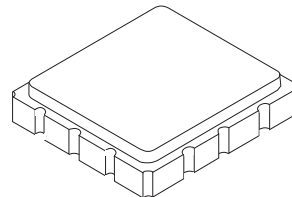


SF2357D

902.5/947.5 MHz SAW Duplexer Filter



SM3838-12

- **Band 8**
- **Low Insertion Loss Duplexer SAW Filter**
- **3.8x 3.8 mm Surface-mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**



Absolute Maximum Ratings

Rating	Value	Units
Maximum Input Power	1.0	W
DC Voltage	10	VDC
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Operating Temperature Range	-30 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Profile	260 °C for 10 sec	

Electrical Characteristics

Ant to Rx (902.5 MHz)		Specifications					
Parameter Description	Condition	Sym	Note	Min	Typ	Max	Units
Insertion Loss,	890 to 915 MHz			-	1.7	2.2	dB
Ripple	890 to 915 MHz				0.7	1.2	dB _{p-p}
VSWR	Ant. Port: 890 to 915 MHz				1.6	2.0	
	Rx Port: 890 to 915 MHz				1.5	2.0	
Attenuation							dB
0.3 to 860 MHz				10	16		
935 to 960 MHz				45	50		
1570 to 1580 MHz				10	18		
1710 to 2170 MHz				8	15		
2300 to 2500 MHz				3	7		
Tx to Ant (947.5 MHz)							
Insertion Loss	935 to 960 MHz			-	2.3	2.8	dB
Ripple	935 to 960 MHz				1.0	1.5	dB _{p-p}
VSWR	Ant. Port 935 to 960 MHz				1.7	2.0	
	Tx Port 935 to 960 MHz				1.6	2.0	
Attenuation							dB
0.3 to 860 MHz				25	32		
890 to 915 MHz				50	55		
1570 to 1580 MHz				45	55		
1710 to 2170 MHz				50	57		
2300 to 2500 MHz				40	48		
Tx to Rx							
Isolation	890 to 915 MHz			50	55		dB
	935 to 960 MHz			48	53		
Case Style		SM3838-12 3.8 X 3.8 X 1.45 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator		B23, <u>YWWWS</u>					

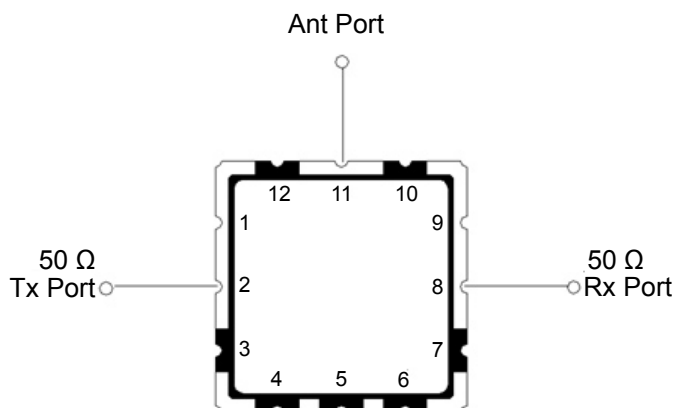


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

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. The design, manufacturing process, and specifications of this filter are subject to change.
5. 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.
6. US and international patents may apply.
7. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

