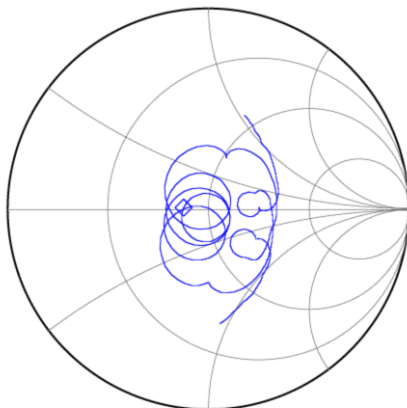
Wideband Response



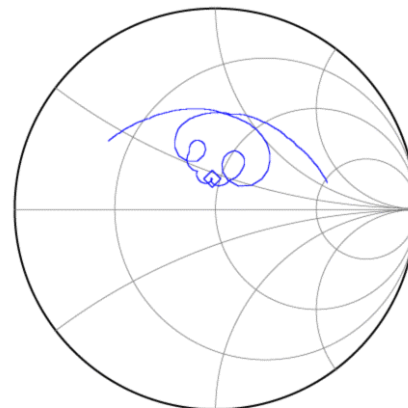
Phase Linearity



Input Smith Chart



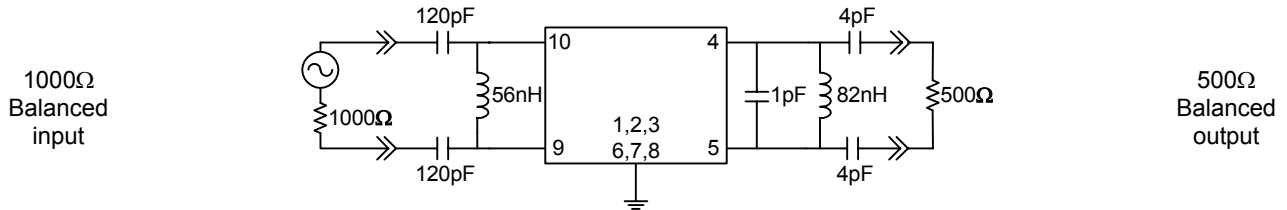
Output Smith Chart



Preliminary Data Sheet

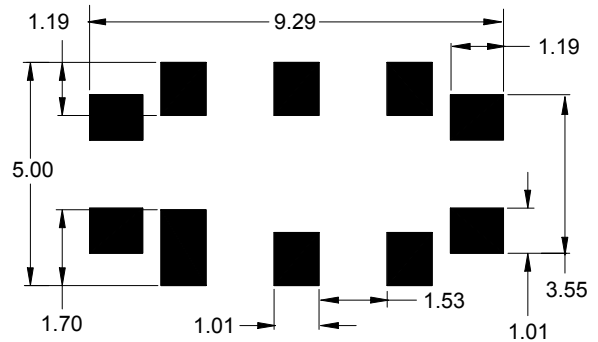
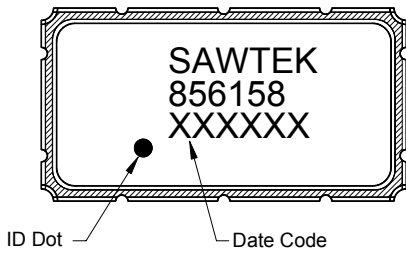
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics



Marking

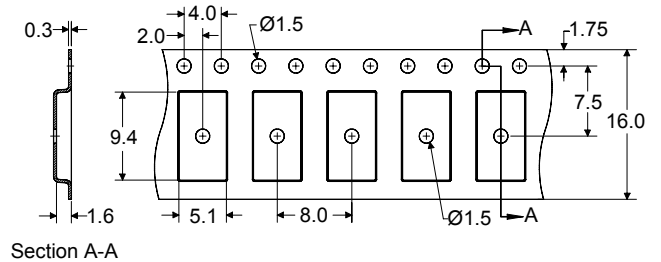
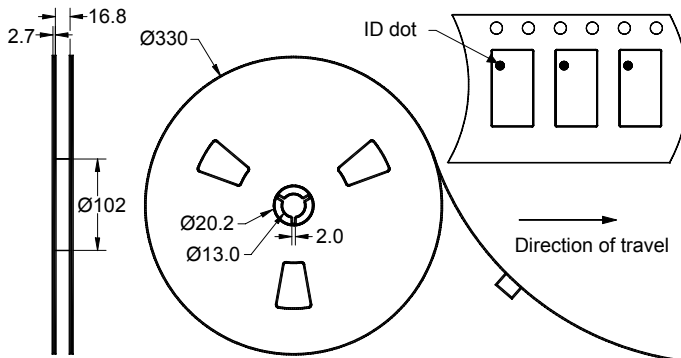
PCB Footprint



The date code consists of: JJJ = Julian day,
Y = last digit of year, M = manufacturing site code

This footprint represents a recommendation only
Dimensions shown are nominal in millimeters

Tape and Reel




Dimensions shown are nominal in millimeters
Packaging quantity: 4000 units/reel

Preliminary Data Sheet

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-30	+85	°C
Storage Temperature Range	T _{stg}	-40	+85	°C

Warnings

- Electrostatic Sensitive Device (ESD) 
- Avoid ultrasonic exposure

Links to Additional Technical Information

[PCB Layout Tips](#)

[Qualification Flowchart](#)

[Soldering Profile](#)

[S-Parameters](#)

[Other Technical Information](#)

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