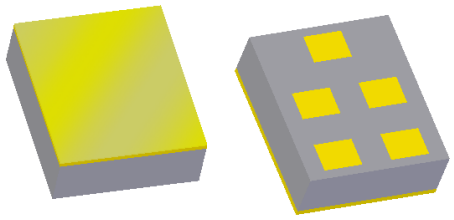
885069

2350 MHz BAW Filter

Applications

- For Band 40 TD-LTE applications

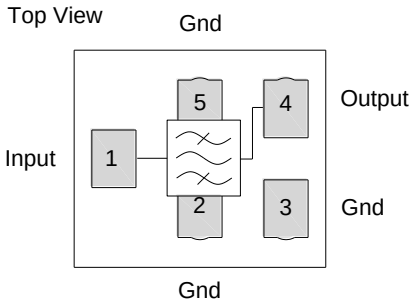


1.4 x 1.2 x 0.46 mm

Product Features

- Highly selective BAW filter achieving low insertion loss over full bandwidth and operating conditions
- Performance -20 to +90 °C
- Excellent Wi-Fi rejection
- Single-ended operation
- Ceramic chip-scale Package (CSP)
- Small Size
- Hermetic RoHS compliant, Pb-free

Functional Block Diagram



General Description

The 885069 is a high performance Bulk Acoustic Wave (BAW) filter designed to meet the strict LTE rejection requirements for use in B40.

885069 is specifically designed to meet the high performance expectations of insertion loss and rejection for LTE uplink systems under all operating conditions.

The 885069 uses common module packaging techniques to achieve the industry standard 1.4 x 1.2 x 0.46 mm footprint.

Pin Configuration

Pin No.	Label
1	Input
4	Output
2,3,5	Ground

Ordering Information

Part No.	Description
885069	Packaged Part
885069-EVB	Evaluation board

Standard T/R size = 10,000 units/reel

Absolute Maximum Ratings

Parameter	Rating
Storage Temperature (1)	-40 to +90°C
Operable Temperature (2)	-20 to +90°C
RF Input Power (3)	+27 dBm

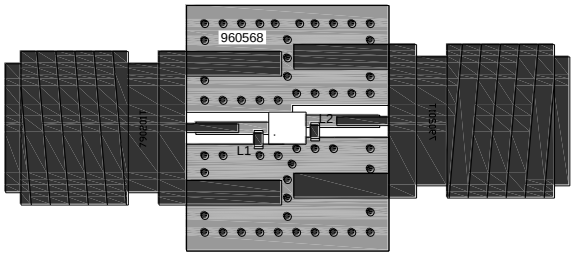
1. Operation of this device outside the parameter ranges given may cause permanent damage.
2. Specifications are not guaranteed over all operable conditions.
3. Input Power with applied CW signal in passband

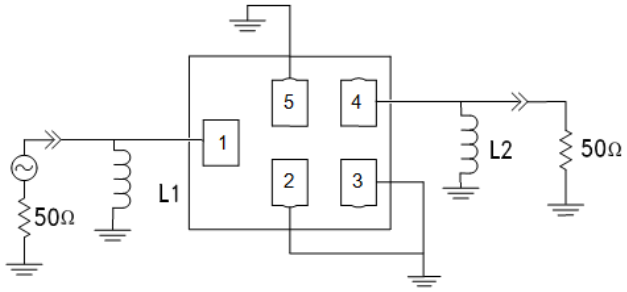
Electrical Specifications (1)

