SAWTEK a TriQuint company

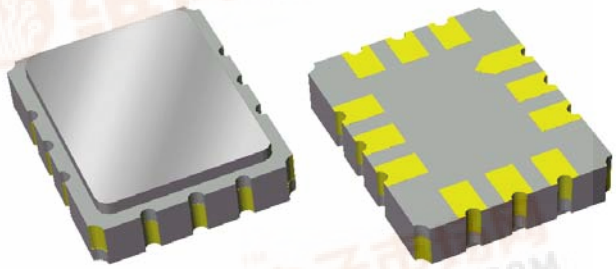
Part Number 856059

2140 MHz SAW Delay Line

Preliminary Data Sheet

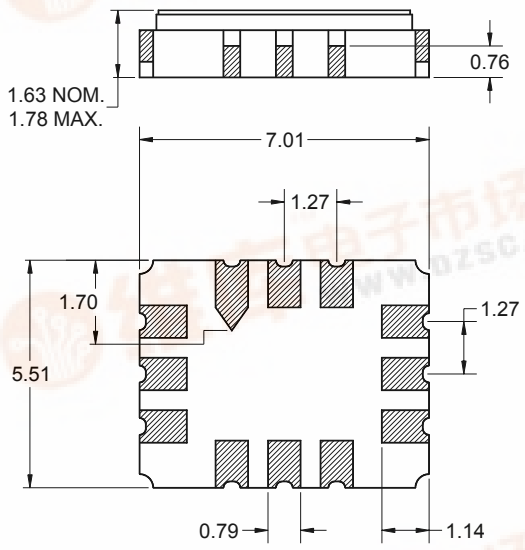
Features

- Typical bandwidth of 100 MHz
- Absolute delay of 507 nsec
- Low group delay variation
- Ceramic Surface Mount Package (SMP)
- Small size



Package

Surface Mount 7.01 x 5.51 x 1.63 mm

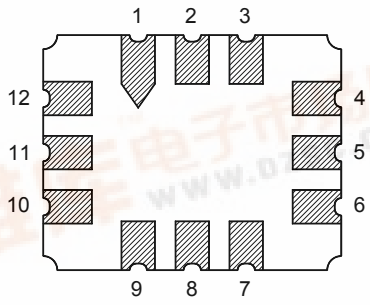


Dimensions shown are nominal in millimeters
All tolerances are ±0.15mm except overall length and width ±0.13mm

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

Pin Configuration

Bottom View



Pin No.	Description
4	Output
10,12	Balanced inputs
1,2,3,5,6	Case ground
7,8,9,11	Case ground

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Electrical Specifications [1]

Temperature Range: [2] -35 to +85 °C

Parameter [3]	Minimum	Typical	Maximum	Unit
Center Frequency	-	2140.0	-	MHz
Minimum Insertion Loss				
+25 °C	-	25	26.2	dB
-35 to +85 °C	-	25	29	dB
Lower 1dB Bandedge	-	2097	2110	MHz
Upper 1dB Bandedge	2170	2202	-	MHz
Amplitude Variation				
2130 - 2150 MHz	-	0.22	0.8	dB p-p
2110 - 2170 MHz	-	0.56	1.2	dB p-p
Phase Linearity				
2130 - 2150 MHz	-	1.30	7.0	degree
2110 - 2170 MHz	-	2.10	8.0	degree
Average Absolute Delay	502	507	512	nsec
Group Delay Variation	-	7.0	40	nsec
Input VSWR				
2130 - 2150 MHz	-	1.65:1	5.0:1	-
Output VSWR				
2130 - 2150 MHz	-	2.05:1	5.0:1	-
Source Impedance [4] [5]	-	50	-	Ω
Load Impedance [5]	-	50	-	Ω

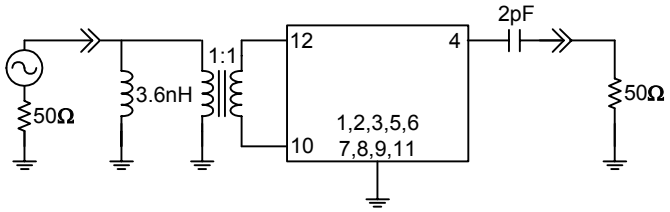
Notes:

1. All specifications are based on the 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. 50Ω with balun to 100Ω on filter
5. This is the optimum impedance in order to achieve the performance shown

Test Circuit:

Actual matching values may vary due to PCB layout and parasitics

50Ω Single-ended with balun to 100Ω Balanced on filter input



50Ω Single-ended output

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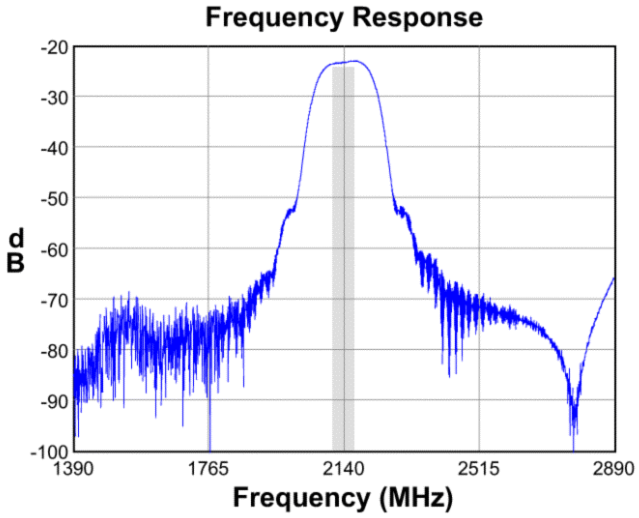
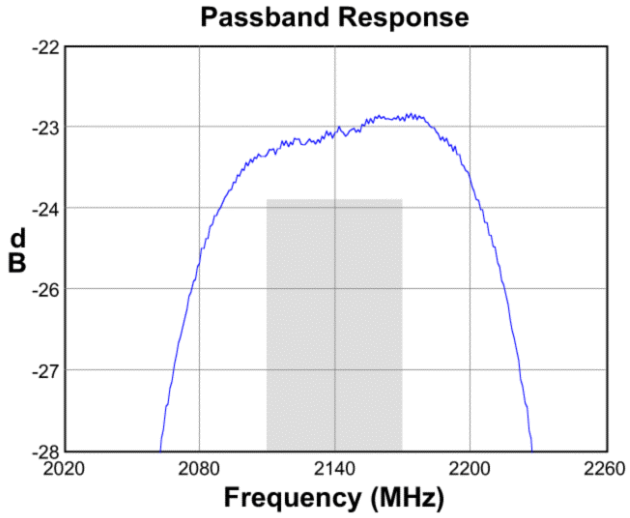
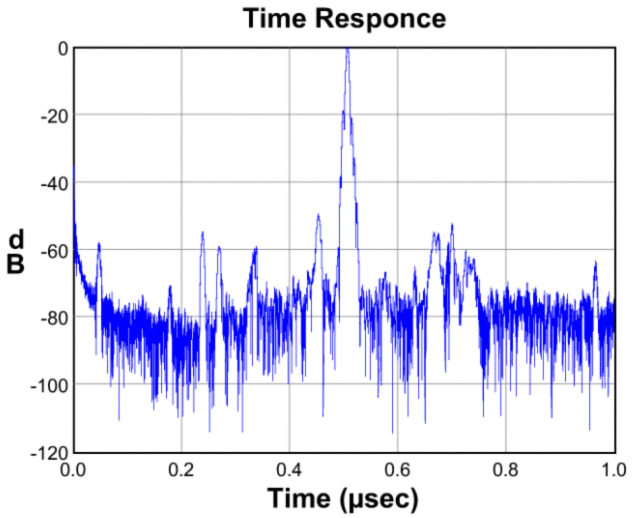
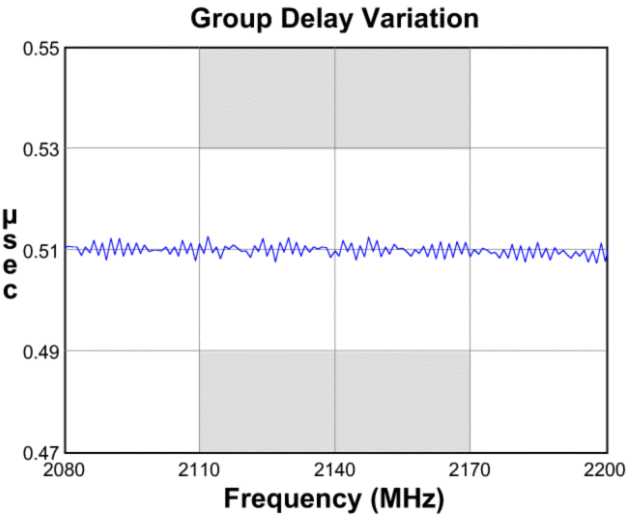
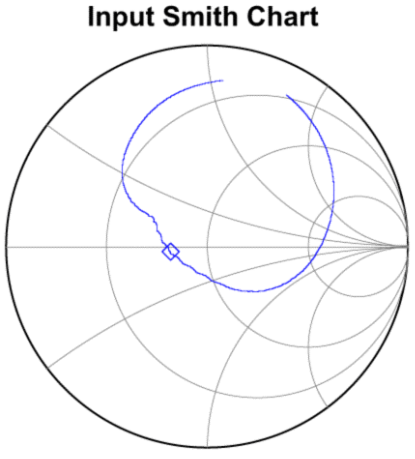
Typical Performance (at +25°C)

