

6.5 GHz WiFi 6E Coexistence BAW Filter

A10165

Description

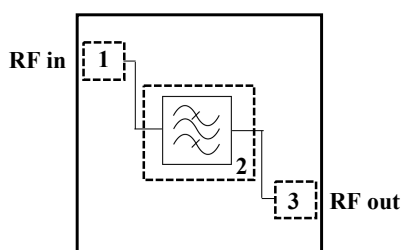
Akoustis' A10165 is a high performance, ultra-wide bandwidth BAW RF Filter for use in WiFi 6E applications covering U-NII-5 thru U-NII-8 bands. A10165 utilizes Akoustis' patented, XBAW technology which provides leading RF filter performance. This BAW RF filter provides low insertion loss and meets the stringent rejection requirements enabling coexistence with U-NII-1 thru 3. This device exhibits high-power handling capabilities necessary for demanding power requirements of the latest WiFi 6E standards. A10165 is a fully integrated, 50 ohm module using standard laminate packaging and is compatible with high volume, lead-free SMT soldering processes.

- Small form factor 3.5mm x 3.5mm x 1.73mm
- Single ended Tx/Rx ports.
- Ultra-wide passband covering 1180MHz
- High rejection enables coexistence with adjacent WiFi UNII bands
- High power rating, maximum +27dBm
- Low insertion loss band pass filter
- Performance over -40 C to +85C
- RoHS compliant, Pb-free package

Applications

- WiFi 6E tri band routers, integrated cable modem
- WiFi 6E tri band access points
- LTE/LAA small cells

Functional Block Diagram



Pin #	Description
1	RF Input
2	Ground
3	RF Output

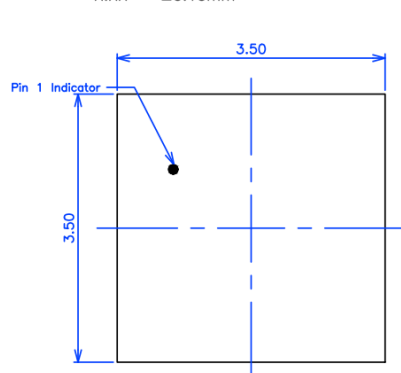
Ordering Information

Part Number	Description
A10165EVB	Evaluation board
A10165SP	(5) Loose pcs
A10165SR	(100) Short Reel
A10165TR1	(1000) Tape & Reel
A10165TR2	(2500) Tape & Reel

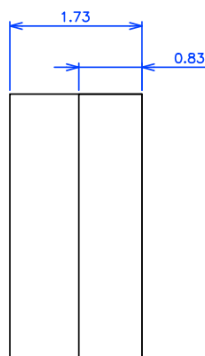
Package Drawing & Pin Description

Notes:

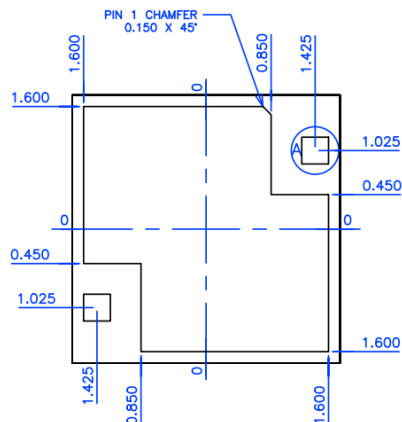
- All Units are in mm unless otherwise stated
- General Tolerance:
Linear X.XXX = $\pm 0.050\text{mm}$
X.XX = $\pm 0.10\text{mm}$



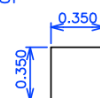
Top View



Side View



Bottom View



DETAIL A
PAD
SCALE: 2x
2X THIS ROTATION

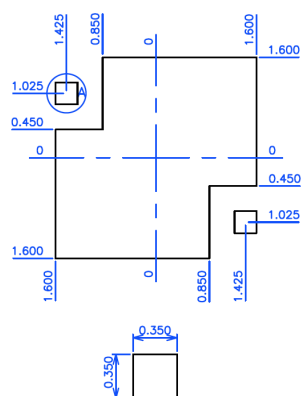
NOTES:

1. Terminal Finish:
Electroless Ni/Electroless Pd/Immersion Au

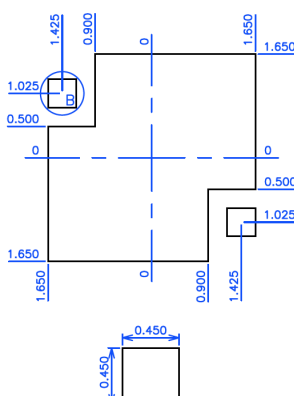
PCB Mounting Pattern

Notes:

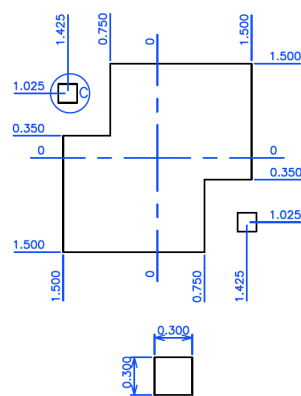
- All Units are in mm unless otherwise stated
- General Tolerance:
Linear X.XXX = $\pm 0.050\text{mm}$
X.XX = $\pm 0.10\text{mm}$



Recommended PCB
Metal Top View

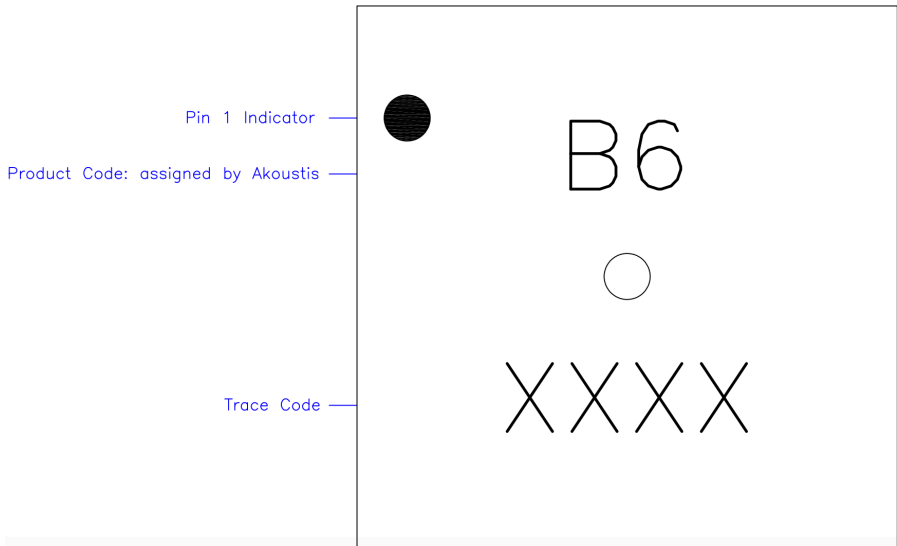


Recommended Solder
Mask Opening Top View

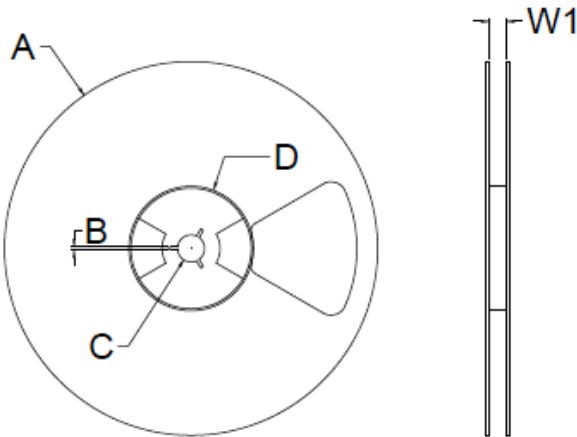


Recommended Stencil
Pattern Top View

Typical Part Marking

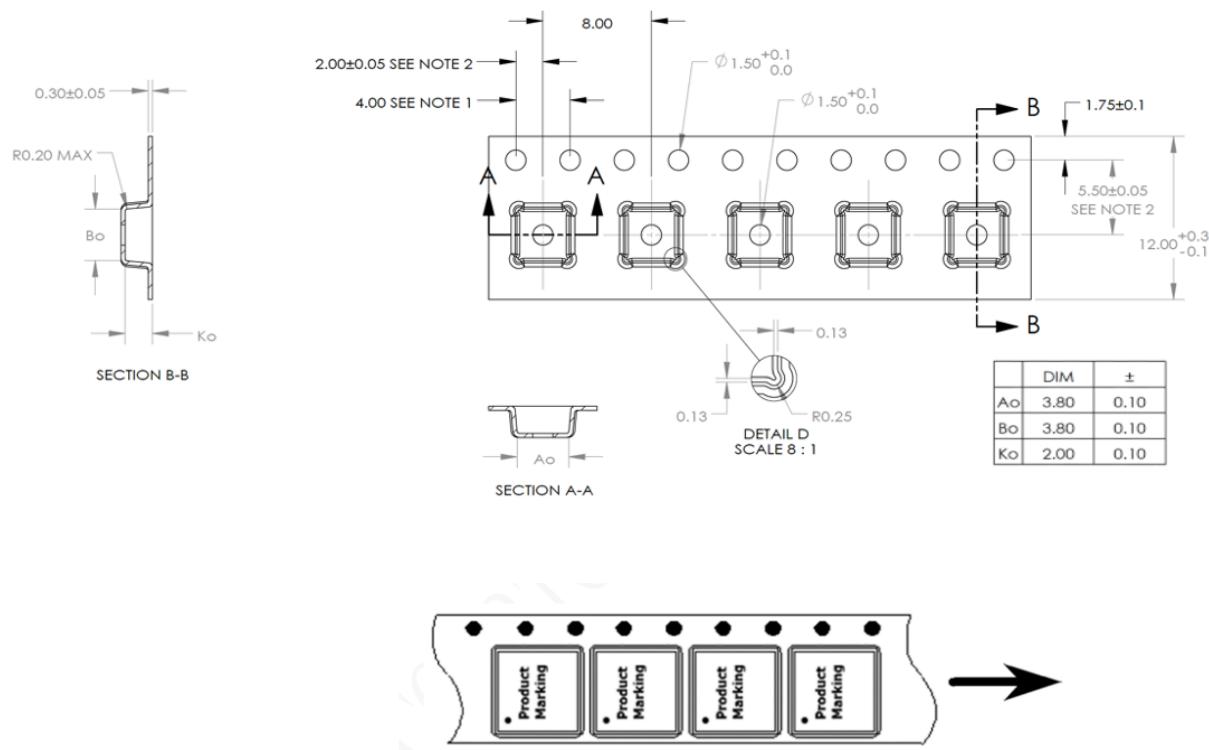


Reel Dimension For 12mm Tape Width



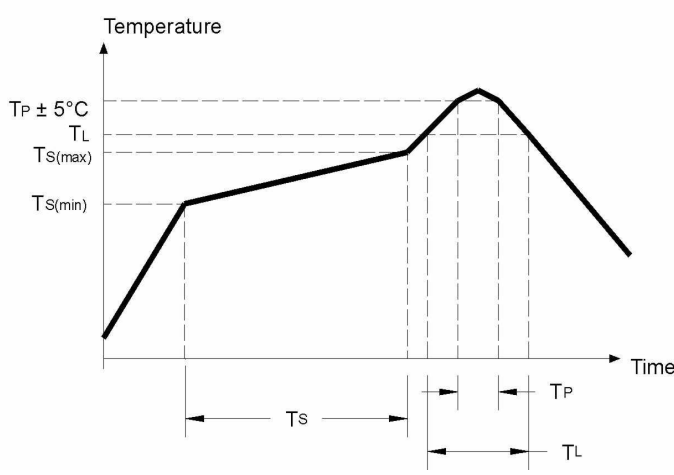
Reel Dimensions					
Tape Width	A	B	C	D	W1 *measured at hub
8 mm	180 +0/-2.0 mm	1.5mm Min	13.0 + 0.5 / -0 mm	60.0 mm	8.40 + 1.5 / -0 mm
12 mm	180 +0/-2.0 mm	1.5mm Min	13.0 + 0.5 / -0 mm	60.0 mm	12.40 + 2.0 / -0 mm
16 mm	180 +0/-2.0 mm	1.5mm Min	13.0 + 0.5 / -0 mm	60.0 mm	16.40 + 2.0 / -0 mm

Tape Dimension



Recommended Solder Profile

Parameter	Eutectic Sn/Pb	Pb Free
Max Ramp Up Rate	6 Deg C/Second	6 Deg C/Second
Soak Temp Time Ts(min) - Ts (max)	135 - 155 Deg C	150-200 Deg C
Max Soak Time Ts	2 minutes	3 minutes
Liquidous Temp TL	183 Deg C	220 Deg C
Max Time Above TL	150 Seconds	150 Seconds
Max Peak Temperature TP	225 Deg C	260 Deg C
Max Time at Peak TP	30 Seconds	30 Seconds
Max Ramp Down Rate	10 Deg C/Second	10 Deg C/Second



Product Compliance Information

ESD Sensitivity Ratings

Human Body Model (HBM) Test

Rating: TBD

Standard: ANSI/ESDA/JEDEC JS-001-2017

Charged Device Model (CDM)

Rating: TBD

Standard: ANSI/ESDA/JEDEC JS-002-2018

MSL Rating

TBD

RoHS

This part is compliant with 2011/65EU RoHS directive on the restrictions of the use of certain hazardous substances in electrical and electronics equipment as amended by Directive (EU) 2015/863

Contact Information

All contents specified in datasheet are subject to change. Please contact Akoustis for the latest on our products and company information.

Email: sales@akoustis.com

Website: www.akoustis.com

Telephone: +1 704.997.5735

Fax: +1 704.997.5734