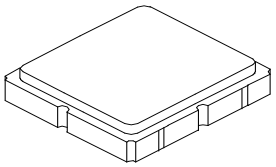
muRata
INNOVATOR IN ELECTRONICS

AEC-Q200

RoHS Compliance
This component is compliant with RoHS directive.
This component was always RoHS compliant from the first date of manufacture.

SF2316E-3

1583 MHz SAW Filter



SM3030-6

- ***Low-loss 1582 MHz SAW Filter***
- ***Designed for 50 ohm Source/Load***
- ***Operable Temperature Range -45°/125°C***

Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	+10	dBm
DC Voltage on any Non-ground Terminal	3	V
Operable Temperature Range	-45 to +125	°C
Specification Temperature Range	-40 to +105	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C

Electrical Characteristics

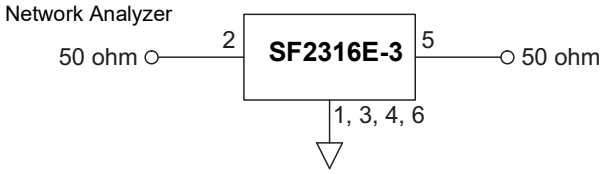
Characteristic		Sym	Notes	Min	Typ	Max	Units
Center Frequency		f_C			1583		MHz
3db Bandwidth					60		
Insertion Loss, 1560 to 1606 MHz	(-40 to +85°C)	IL			2.0	3.0	dB
	(-40 to +105°C)				2.0	3.2	
Return Loss					10		dB
GD Ripple, 1560 to 1606 MHz					15.0	35.0	ns
1573.374 to 1577.466 MHz					5.0	10.0	
1597.551 to 1605.886 MHz					5.0	17.0	
Amplitude Ripple, 1560 to 1606 MHz	(-40 to +85°C)				0.9	2.0	dB
	(-40 to +105°C)				0.9	2.5	
Attenuation,							dB
1 to 960 MHz				32	37		
1427 to1501 MHz				35	45		
1501 to 1525 MHz				30	37		
1626 to 1660 MHz				30	43		
1710 to 1785 MHz				35	40		
1850 to 1910 MHz				35	41		
1920 to 1980 MHz				35	42		
2110 to 2170 MHz				35	44		
2400 to 2570 MHz				40	46		
2570 to 4000 MHz					18		
4000 to 6000 MHz					4.5		

Case Style	SMD 3.0 x 3.0 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	9D, YWWS

