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INNOVATOR IN ELECTRONICS

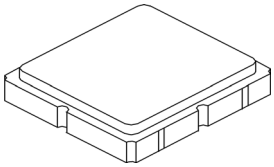
Discontinued

This component was active, RoHS compliant from the first date of manufacture.

SF2442E-1

1565.5 MHz SAW Filter

- ***Surface Mount 3.0 x 3.0 mm Package***



SM3030-6

Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	15	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

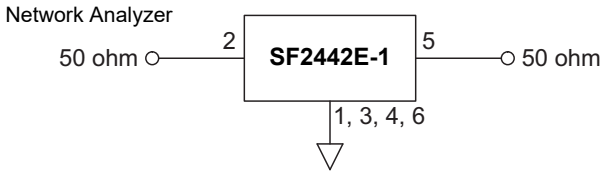
Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_C			1565.5		MHz
3 dB Bandwidth				150		MHz
Insertion Loss, (1525 to 1606 MHz)	IL			3.1	3.7	dB
Return Loss, (1525 to 1606 MHz)				10		dB
Passband Ripple (1525 to 1606 MHz)				0.6	2.0	
Group Delay Variation (1525 to 1606 MHz)				2.0	15.0	ns
(1525 to 1606 MHz on 2 MHz sliding window)				1.2	15.0	
(ref - 1573.374 to 1577.466 MHz)				0.5	5.0	
(ref - 1597.55 to 1605.886 MHz)				1.0	5.0	
Attenuation, Referenced from 0 dB:						dB
100 to 1320 MHz				29		
1320 to 1420 MHz			30	40		
1740 to 2000 MHz			30	40		
2000 to 4000 MHz				21		
4000 to 6000 MHz				16		
Temperature coefficient of frequency				-80		Ppm/°C
Source Impedance				50		Ω
Load Impedance				50		

Case Style	SM3030-6 3.0 x 3.0 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	9F, YWWS

Electrical Connections

Connection	Terminals
Input	2
Output	5
Case Ground	All others

Measurement Circuit



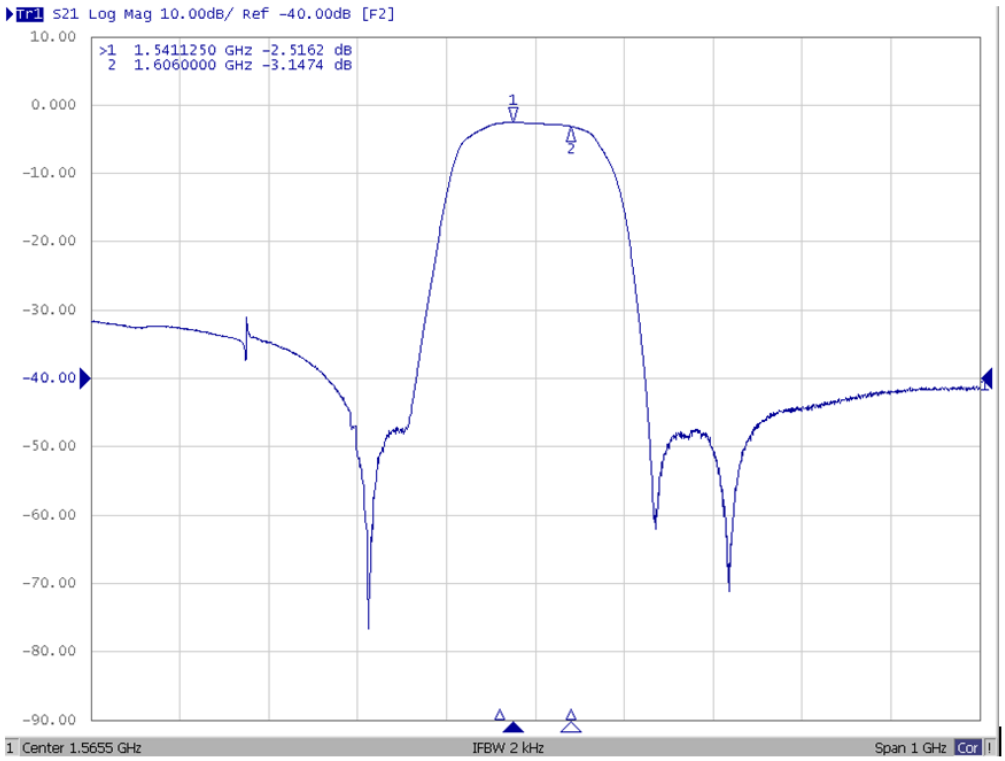
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