Measurement Circuit

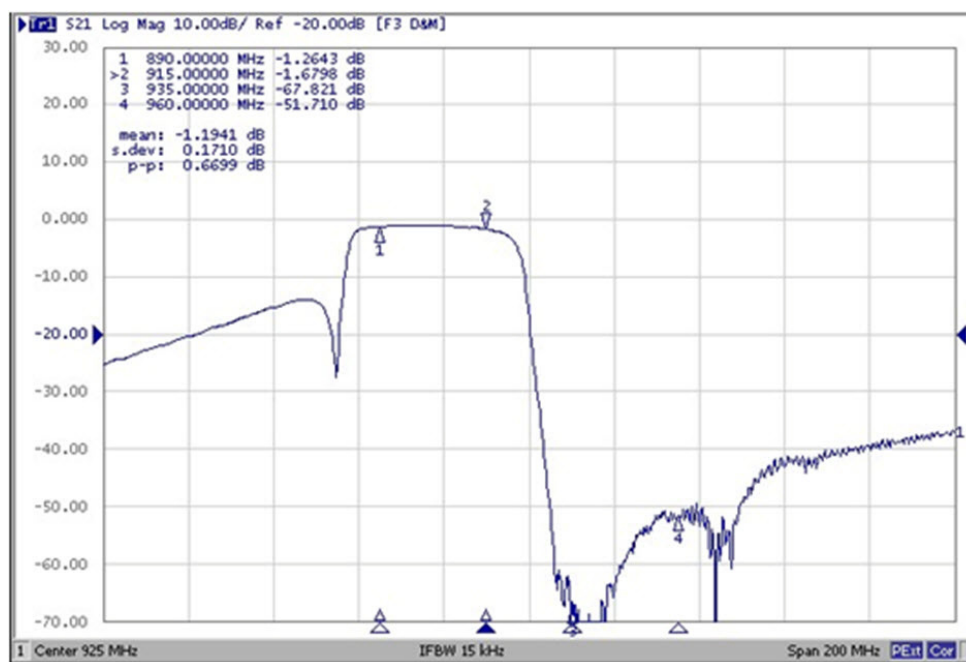


Electrical Connections

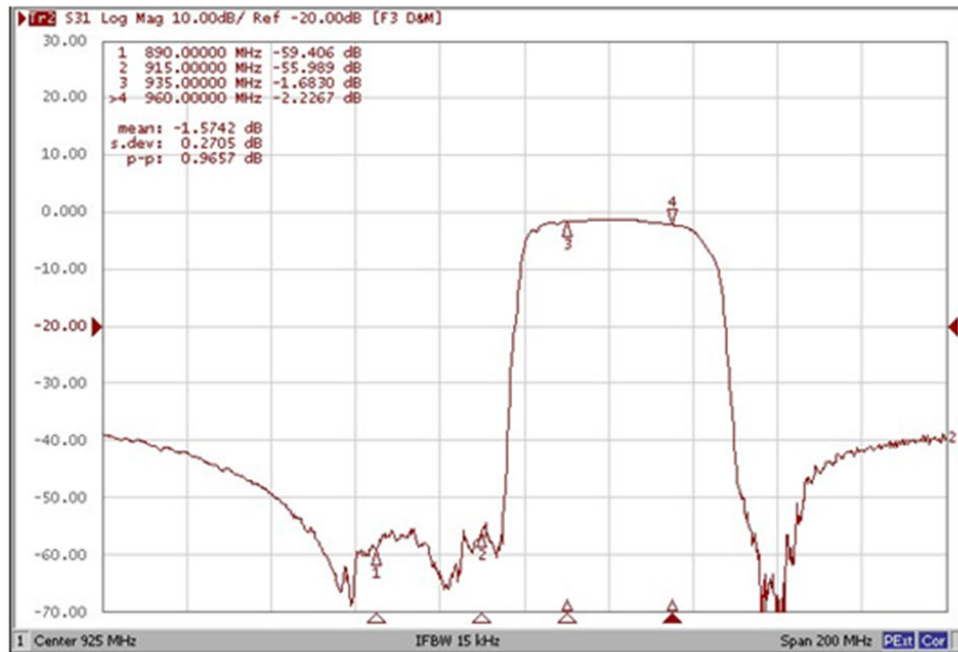
Pin	Connection
1, 3, 4, 5, 6, 7, 9, 10, 12	Ground
2	Tx Port (947.5 MHz)
8	Rx Port (902.5 MHz)
11	Antenna

