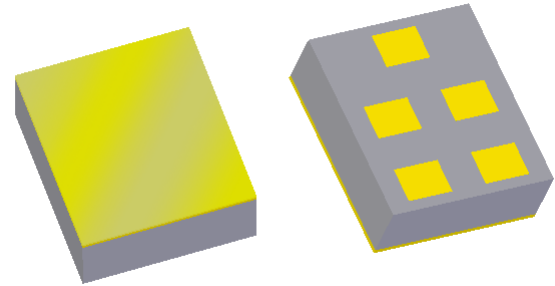



Applications

- For GPS application
- Suitable for Automotive applications-
Compliant to the AEC-Q200 reliability standard



Surface Mount 1.40 x 1.20 x 0.46 mm

Product Features

- Compatible with leading chipset suppliers
- Low loss
- Usable bandwidth of 2 MHz
- Single-ended operation
- Ceramic Chip Scale Package (CSP)
- Hermetic
- Manufacturing facilities are certified with ISO/TS 16949:2002
- **RoHS** compliant (2002/95/EC), **Pb-free** 

General Description

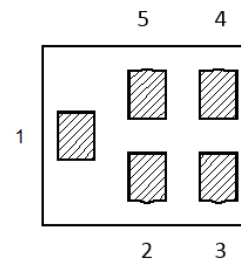
The 856561 is a high-performance SAW filter designed for GPS applications. It is suitable for Automotive applications too.

Dimensions shown are nominal in millimeters
All tolerances are $\pm 0.10\text{mm}$

Body: Al₂O₃ ceramic
Lid: Kovar or Alloy 42, Au over Ni plated
Terminations: Au plating 0.5 - 1.0 μm ,
over a 2 - 6 μm Ni plating

Functional Block Diagram

Top view



Pin Configuration

| Pin # | Description |
|-------|-------------|
| 1 | Input |
| 4 | Output |
| 3 | Ground |
| 2,5 | Case ground |

Ordering Information

| Part No. | Description |
|------------|------------------|
| 856561 | Packaged part |
| 856561-EVB | Evaluation board |

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

Electrical Specifications ⁽¹⁾

Operating Temperature Range: ⁽²⁾ -40 to +85 °C

| Parameter ⁽³⁾ | Minimum | Typical ⁽⁴⁾ | Maximum | Unit |
|---|---------|------------------------|---------|------|
| Center Frequency | - | 1575.42 | - | MHz |
| <i>Insertion Loss</i> | | | | |
| 1574.42 - 1576.42 MHz (-30 to +85 °C) | - | 0.75 | 1.2 | dB |
| 1574.42 - 1576.42 MHz | - | 0.75 | 1.4 | dB |
| <i>Absolute Attenuation</i> ⁽⁵⁾ | | | | |
| 0.1 - 824 MHz | 32 | 36 | - | dB |
| 824 - 849 MHz | 33.5 | 36 | - | dB |
| 849 - 960 MHz | 32 | 36 | - | dB |
| 1495 - 1515 MHz | 25 | 31 | - | dB |
| 1635 - 1655 MHz | 35 | 40 | - | dB |
| 1710 - 1750 MHz | 35 | 39 | - | dB |
| 1750 - 1780 MHz | 35 | 39 | - | dB |
| 1780 - 1785 MHz | 35 | 39 | - | dB |
| 1850 - 1910 MHz | 35 | 39 | - | dB |
| 1920 - 1980 MHz | 35 | 39 | - | dB |
| 2402 - 2480 MHz | 25 | 35 | - | dB |
| 3000 - 4000 MHz | 10 | 15 | - | dB |
| 4000 - 6000 MHz | 10 | 15 | - | dB |
| <i>Input/output Return Loss</i> | | | | |
| 1574.42 - 1576.42 MHz | 10 | 15 | - | dB |
| <i>Source Impedance (single-ended)</i> ⁽⁶⁾ | - | 50 | - | Ω |
| <i>Load Impedance (single-ended)</i> ⁽⁶⁾ | - | 50 | - | Ω |

Notes:

