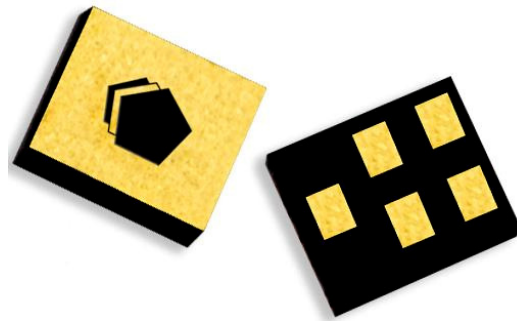



Applications

- For ISM/WLAN applications
- For high-power WLAN access points



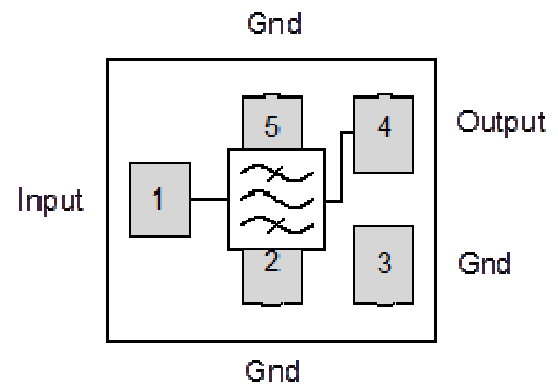
CSP-5BT package: 1.40 x 1.20 x 0.46 mm

Product Features

- Usable bandwidth 66 MHz
- Low loss through ISM/WiFi band
- Steep roll off to provide rejection in the FCC restricted bands
- Single-ended operation
- Small Size: 1.40 x 1.20 x 0.46 mm
- Ceramic chip-scale Package (CSP)
- Hermetically sealed
- RoHS compliant, Pb-free 

Functional Block Diagram

Top View



General Description

857005 is specifically designed for steep rolloff to provide rejection in the FCC restricted bands above and below the WiFi passband. This provides designers of access points the capability to increase output power and improve range.

857005 uses advanced and inexpensive packaging techniques to achieve an extremely small 1.40 x 1.20 x 0.46 mm hermetically sealed package.

Pin Configuration

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

Ordering Information

Part No.	Description
857005	Packaged part
857005-EVB	Evaluation board

Standard T/R size = 15,000 units/reel
Minimum Order Quantity = 2500 units/ reel.

Absolute Maximum Ratings

Parameter	Rating	
Storage Temperature ⁽¹⁾	- 40 to + 85 °C	1. Operation of this device outside the parameter ranges given may cause permanent damage. 2. Device is measured for equivalent 10K hours @ +55 °C [CW Signal]
Operable Temperature	- 10 to + 75 °C	
Input Power ⁽²⁾	+3 dBm	

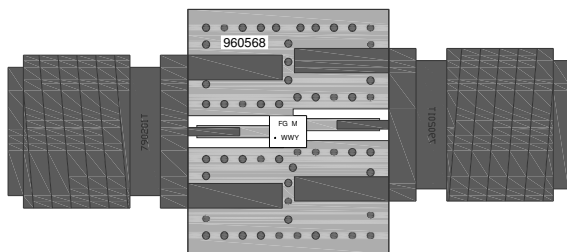
Electrical Specifications

Parameter ⁽³⁾	Conditions ⁽⁴⁾	Min	Typical ⁽⁶⁾	Max	Units
Center Frequency		-	2437	-	MHz
Maximum Insertion Loss	2412 – 2462 MHz	-	2.1	4	dB
Amplitude Variation (any 16 MHz Channel)	2404 – 2470 MHz	-	1.8	3.2	dB p-p
Group Delay Variation	2404 – 2470 MHz	-	10	25	ns p-p
Group Delay Variation (any 16 MHz Channel)	2404 – 2470 MHz	-	6.0	15	ns p-p
Absolute Attenuation ⁽⁷⁾	300 – 2100 MHz	20	32	-	dB
	2380 – 2390 MHz (25 to 55°C)	4	8.0	-	dB
	2483.5 – 2500 MHz (25 to 55°C)	4	8.0	-	dB
	2550 – 3000 MHz	25	34	-	dB
	3000 – 6000 MHz	15	32	-	dB
Temperature coefficient of frequency	lower 4 dB band edge ⁽⁵⁾	-	-32	-	ppm/ °C
	upper 4 dB band edge ⁽⁵⁾	-	-56	-	ppm/ °C
Input Return Loss	2404 – 2470 MHz	8	12	-	dB
Output Return Loss	2404 – 2470 MHz	8	12	-	dB
Source Impedance (Single-ended) ⁽⁸⁾		-	50	-	Ω
Load Impedance (Single-ended) ⁽⁸⁾		-	50	-	Ω