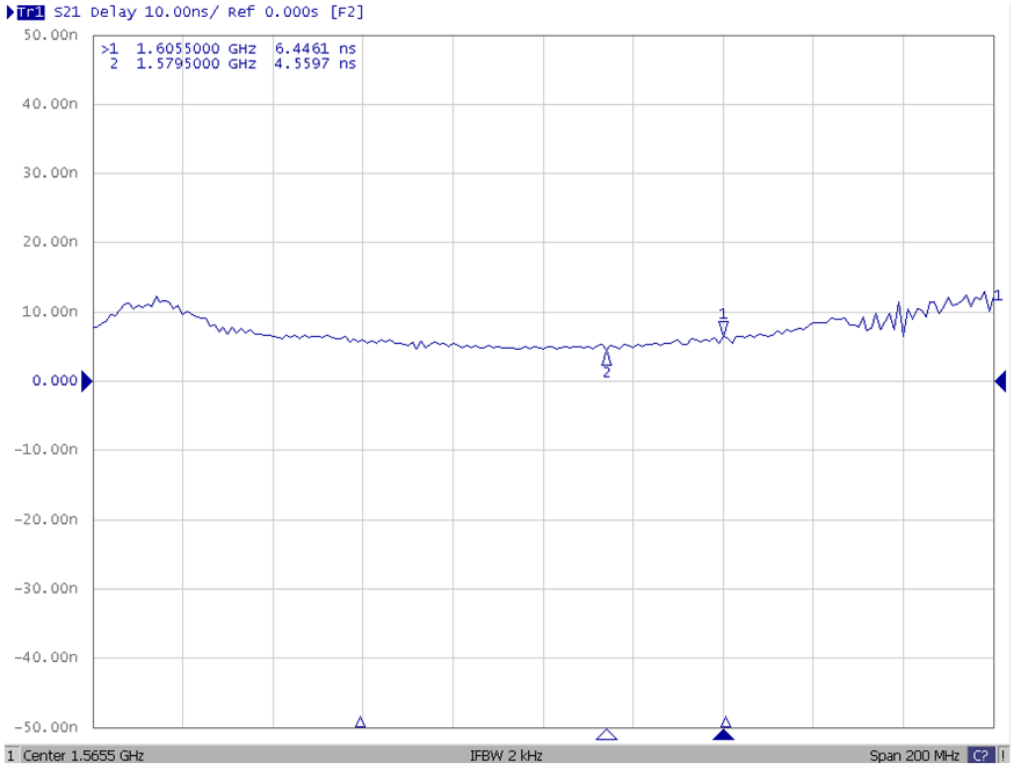
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal 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