Electrical Connections

Connection	Terminals
Input	2
Output	5
Ground	All Others

Measurement Circuit

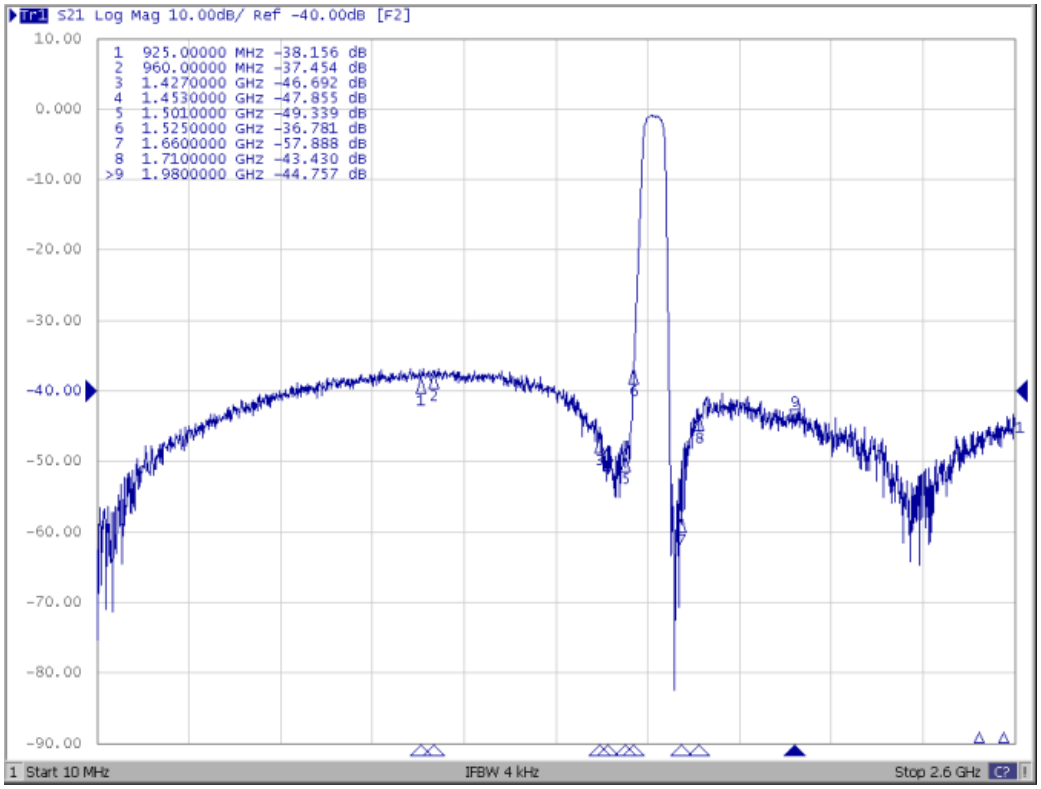


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

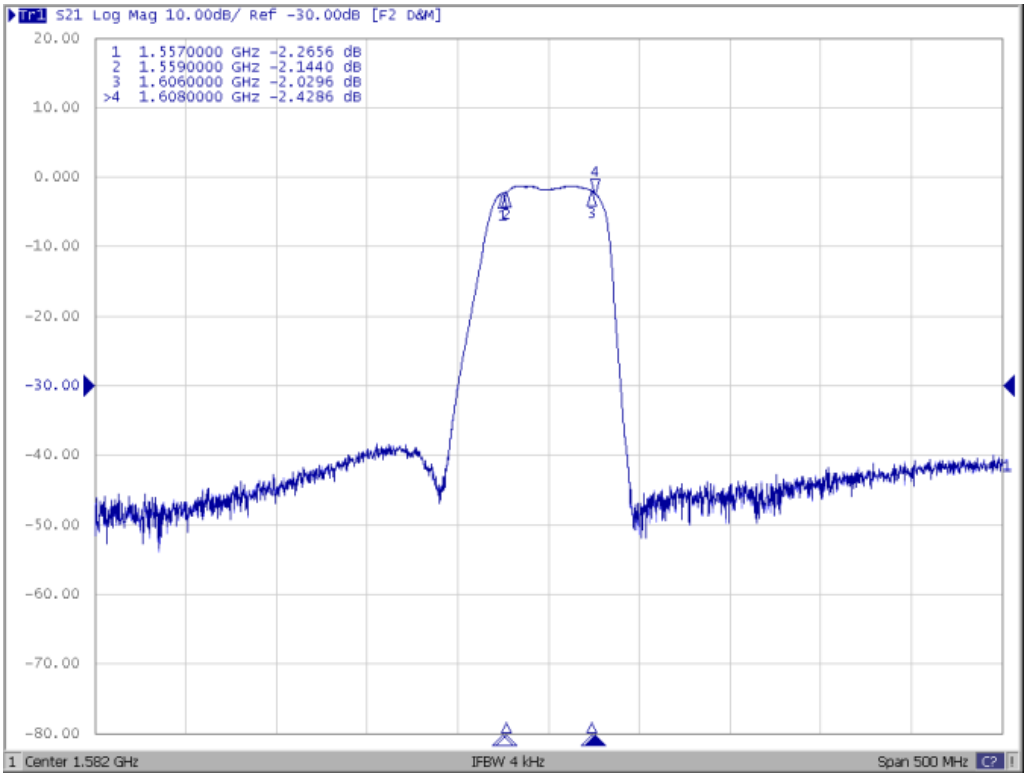
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, fc.
3. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
4. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
7. US and international patents may apply.
8. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

Frequency Characteristics:

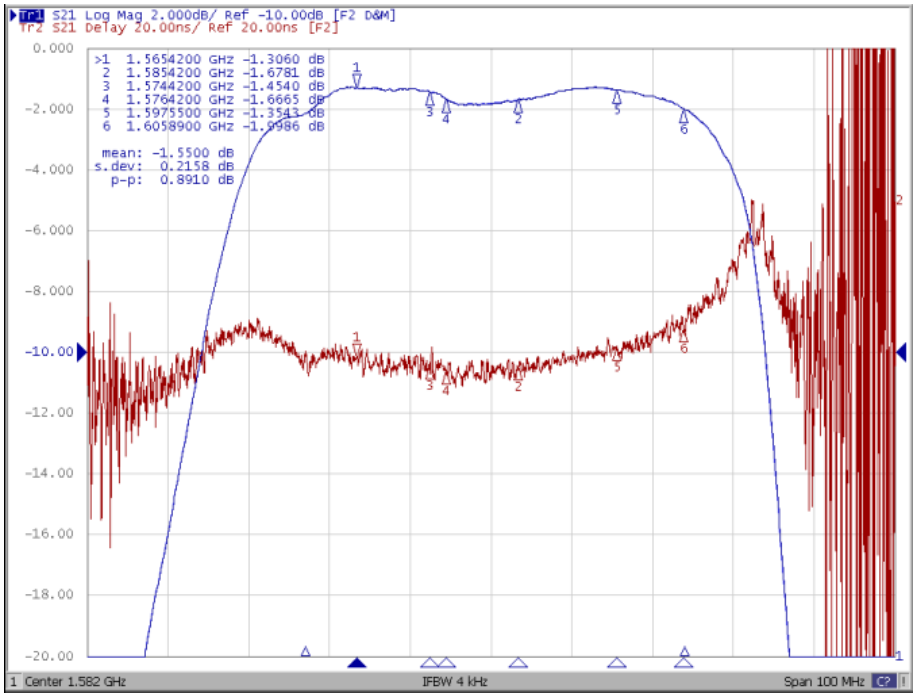
S21 response: (span 2.6 GHz)



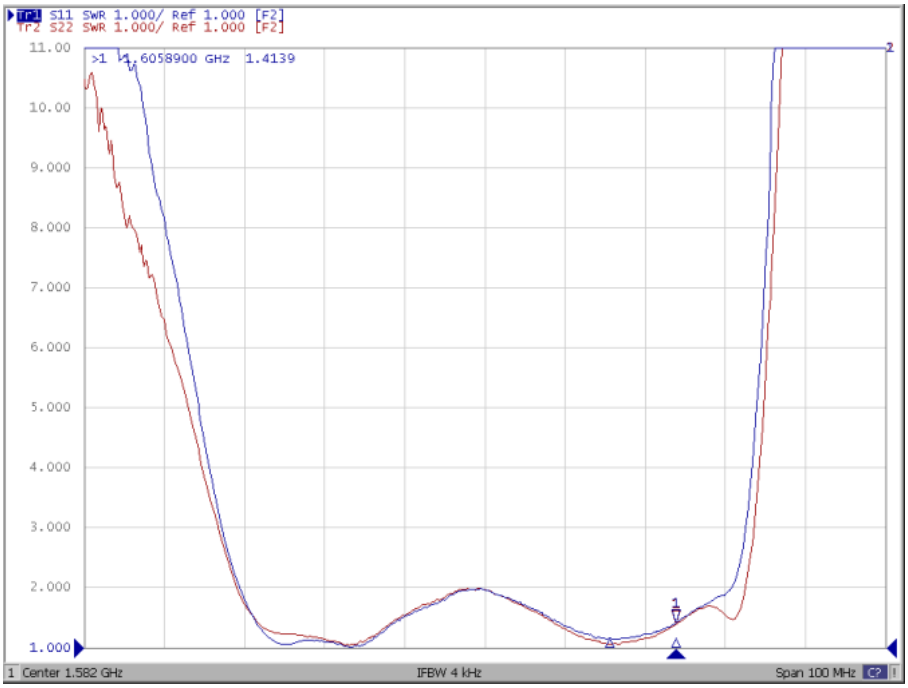
S21 response: (span 500 MHz)