Frequency Characteristics

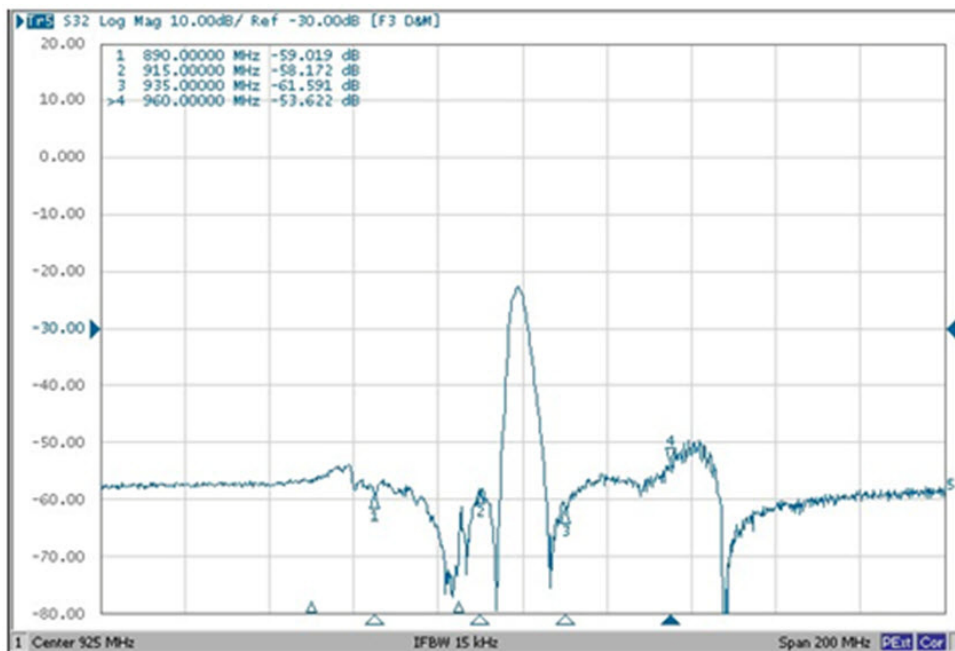
RX



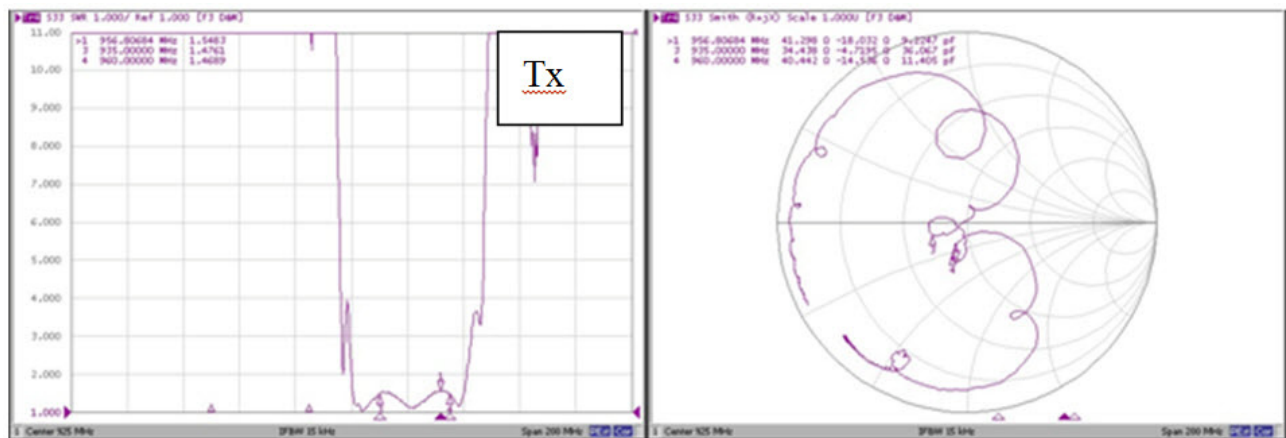
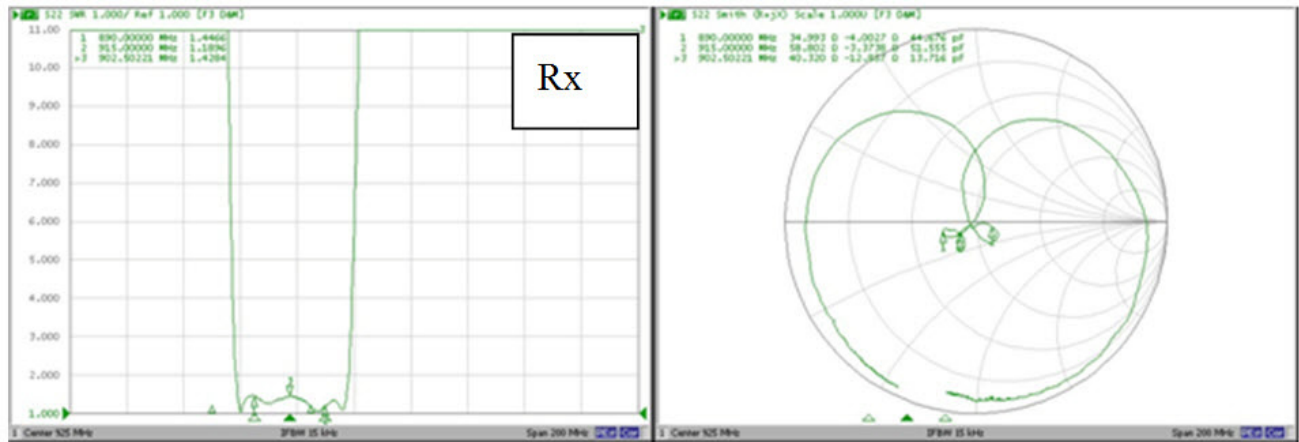
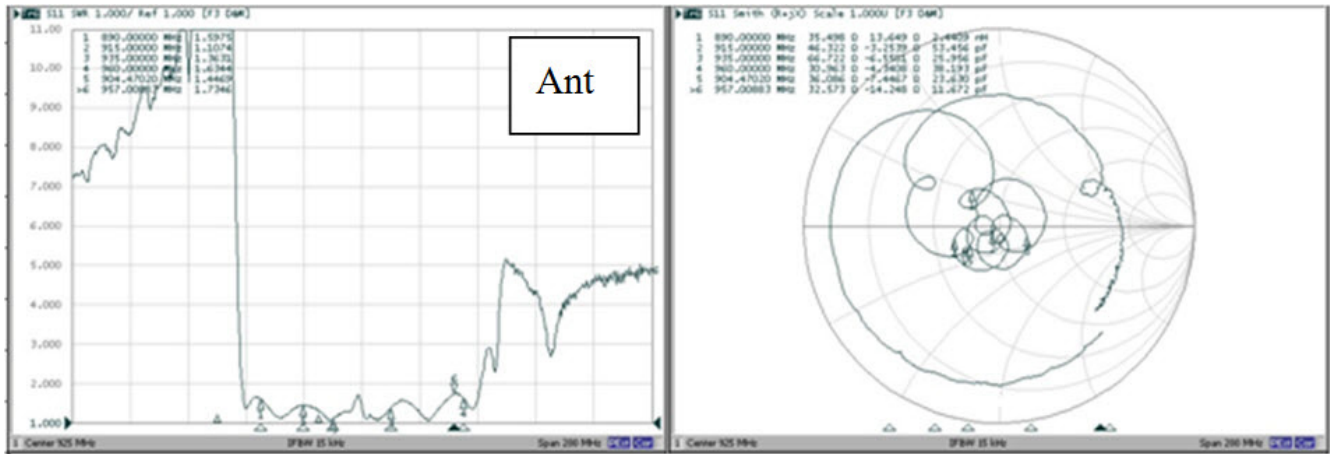
TX