Narrow Band Response

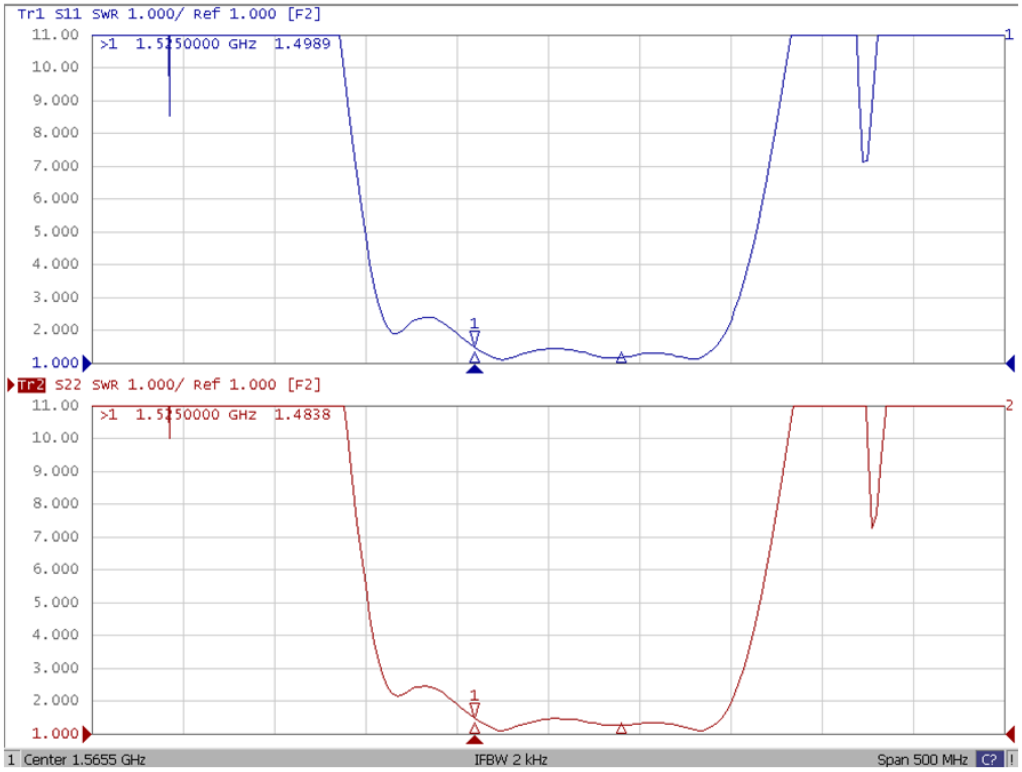


Group Time Delay Response

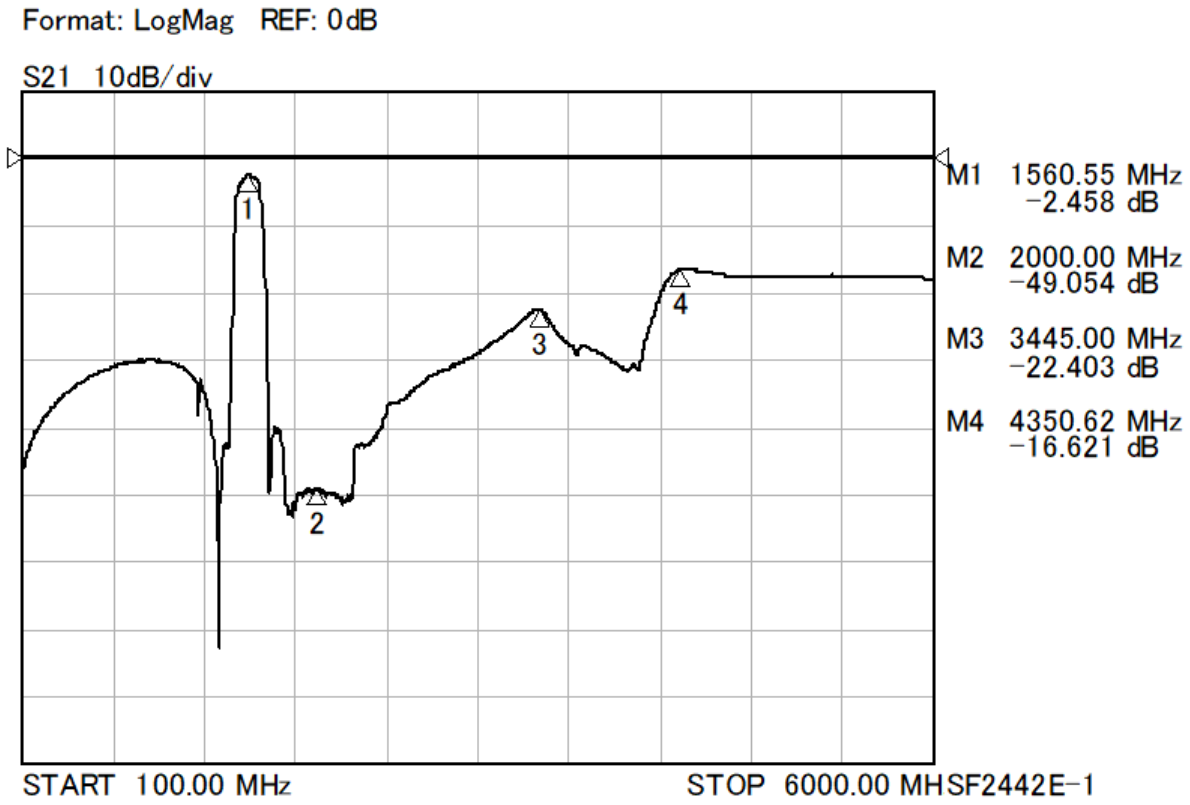


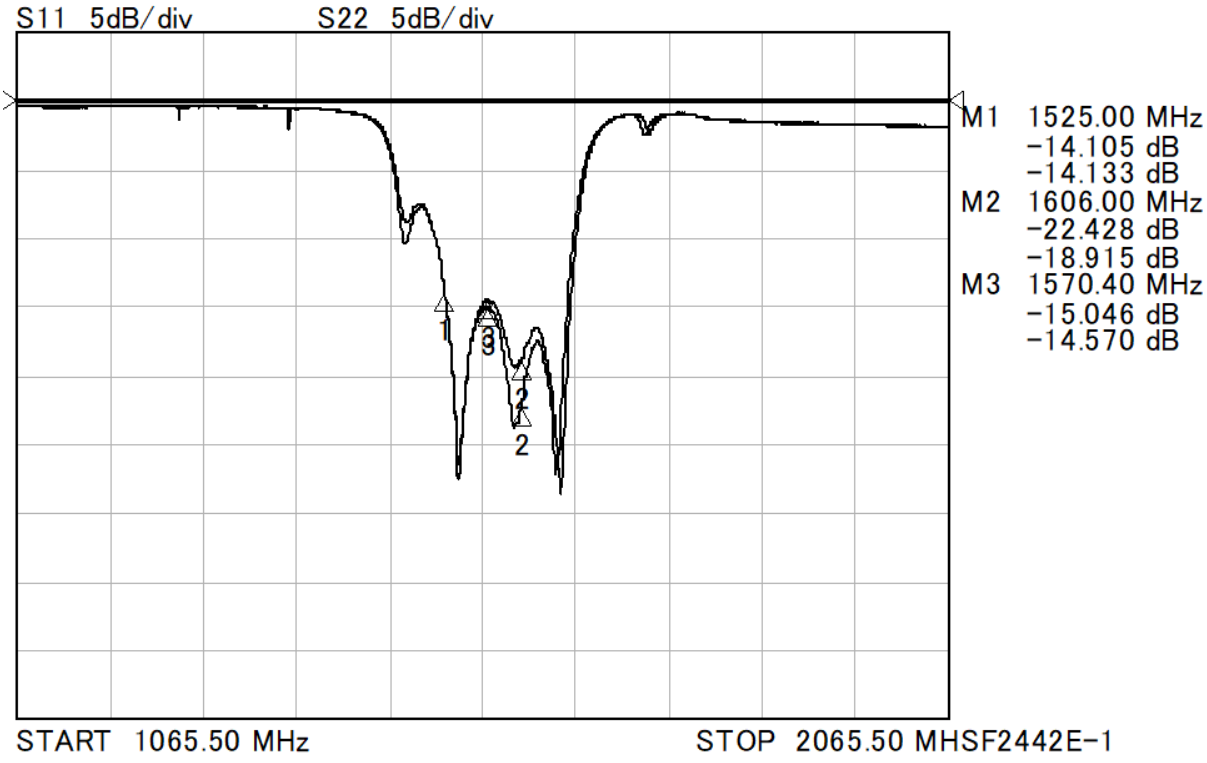
Frequency Characteristics

VSWR



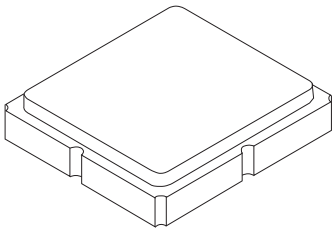
Wide Band Response





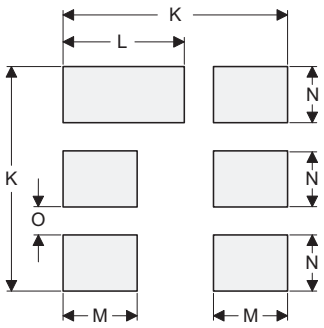
SM3030-6 Case