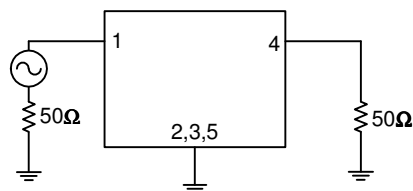
Notes:

3. All specifications are based on the TriQuint schematic for the main reference design shown on page 3
4. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
5. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
6. Typical values are based on average measurements at room temperature
7. Relative to zero dB.
8. This is the optimum impedance in order to achieve the performance shown

Evaluation Board



50Ω
Single-ended
Input



50Ω
Single-ended
Output

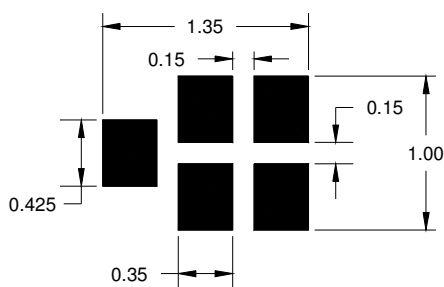
Notes:

1. Top, Middle and Bottom Layers: 1 oz Copper
2. Substrates: FR4 dielectric, 0.31" thick
3. Finish plating: Nickel 3-8 μm thick, Gold: .03 - .02 μm thick
4. Hole plating: Copper Min: .0008 μm thick

Bill of Material

Reference Des.	Value	Description	Manuf.	Part Number
SMA	N/A	SMA connector	Radiall USA Inc.	9602-1111-018
PCB	N/A	3-layer	multiple	960568