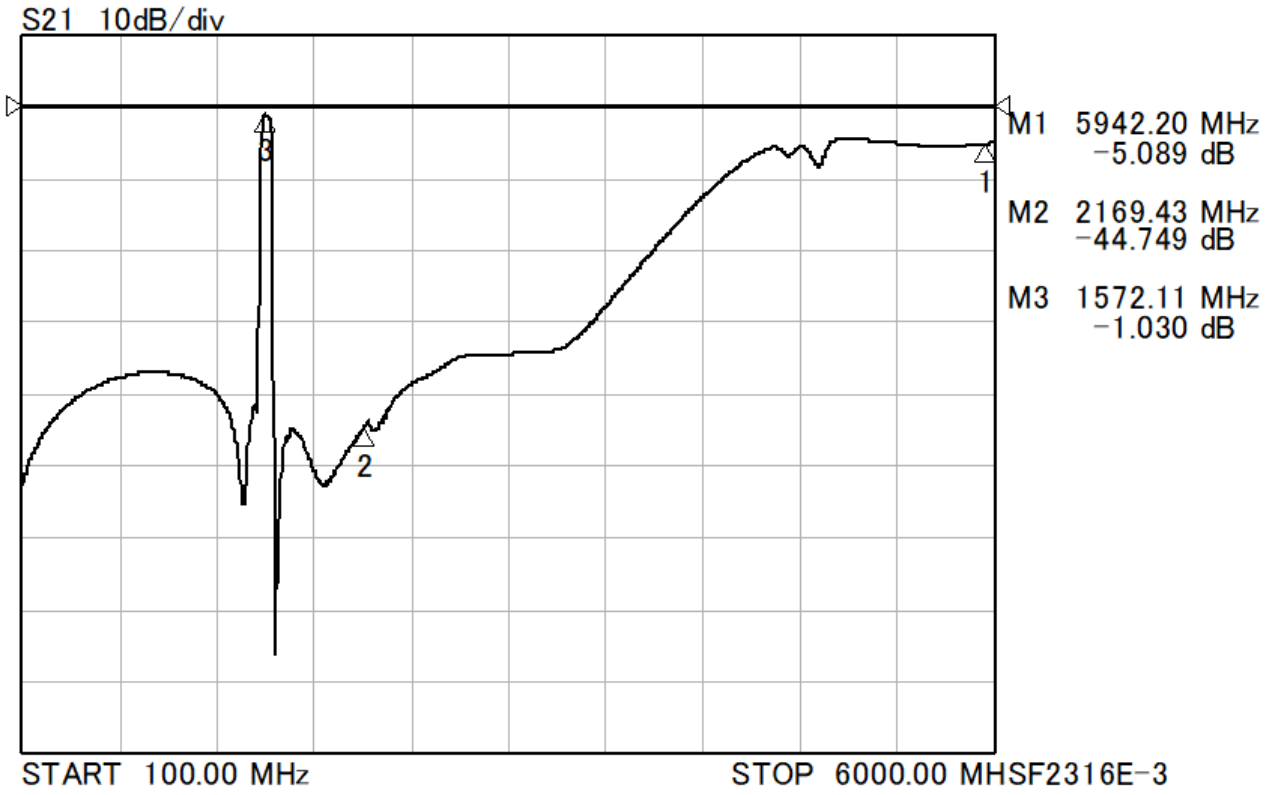


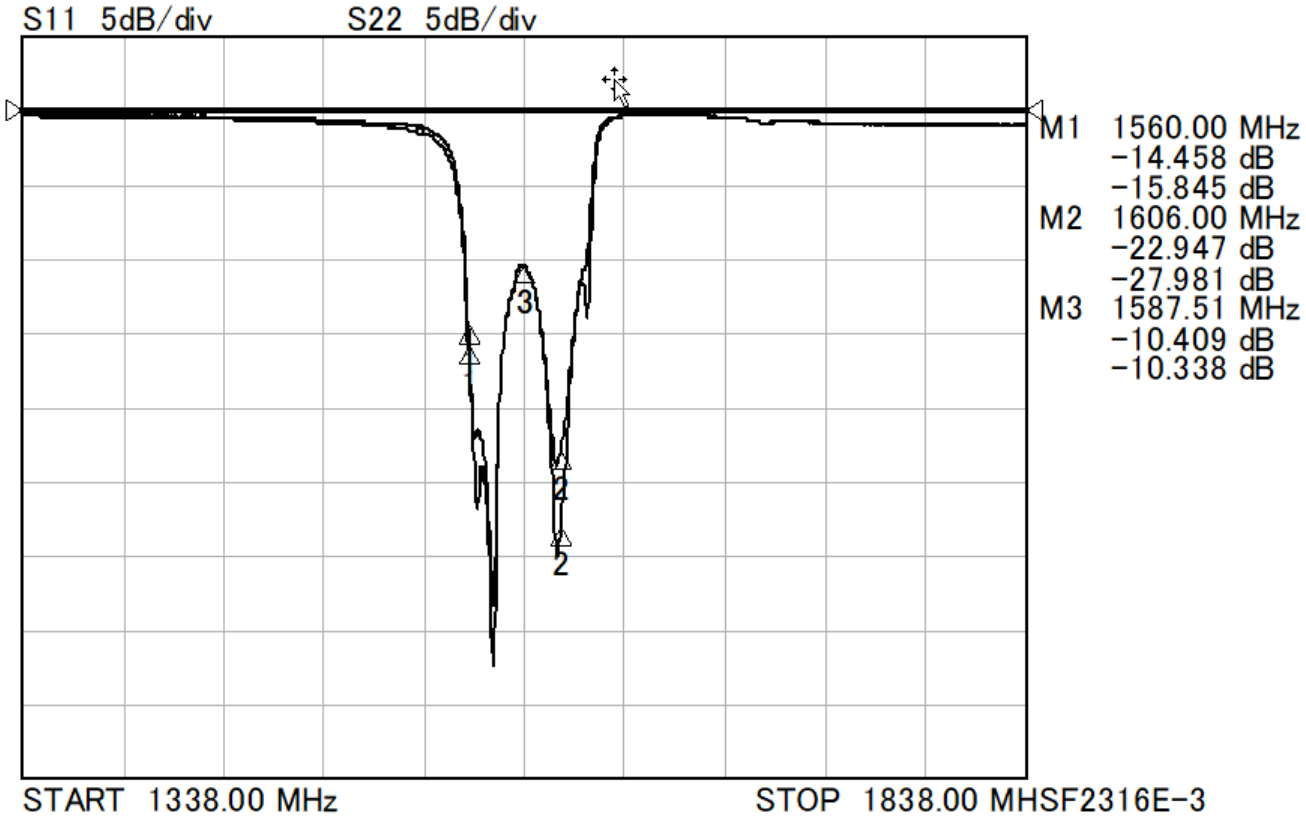
S21 response: (span 100 MHz)



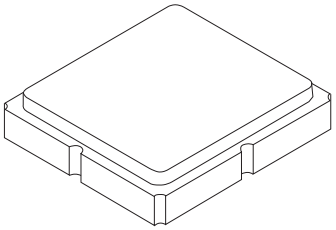
S11 and S22VSWR: (span 100 MHz)

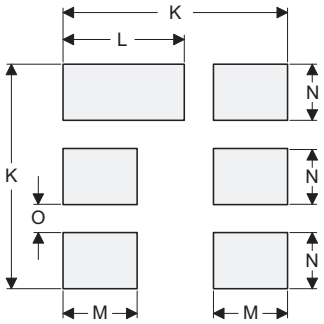






SM3030-6 Ceramic 6-Terminal Surface-Mount Case
3.0 X 3.0 mm Nominal Footprint





PCB Footprint Top View

Case and PCB Footprint Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.00	3.13	0.113	0.118	0.123
B	2.87	3.00	3.13	0.113	0.118	0.123
C	1.12	1.25	1.38	0.044	0.049	0.054
D	0.77	0.90	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.60	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	1.50	1.63	0.054	0.059	0.064
I	0.47	0.60	0.73	0.019	0.024	0.029
J	1.17	1.30	1.43	0.046	0.051	0.056
K		3.20			0.126	
L		1.70			0.067	
M		1.05			0.041	
N		0.81			0.032	
O		0.38			0.015	
P	0.15	0.30	0.45	0.005	0.011	0.017
Q	0.07	0.20	0.36	0.002	0.007	0.014
R	0.62	0.7	0.78	0.024	0.027	0.030

