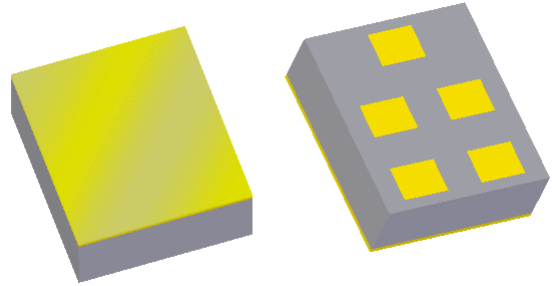


Preliminary Data Sheet

Part Number 856575
1842.5 MHz SAW Filter

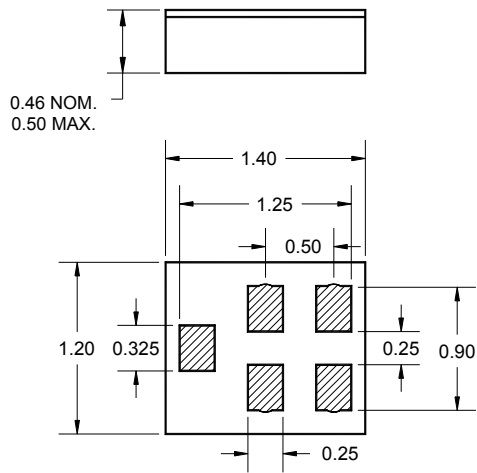
Features

- For DCS applications
- Usable bandwidth of 75 MHz
- Compatible with leading chipset suppliers
- Low loss
- Single-ended input, 50Ω
- Balanced output, 150Ω
- Ceramic Chip Scale Package (CSP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



Package

Surface Mount 1.40 x 1.20 x 0.46 mm

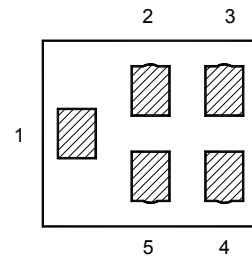


Dimensions shown are nominal in millimeters
All tolerances are ± 0.10 mm

Body: Al_2O_3 ceramic
Lid: Kovar or Alloy 42, Au over Ni plated
Terminations: Au plating 0.5 - 1.0μm,
over a 2 - 6μm Ni plating

Pin Configuration

Bottom View



Pin No.	Description
1	Input
3,4	Output
2,5	Case ground

Preliminary Data Sheet

Electrical Specifications ⁽¹⁾

Operating Temperature Range: ⁽²⁾ +25 °C

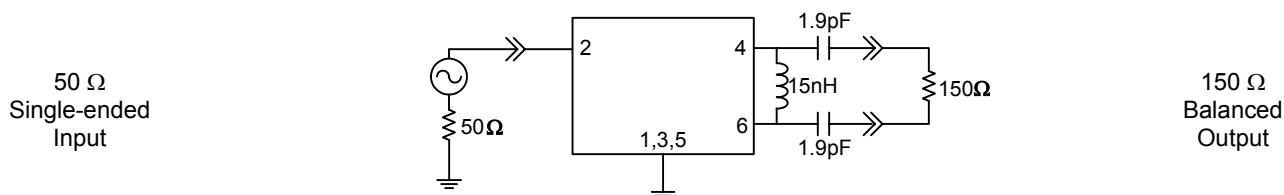
Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	1842.5	-	MHz
Maximum Insertion Loss 1805 - 1880 MHz	-	1.6	2.0	dB
Absolute Attenuation				
100 - 1200 MHz	25	38	-	dB
1200 - 1705 MHz	25	33	-	dB
1705 - 1764 MHz	20	25	-	dB
1764 - 1785 MHz	9	12	-	dB
1920 - 1980 MHz	14	16	-	dB
1980 - 3000 MHz	20	24	-	dB
3000 - 5415 MHz	20	41	-	dB
5415 - 5640 MHz	38	48	-	dB
5640 - 6000 MHz	37	45	-	dB
Output Amplitude Balance (S_{31}/S_{21}) 1805 - 1880 MHz	-1.5	1.3	1.5	dB
Output Phase Balance [$\Phi(S_{31})-\Phi S_{21}+180$] 1805 - 1880 MHz	-10	5	10	degree
Input/Output VSWR 1805 - 1880 MHz	-	2.0	2.5	-
Source Impedance ⁽⁴⁾	-	50	-	Ω
Load Impedance (Balanced) ⁽⁴⁾	-	150	-	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. 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



