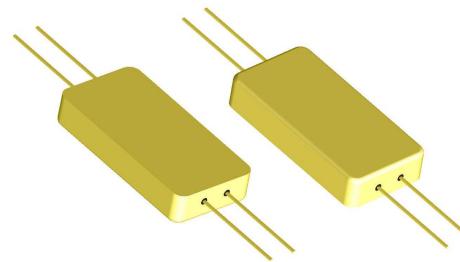


## Applications

- RADAR processing and simulation
- EW receivers
- Communication systems



## Product Features

- Usable bandwidth 600 MHz
- Low amplitude variation
- No matching required for 50 ohm environment
- Single-ended operation
- Kovar 4 pin flatpack
- Small Size
- Dimensions: 1 x 0.5 x 0.2 in.

## General Description

The 857167 is a high-performance non-dispersive SAW delay line with a center frequency of 1000 MHz and a usable bandwidth of 600 MHz. It is suitable for a wide variety of applications, including RADAR and EW receivers.

It features wide bandwidth with excellent attenuation, and is designed to be used with a single ended input and output.

## Functional Block Diagram

Top view



## Pin Configuration

| Pin # SE | Description   |
|----------|---------------|
| 1        | Input         |
| 2        | Input Return  |
| 3        | Output        |
| 4        | Output Return |

## Ordering Information

| Part No. | Description   |
|----------|---------------|
| 857167   | packaged part |

## Specifications

### Electrical Specifications <sup>(1)</sup>

Specified Temperature Range: <sup>(2)</sup> -55 to +85 °C

| Parameter <sup>(3)</sup>                       | Conditions                      | Min      | Typical <sup>(4)</sup> | Max    | Units    |
|--|---------------------------------|----------|------------------------|--------|----------|
| Center Frequency                               |                                 | -        | 1000                   | -      | MHz      |
| Insertion Loss                                 | 700 – 1300 MHz                  | -        | 33.7                   | 40     | dB       |
| 3 dB Bandwidth                                 |                                 | 675      | 705                    | -      | MHz      |
| Amplitude Variation <sup>(5)</sup>             | 700 – 1300 MHz                  | -        | 1.5                    | 3      | dB       |
| Absolute Delay                                 |                                 | -        | 2.5                    | -      | μs       |
| Absolute Attenuation <sup>(6)</sup>            | 10 – 450 MHz<br>1625 – 2000 MHz | 70<br>70 | 82<br>76               | -<br>- | dB<br>dB |
| Input VSWR                                     | 700 – 1300 MHz                  | -        | 4.5:1                  | 5.5:1  |          |
| Output VSWR                                    | 700 – 1300 MHz                  | -        | 5.1:1                  | 6.5:1  |          |
| Source Impedance (single-ended) <sup>(7)</sup> |                                 | -        | 50                     | -      | Ω        |
| Load Impedance (single-ended) <sup>(7)</sup>   |                                 | -        | 50                     | -      | Ω        |

Notes:

1. All specifications are based on the TriQuint schematic for the main reference design shown on page 3.
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. Is defined as the difference between the maximum and minimum loss within the specified frequency range.
6. Relative to 0 dB.
7. This is the optimum impedance in order to achieve the performance shown.

### Absolute Maximum Ratings

| Parameter             | Rating         |
|-----------------------|----------------|
| Operating Temperature | -55 to +85 °C  |
| Storage Temperature   | -55 to +105 °C |