		-20°C		+25°C			+90°C		
Parameter	**Conditions**	**Min**	**Max**	**Min**	**Typ (2)**	**Max**	**Min**	**Max**	**Unit**
Insertion Loss	2300–2395 MHz	-	3.0	-	1.3	2.7	-	2.7	dB
	2395–2400 MHz	-	2.2	-	1.8	3.0	-	3.2	dB
Input/output VSWR	2300–2400 MHz	-	2.0:1	-	1.4:1	2.0:1	-	2.0:1	-
Passband Ripple	2300–2400 MHz	-	1.7	-	1.1	1.7	-	1.7	dB
Attenuation	10–1574 MHz	30	-	30	47	-	30	-	dB
	1574–1577 MHz	30	-	30	33	-	30	-	dB
	1577–1680 MHz	30	-	30	33	-	30	-	dB
	1845–1880 MHz	28	-	28	31	-	28	-	dB
	2110–2170 MHz	28	-	28	32	-	28	-	dB
	2420-2427 MHz	8	-	15	49	-	45	-	dB
	2427–2460 MHz	45	-	45	57	-	45	-	dB
	2460–2500 MHz	38	-	38	50	-	38	-	dB
	4600–4800 MHz	28	-	28	32	-	28	-	dB
	6900–7200 MHz	20	-	20	23	-	20	-	dB
	2422 –7200 MHz (3)	20	-	20	23	-	20	-	dB
Source/Load Impedance (4)	Single-ended	-	-	-	50	-	-	-	Ω

Notes:
1. All specifications are based on the TriQuint schematic for the main reference design shown on page 3.
2. Typical values are derived through integration of the linear s-parameter over the indicated band at the specified temperature.
3. Integration of the linear s-parameter over an 18 MHz sliding frequency span.
4. This is the optimum impedance in order to achieve the performance shown

885069 Evaluation Board





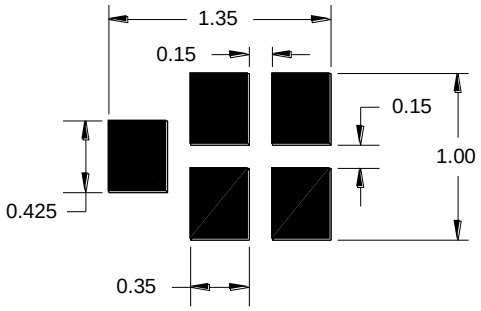
Top View

Notes:
1. Impedance matching required.
2. Top, middle & bottom layers: 1/2 oz copper, Substrates: FR4 dielectric, .062" thick, Finish plating: Nickel: 3-8 µm thick, Gold: .03-.2 µm thick, Hole plating: Copper min .0008 µm thick

Bill of Material – 885069-EVB

Reference Des.	Value	Description	Manuf.	Part Number
L1	3.9nH	Chip Inductor, 0201, +/- 0.1nH	TOKO	LLS0603-FH3N9B
L2	3.5nH	Chip Inductor, 0201, +/- 0.1nH	TOKO	LLS0603-FH3N5B
PCB	N/A	3-layer	Multiple	960568

PCB Mounting Pattern

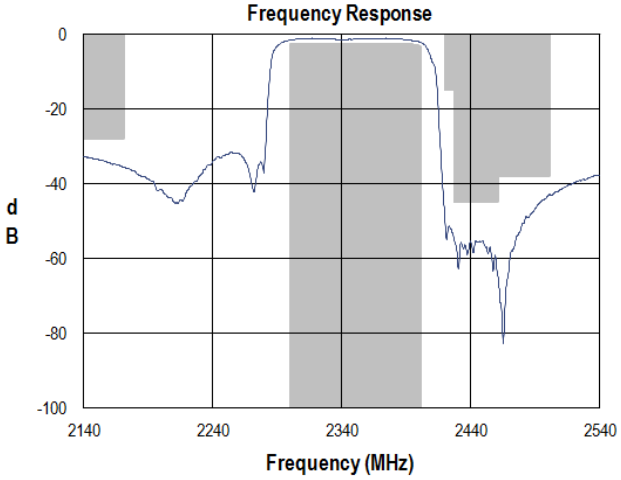


Notes:
1. Black indicates metalized area
2. This footprint represents a recommendation only
3. For solder pad recommendation see mechanical information
4. Dimensions shown are nominal in millimeters