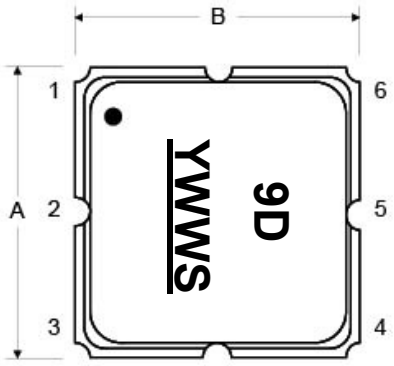
Case Materials

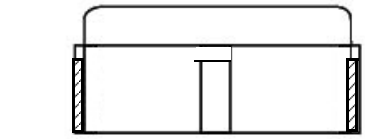
Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic
Pb Free	

Electrical Connections

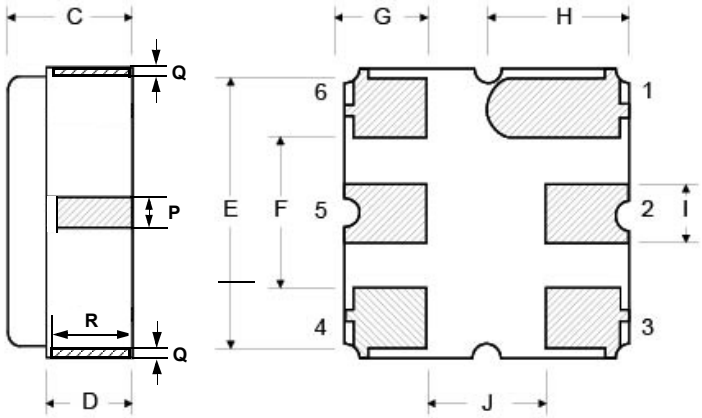
Connection	Terminals
Input	2
Output	5
Case Ground	All others

TOP VIEW

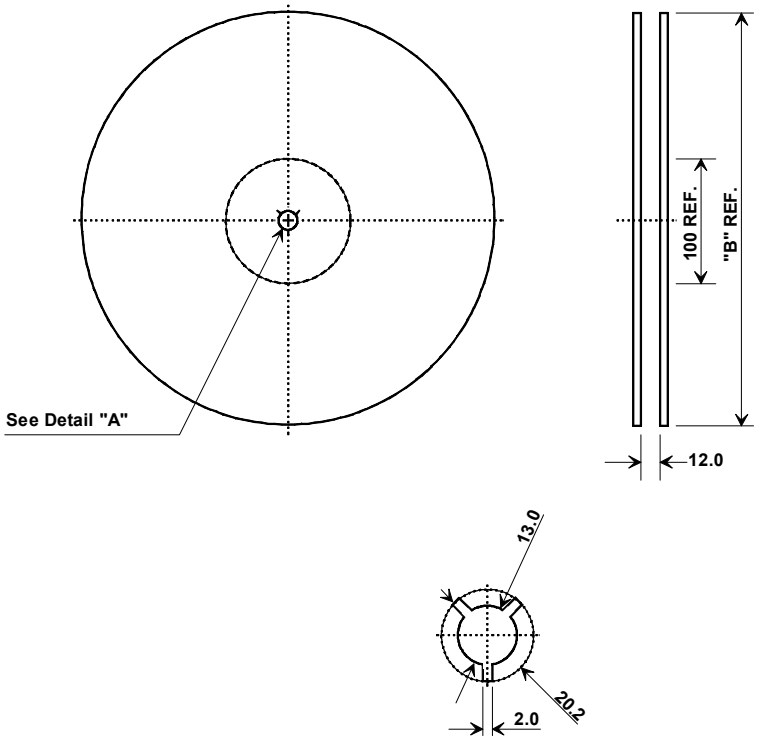




BOTTOM VIEW



Tape and Reel Specifications



"B"		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000

COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	3.35 mm
Bo	3.35 mm
Ko	1.40 mm
Pitch	8.0 mm
W	12.0 mm