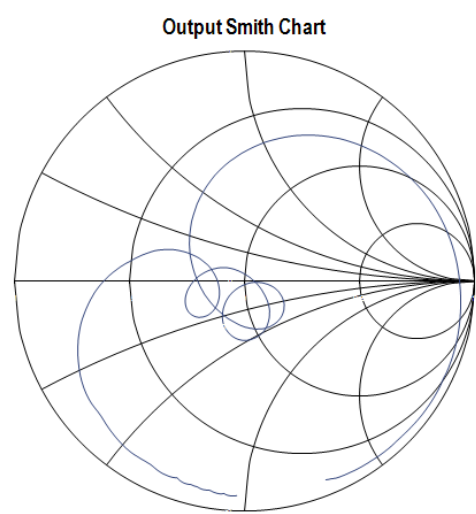
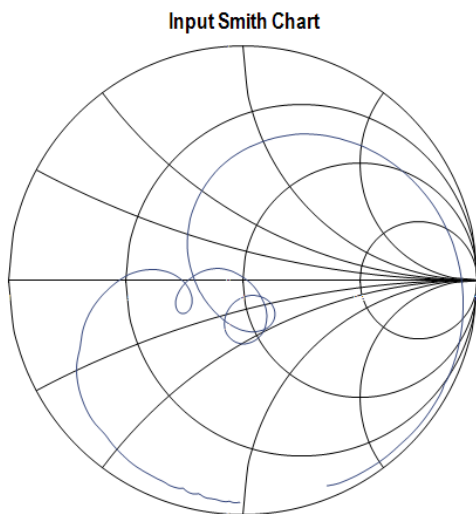
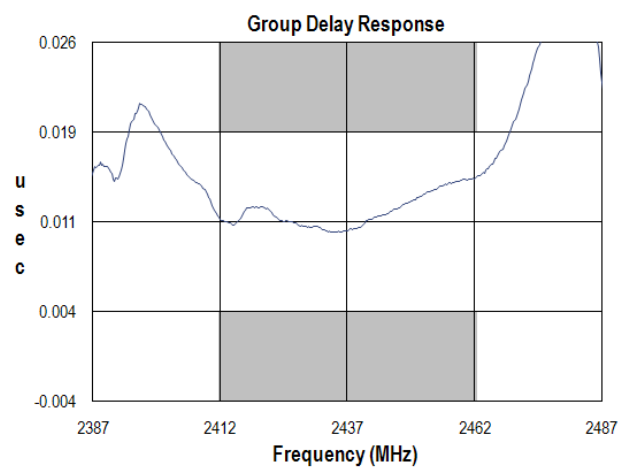
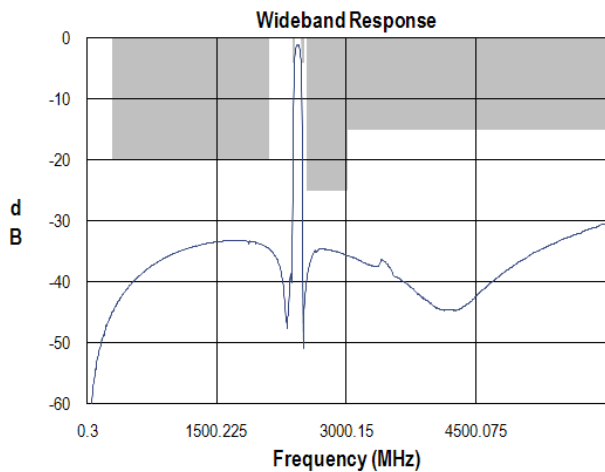
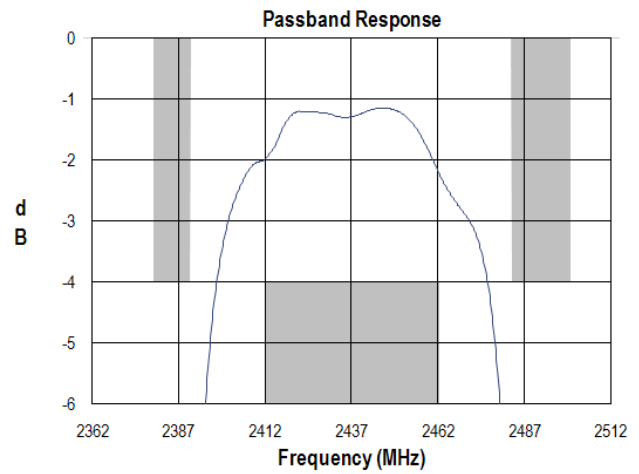
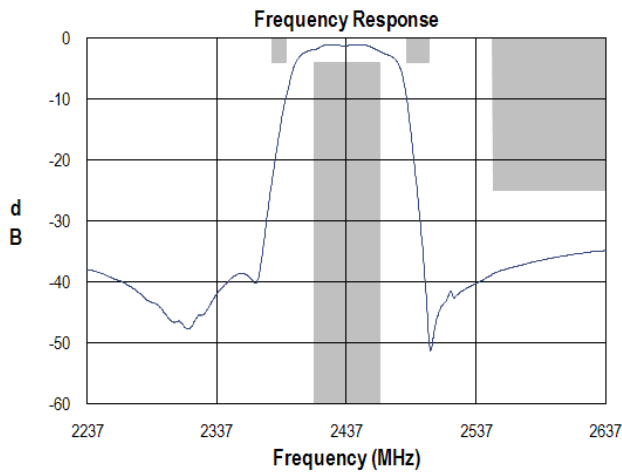
PCB Mounting Pattern