Preliminary Data Sheet

Electrical Specifications ⁽¹⁾

Operating Temperature Range: ⁽²⁾ -20 to +75 °C

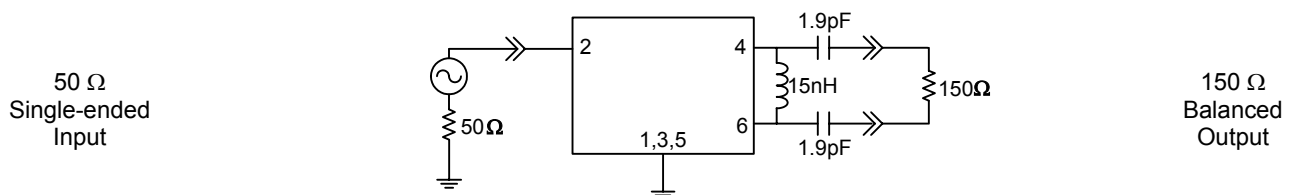
Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	1842.5	-	MHz
Maximum Insertion Loss 1805 - 1880 MHz	-	1.6	2.3	dB
Absolute Attenuation				
100 - 1200 MHz	25	38	-	dB
1200 - 1705 MHz	25	33	-	dB
1705 - 1764 MHz	20	25	-	dB
1764 - 1785 MHz	6	12	-	dB
1920 - 1980 MHz	14	16	-	dB
1980 - 3000 MHz	20	24	-	dB
3000 - 5415 MHz	20	41	-	dB
5415 - 5640 MHz	38	48	-	dB
5640 - 6000 MHz	37	45	-	dB
Output Amplitude Balance (S_{31}/S_{21}) 1805 - 1880 MHz	-1.5	1.3	1.5	dB
Output Phase Balance [$\Phi(S_{31}) - \Phi S_{21} + 180$] 1805 - 1880 MHz	-10	5	10	degree
Input/Output VSWR 1805 - 1880 MHz	-	2.0	2.5	-
Source Impedance ⁽⁴⁾	-	50	-	Ω
Load Impedance (Balanced) ⁽⁴⁾	-	150	-	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
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Test Circuit:

Actual matching values may vary due to PCB layout and parasitics



Preliminary Data Sheet

Electrical Specifications ⁽¹⁾

Operating Temperature Range: ⁽²⁾ -25 to +80 °C

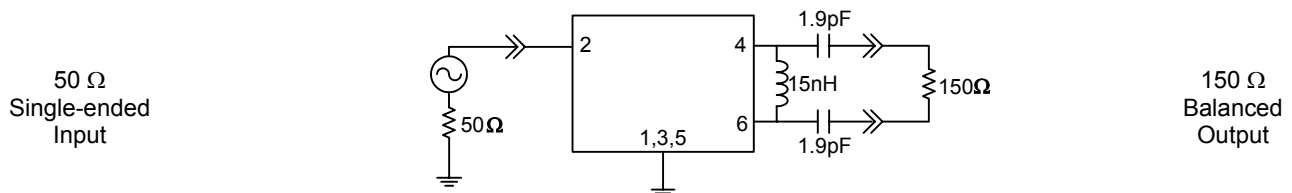
Parameter ⁽³⁾	Minimum	Typical	Maximum	Unit
Center Frequency	-	1842.5	-	MHz
Maximum Insertion Loss 1805 - 1880 MHz	-	1.6	2.4	dB
Absolute Attenuation				
100 - 1200 MHz	25	38	-	dB
1200 - 1705 MHz	25	33	-	dB
1705 - 1764 MHz	20	25	-	dB
1764 - 1785 MHz	6	12	-	dB
1920 - 1980 MHz	14	16	-	dB
1980 - 3000 MHz	20	24	-	dB
3000 - 5415 MHz	20	41	-	dB
5415 - 5640 MHz	38	48	-	dB
5640 - 6000 MHz	37	45	-	dB
Output Amplitude Balance (S_{31}/S_{21}) 1805 - 1880 MHz	-1.5	1.3	1.5	dB
Output Phase Balance [$\Phi(S_{31}) - \Phi S_{21} + 180$] 1805 - 1880 MHz	-10	5	10	degree
Input/Output VSWR 1805 - 1880 MHz	-	2.0	2.5	-
Source Impedance ⁽⁴⁾	-	50	-	Ω
Load Impedance (Balanced) ⁽⁴⁾	-	150	-	Ω