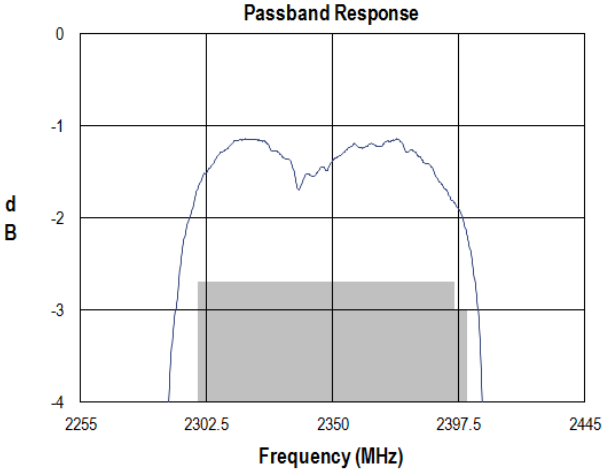
Measured Performance Plots

Test conditions unless otherwise noted: Temp= +25°C

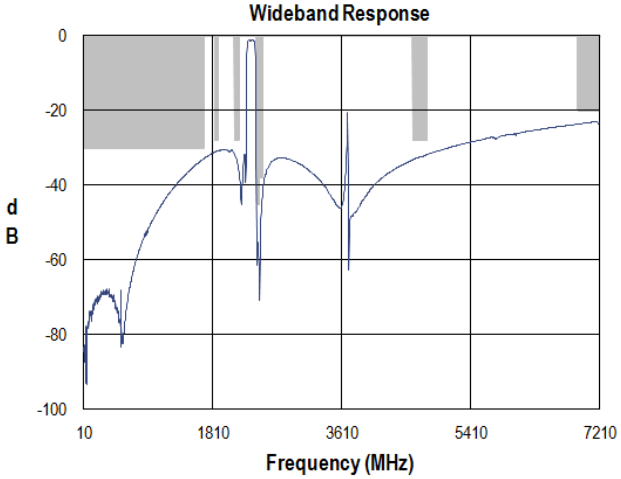
Frequency Response



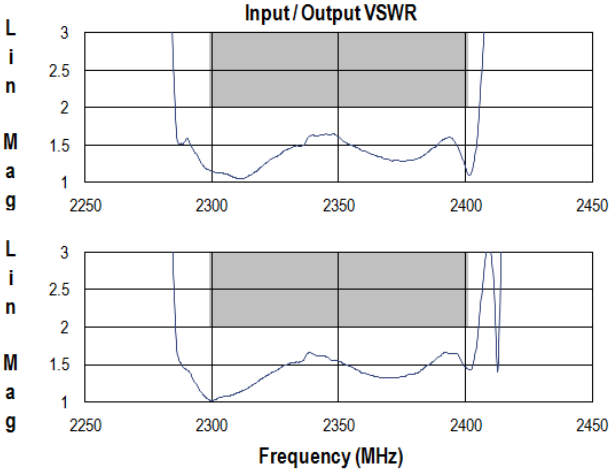
Passband Response



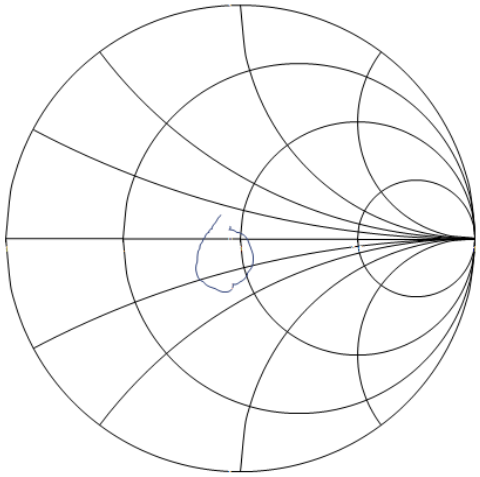
Wideband Response



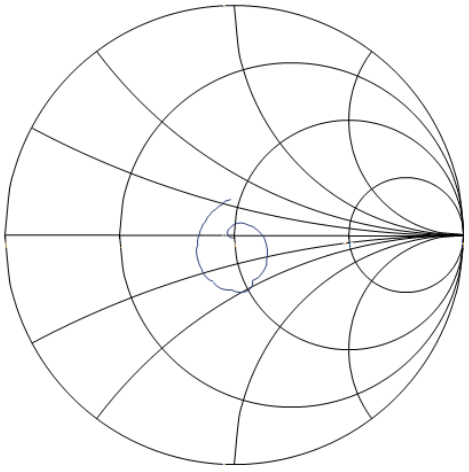
Input / Output VSWR



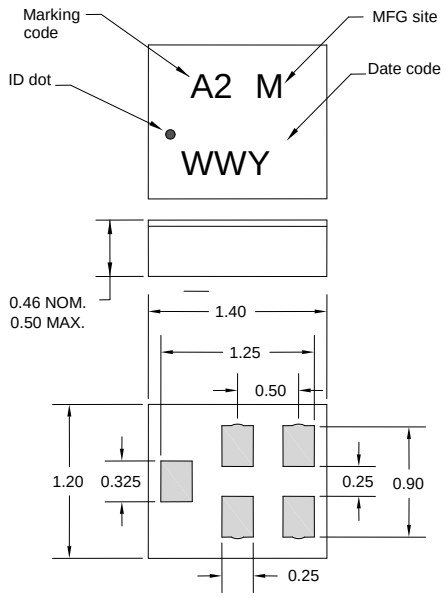
Input Smith Chart



Output Smith Chart



Package Information, Marking and Dimensions



Package Style: CSP-5CT
Dimensions: 1.4 x 1.2 x 0.46 mm

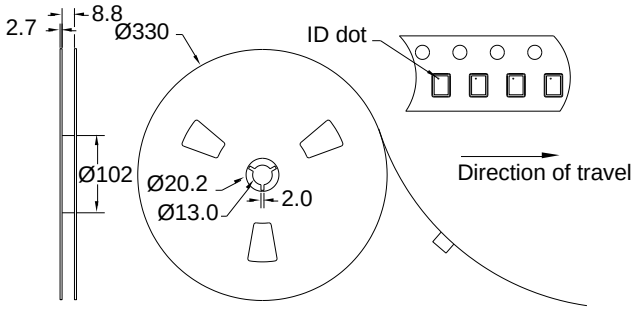
Body: Al_2O_3 ceramic
Lid: *Kovar*, *Au* over *Ni* plating
Terminations: *Au* plating 0.5 - 1.0µm, over a 2-6µm *Ni* plating

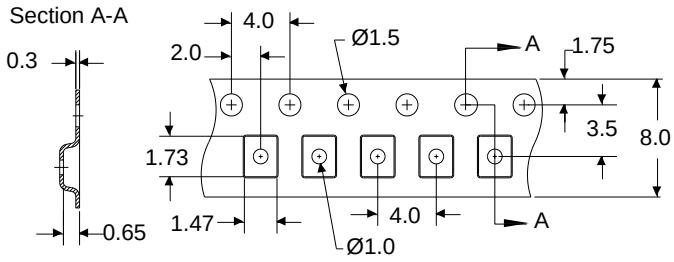
The date code consists of:
WW = 2 digit week,
Y = last digit of year
M = manufacturing site code

Notes:
1. All dimensions shown are typical in millimeters
2. An asterisk (*) in front of the marking code indicates prototype.

Tape and Reel information

Standard T/R size = 10,000 units/reel. All dimensions are in millimeters





Product Compliance Information

ESD Sensitivity Ratings

Caution! ESD-Sensitive Device

ESD Rating: Class TBD
Value: Passes ≥ TBD V to < TBD V
Test: Electrostatic Discharge Sensitivity Testing, Human Body Model (HBM) - component level
Standard: ESDA/JEDEC JS-001-2012

ESD Rating: Class TBD
Value: Passes ≥ TBD V to TBD V
Test: Machine Model (MM)
Standard: JEDEC Standard JESD22-A115

MSL Rating

Not applicable. Hermetic package.

Solderability

Compatible with both lead-free (260°C maximum reflow temperature) and tin/lead (245°C maximum reflow temperature) soldering processes.

Refer to **Soldering Profile** for recommended guidelines.

RoHs Compliance

This part is compliant with EU 2002/95/EC RoHS directive (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment).

This product also has the following attributes:

- Lead Free
- Halogen Free (Chlorine, Bromine)
- Antimony Free
- TBBP-A ($C_{15}H_{12}Br_4O_2$) Free
- PFOS Free
- SVHC Free

Contact Information

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