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



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



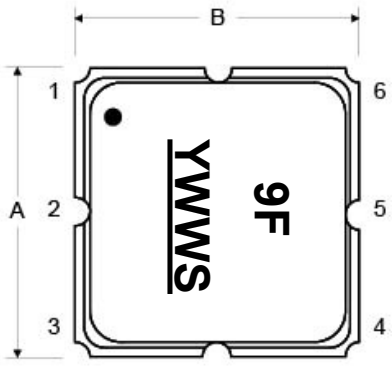
PCB Footprint Top View

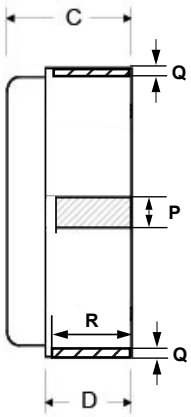
Case Materials

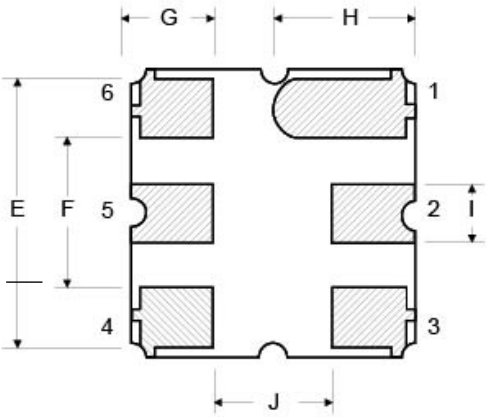
Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic
Pb Free	