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

Absolute Maximum Ratings

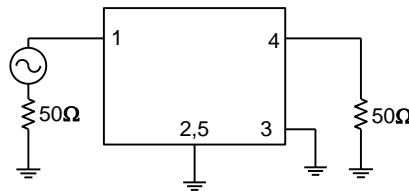
| Parameter | Rating |
|---|-----------------------------------|
| Operating Temperature ⁽⁷⁾ | -40 to +85 °C |
| Storage Temperature | -40 to +85 °C |
| Power handling 824-849 Mhz, 1850-1910 Mhz | +20 dBm +20 dBm ⁽⁸⁾ |

Notes:

- (7) The SAW filter will function over the recommended range without degradation in reliability or permanent change in performance, but is not guaranteed to meet electrical specifications.
- (8) Power handling will be CW signal for 10,000 hours at +55 °

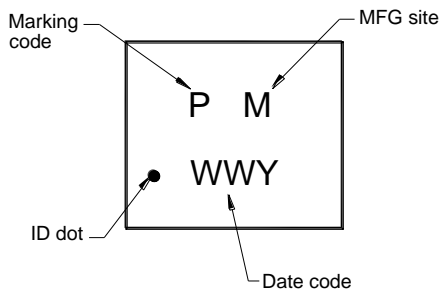
Matching Schematics

50 Ω
Single-ended
Input



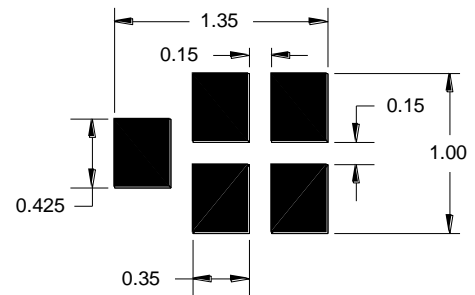
50 Ω
Single-ended
Output

Marking



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

PCB Footprint