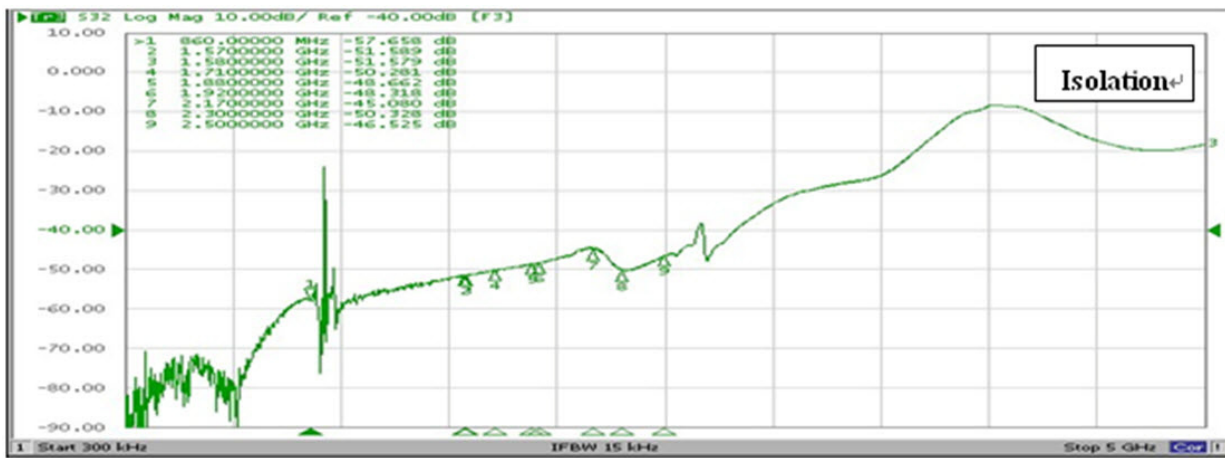
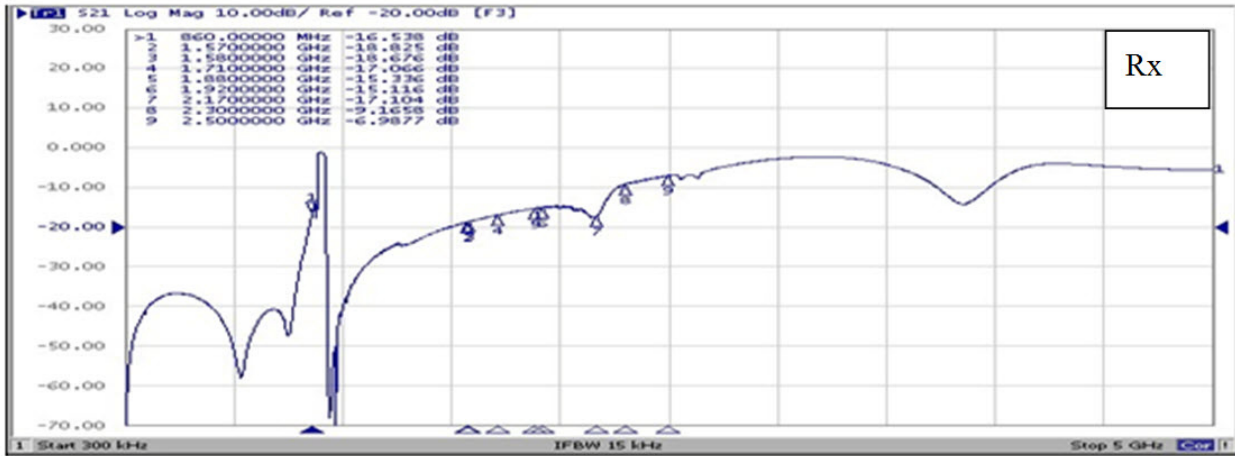
Isolation