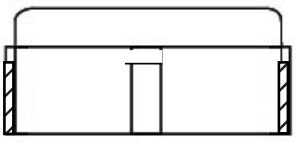
TOP VIEW

BOTTOM VIEW

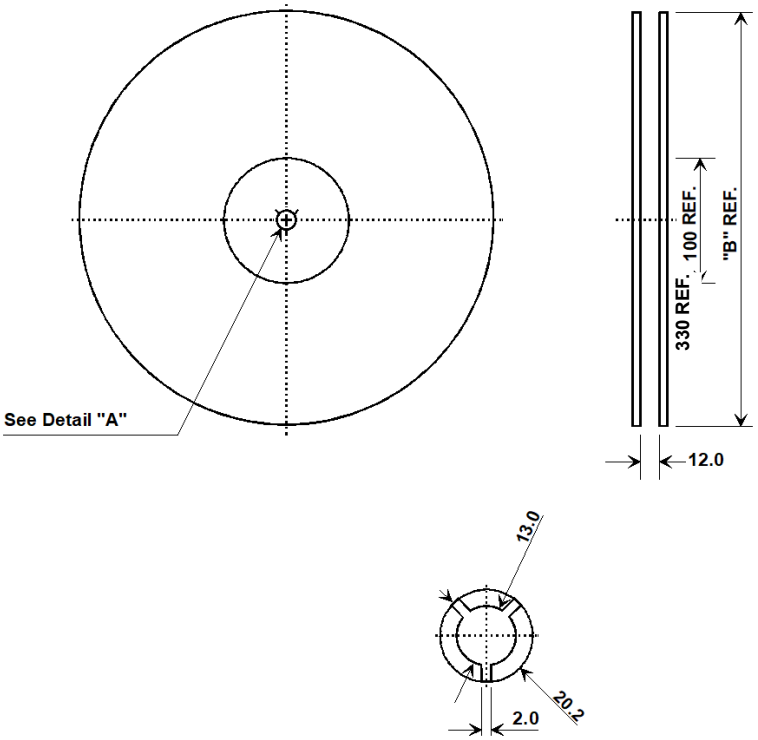






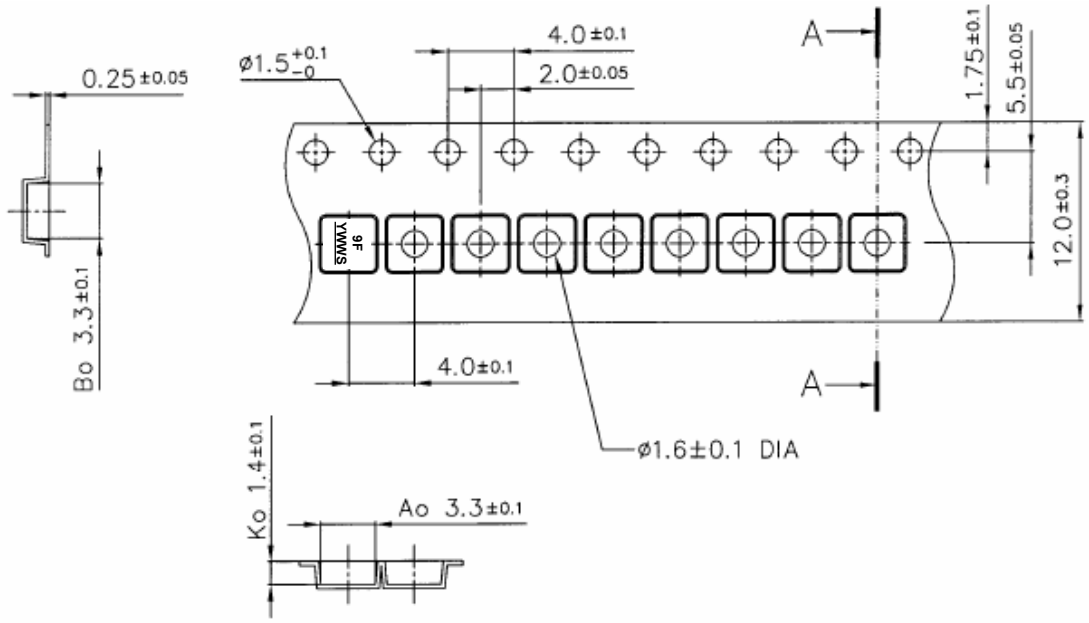


Tape and Reel Specifications



COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	3.3 mm
Bo	3.3 mm
Ko	1.4 mm
Pitch	4.0 mm
W	12.0 mm



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