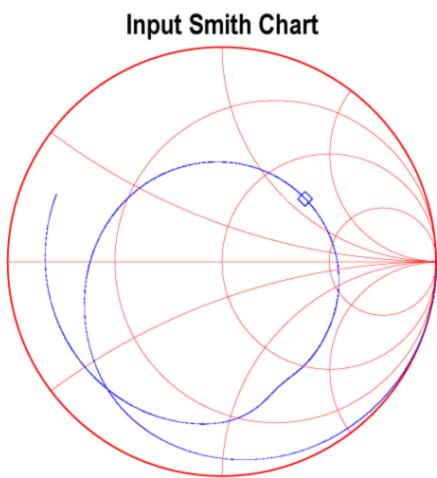
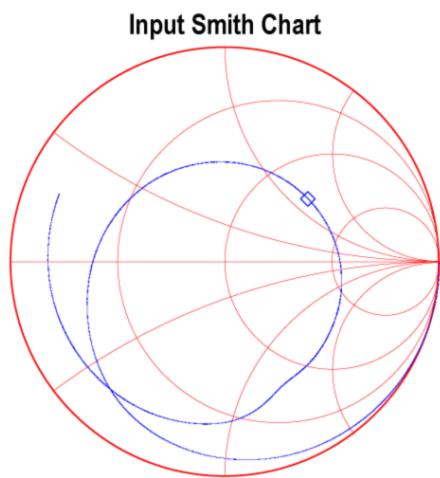
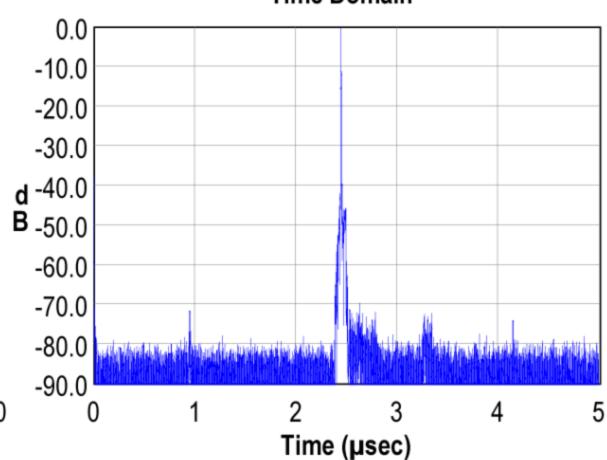
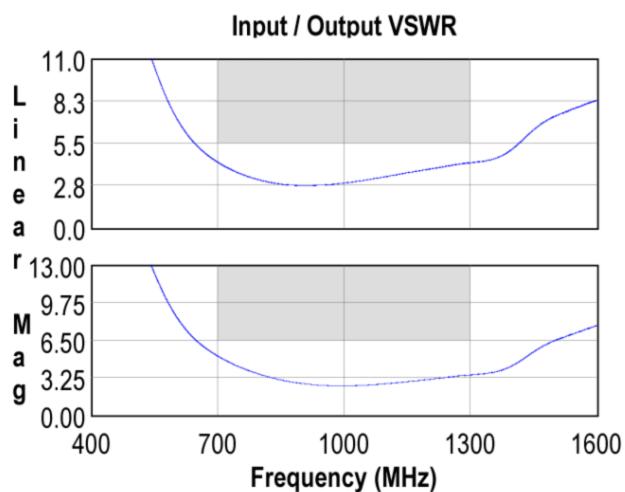
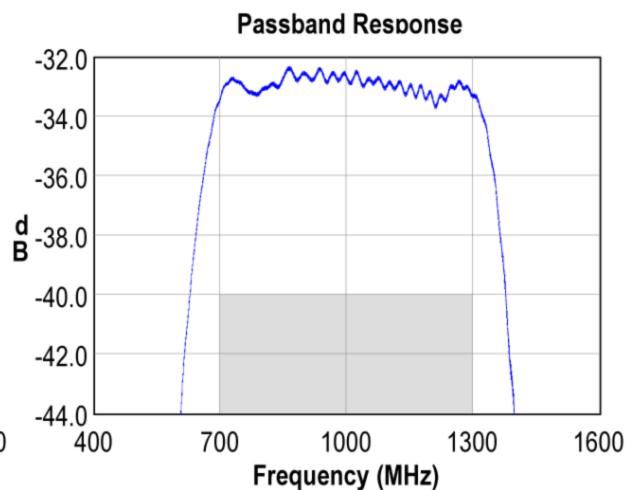
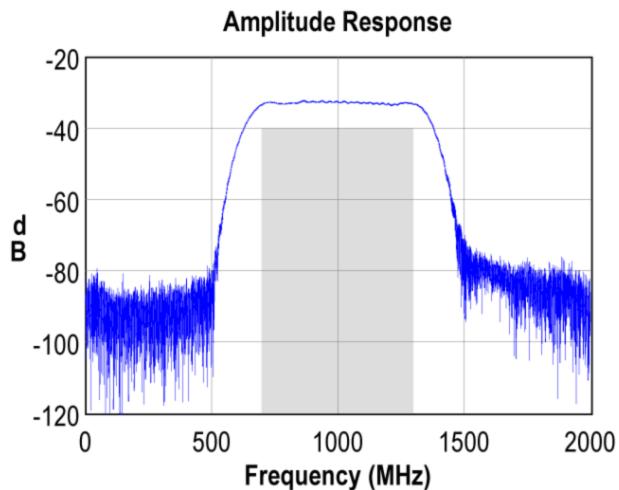
Operation of this device outside the parameter ranges given above may cause permanent damage.