VSWR and Smith Charts



Wide Span



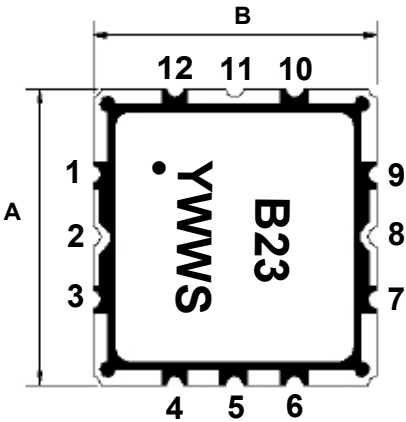
SMD3838-12 Case

Case Dimensions

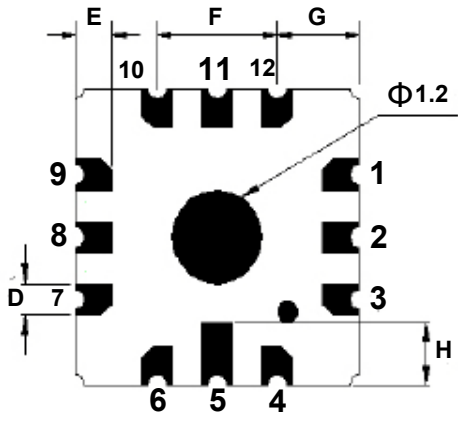
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	-	3.8	-	-	-	-
B	-	3.8	-	-	-	-
C	-	-	1.45	-	-	-
D	-	0.45	-	-	-	-
E	-	0.6	-	-	-	-
F	-	1.6	-	-	-	-
G	-	1.1	-	-	-	-
H	-	0.8	-	-	-	-

Materials	
Solder Pad Plating	0.3 to 1.0 μ m Gold over 1.27 to 8.89 μ m Nickel
Lid Plating	2.0 to 3.0 μ m Nickel
Body	Al ₂ O ₃ Ceramic
Pb Free	