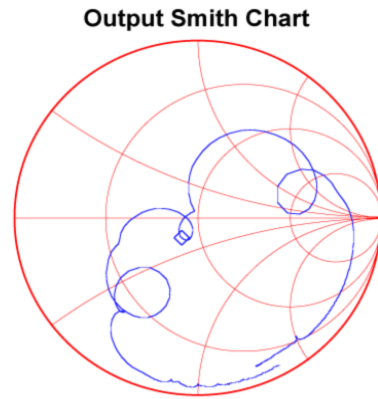
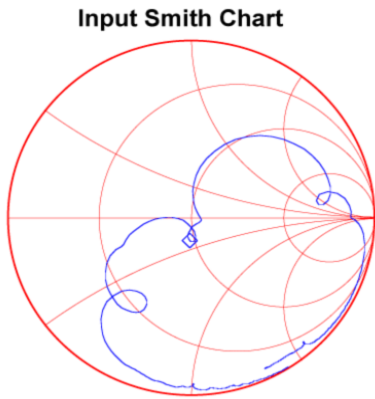
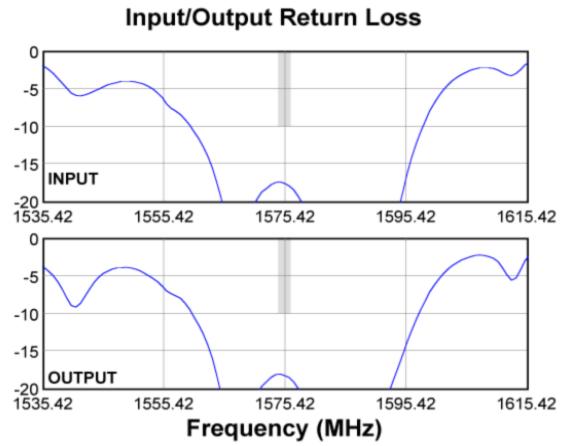
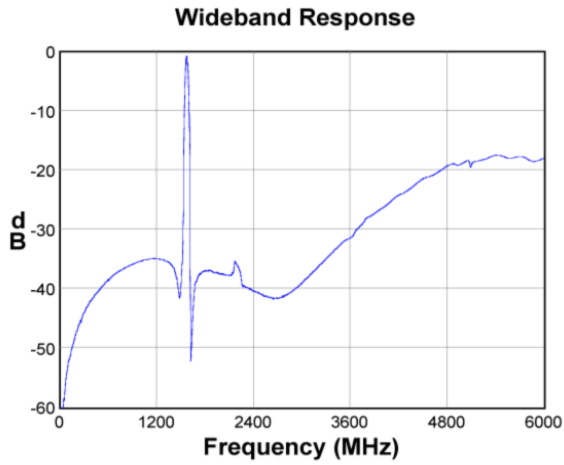
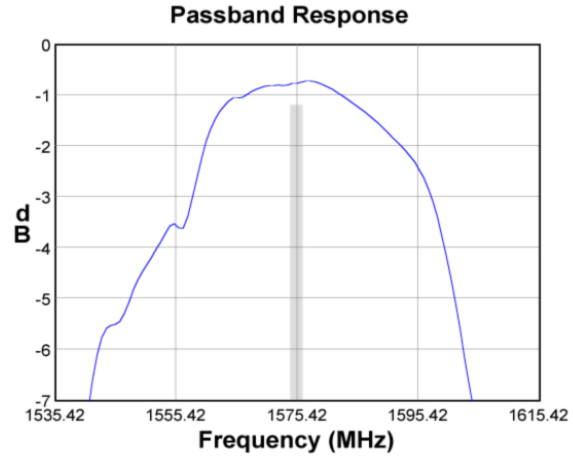
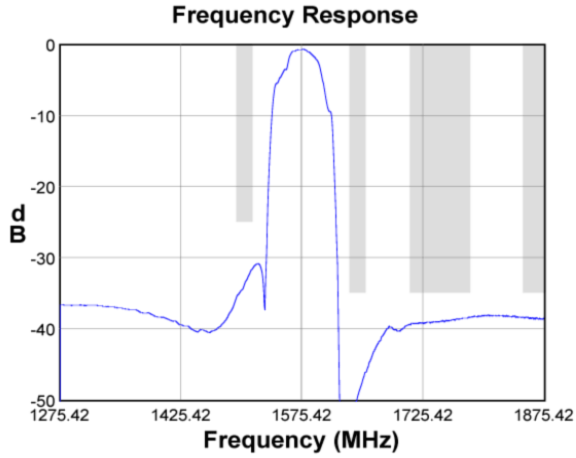


This footprint represents a recommendation only
Dimensions shown are nominal in millimeters

Notes:

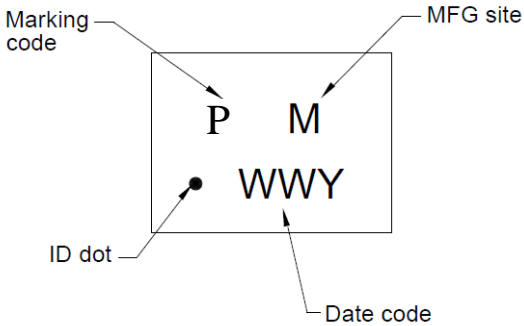
- 1. Actual matching may vary due to PCB layout and parasitic

Typical Performance (at room temperature)



Mechanical Information

Package Information, Dimensions and Marking

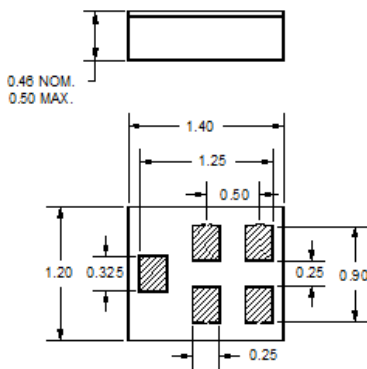


Package Style: CSP-5BT
Dimensions: 1.40 x 1.20 x 0.46 mm

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:
WW = 2 digit week,
Y = Last digit of year,
M = Manufacturing site code



Tape and Reel Information

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