**857167**

**1000 MHz SAW Non Dispersive Delay Line**

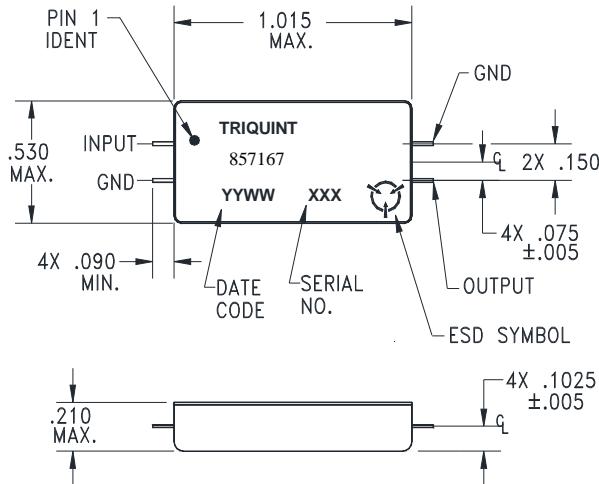
**TriQuint**   
SEMICONDUCTOR

## Typical Performance (at room temperature)



## Mechanical Information

### Package Information, Dimensions and Marking



Package Style: 4-Pin FlatPack

Dimensions: 1 x 0.5 x 0.2 in. typical

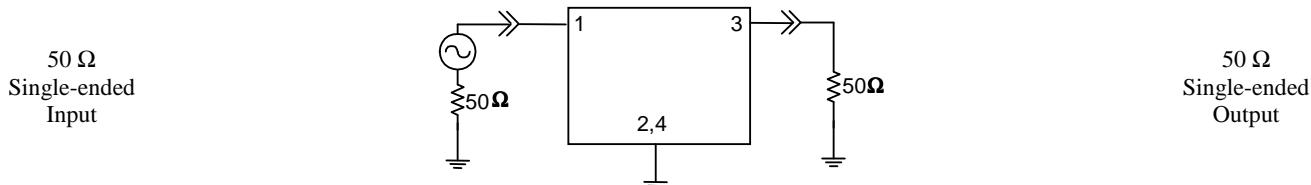
Package and Leads: Au over Ni over Kovar

All dimensions shown are nominal in inches

The date code consists of:  
last 2 digits of the year (2 digit) and  
work week (2 digits)

### Reference Design – 50Ω SE Input, 50Ω SE Output

#### Schematic



**857167**

**1000 MHz SAW Non Dispersive Delay Line**

**TriQuint**   
SEMICONDUCTOR

## Product Compliance Information

### ESD Information



#### Caution! ESD-Sensitive Device

ESD Rating: TBD

Test: Human Body Model (HBM)

Standard: JEDEC Standard JESD22-A114

ESD Rating: TBD

Test: Machine Model (MM)

Standard: JEDEC Standard JESD22-A115

### Solderability

Compatible with SN63 solder.

### MSL Rating

Devices are Hermetic, therefore MSL is not applicable.

## Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations, and information about TriQuint:

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Email: [applications.engineering@tqs.com](mailto:applications.engineering@tqs.com)

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