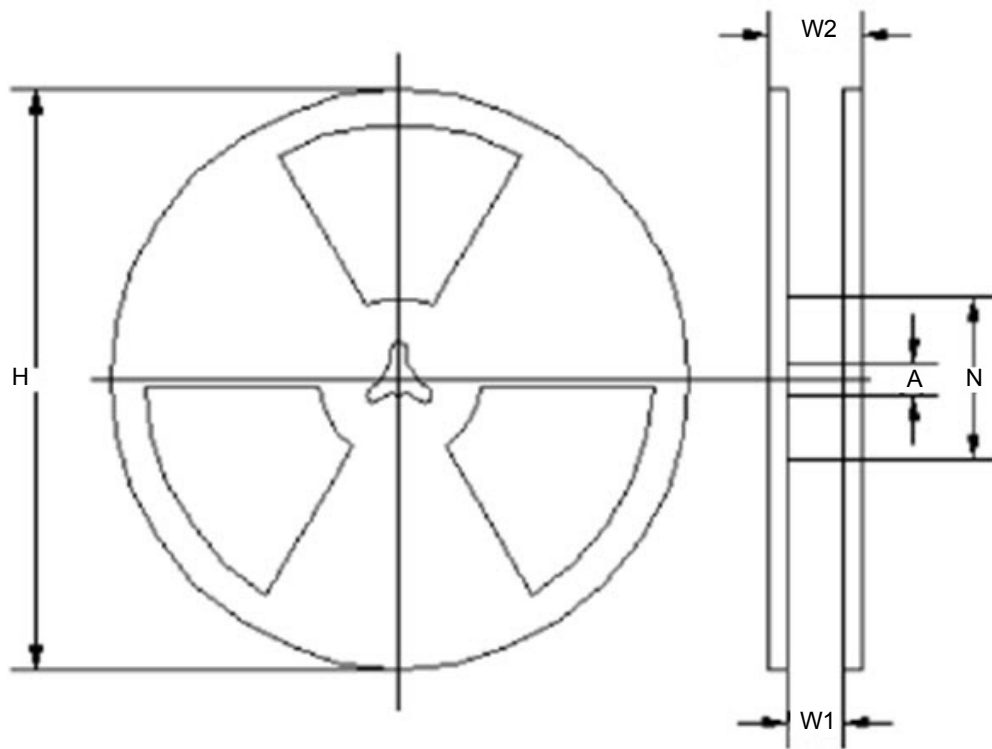
TOP VIEW



BOTTOM VIEW

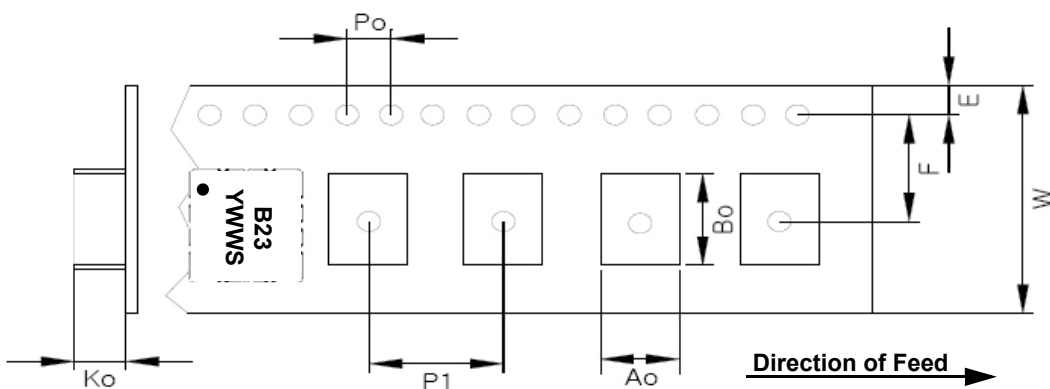


Tape and Reel Specifications



Tape Reel Specifications (Unit: mm)				
	N	H	W1	W2
Φ13±0.5	Φ62±	Φ330.01±1.0	12.0±1.0	16.0±1.0

Component Orientation and Dimensions



Carrier Tape Dimensions	
Ao	3.4 ± 0.1
Bo	3.4 ± 0.1
E	1.75 ± 0.1
F	5.5 ± 0.1
Ko	1.4 ± 0.1
P1	8.0 ± 0.1
Po	4.0 ± 0.1
W	12.0 ± 0.3

Recommended Reflow Profile