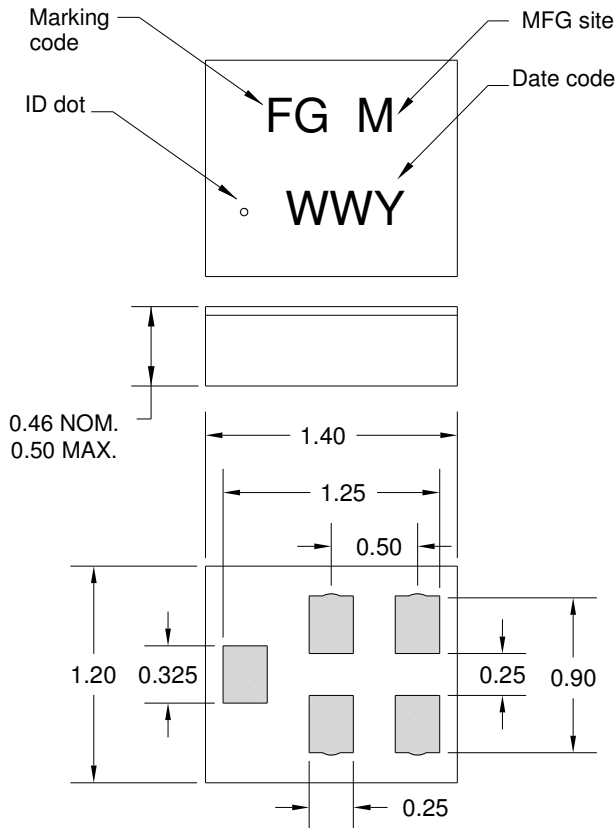
Notes:

1. All dimensions are in millimeters. Angles are in degrees.
2. This drawing specifies the mounting pattern used on the TriQuint evaluation board for this product. Some modification may be necessary to suit end user assembly materials and processes.

Performance Plots (At +25 °C)



Package Information, Marking and Dimensions



Package Style: CSP-5BT
 Dimensions: 1.40 x 1.20 x 0.46 mm

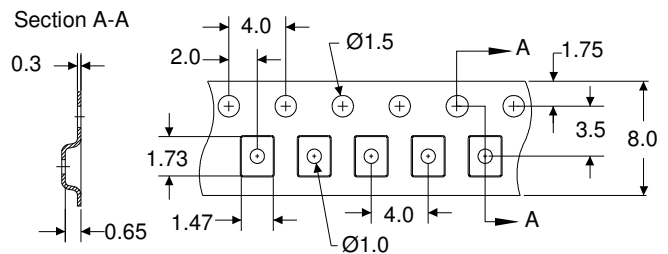
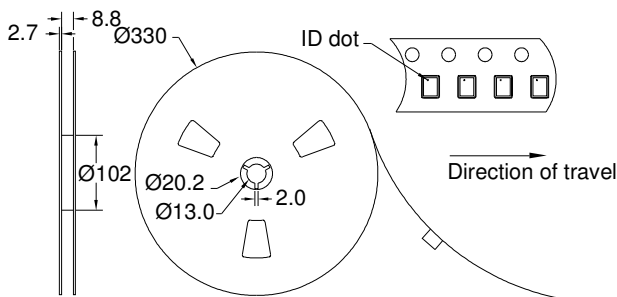
Body: Al_2O_3 ceramic
 Lid: Kovar or Alloy 42, Au over Ni plated

Terminations: Au plating 0.5 - 1.0 μ m, over a 2-6 μ m Ni plating

All dimensions shown are nominal in millimeters
 All tolerances are ± 0.15 mm except overall length and width ± 0.10 mm

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

Tape and Reel information



Standard T/R size=15,000 units/reel. All dimensions are in millimeters.
 Minimum Order Quantity = 2500 units/ reel.

Product Compliance Information

ESD Sensitivity Ratings



Caution! ESD-Sensitive Device

ESD Rating: 1B
Value: Passes ≥ 550 V
Test: Human Body Model (HBM)
Standard: ESDA/JEDEC JESD22-A114

ESD Rating: B
Value: Passes ≥ 250 V
Test: Machine Model (MM)
Standard: JEDEC Standard JESD22-A115

MSL Rating

Not applicable. Hermetic package.

Solderability

Compatible with the latest version of J-STD-020, lead free solder, 260 °C

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:

- Halogen Free (Chlorine, Bromine)
- Antimony Free
- TBBP-A (C₁₅H₁₂Br₄O₂) Free
- PFOS Free
- SVHC Free

Contact Information

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