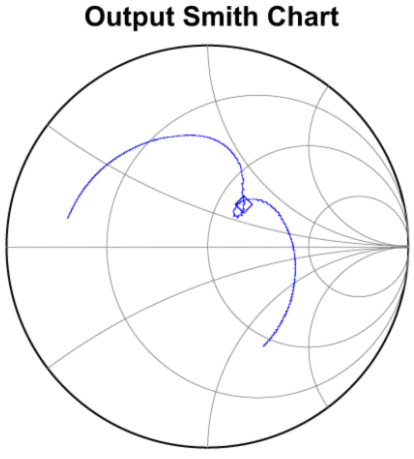












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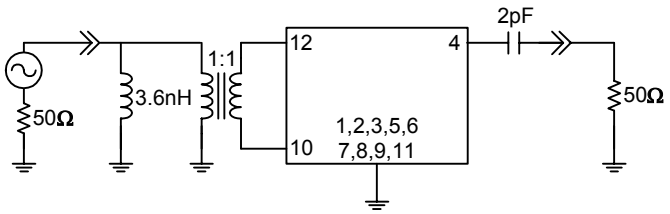
Matching Schematics

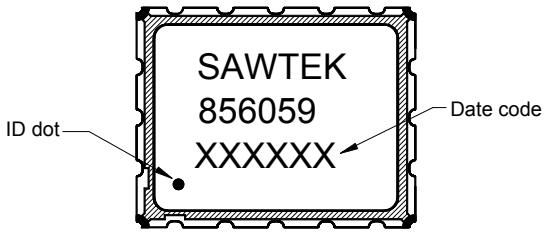
Actual matching values may vary due to PCB layout and parasitics

50Ω Single-ended with balun to 100Ω Balanced on filter input



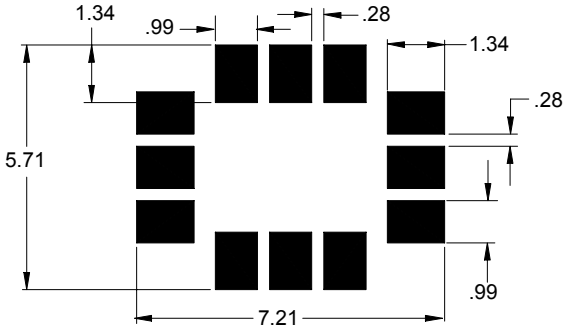
50Ω Single-ended output

Marking



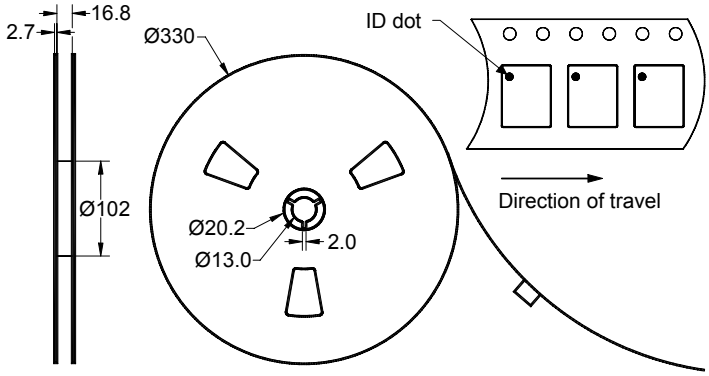
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

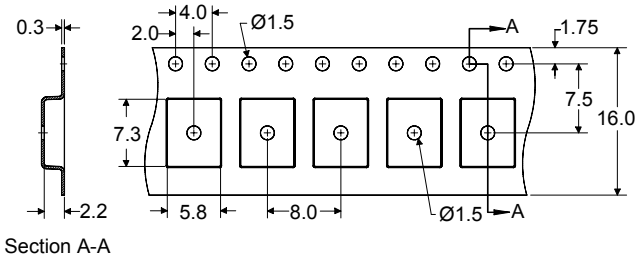
PCB Footprint



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

Tape and Reel





Dimensions shown are nominal in millimeters
Packaging quantity: 3000 units/reel

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Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-35	+85	°C
Storage Temperature Range	T_{stg}	-40	+85	°C

Warnings

- Electrostatic Sensitive Device (ESD) 
- Avoid ultrasonic exposure

Links to Additional Technical Information

PCB Layout Tips | Qualification Flowchart | Soldering Profile

S-Parameters | Other Technical Information

Contact Information

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Or contact one of our worldwide network of sales offices, representatives or distributors