Notes:

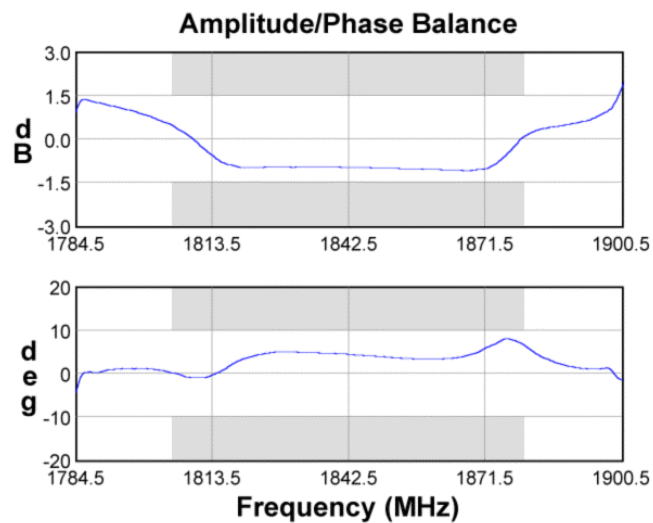
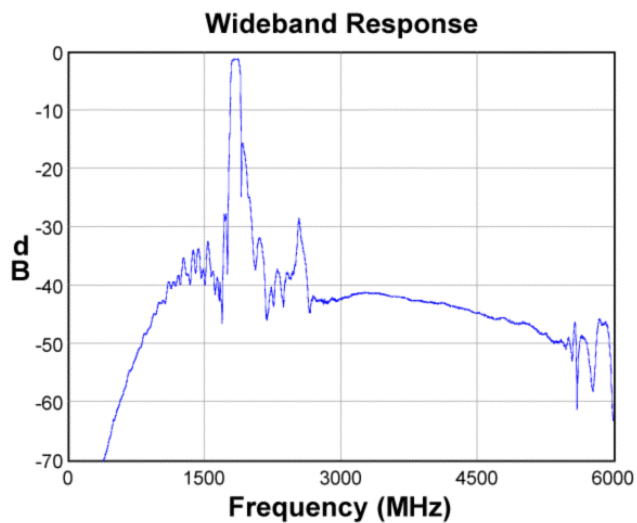
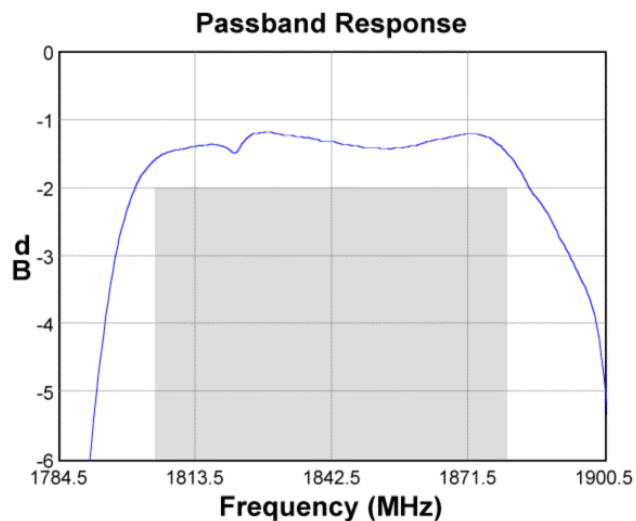
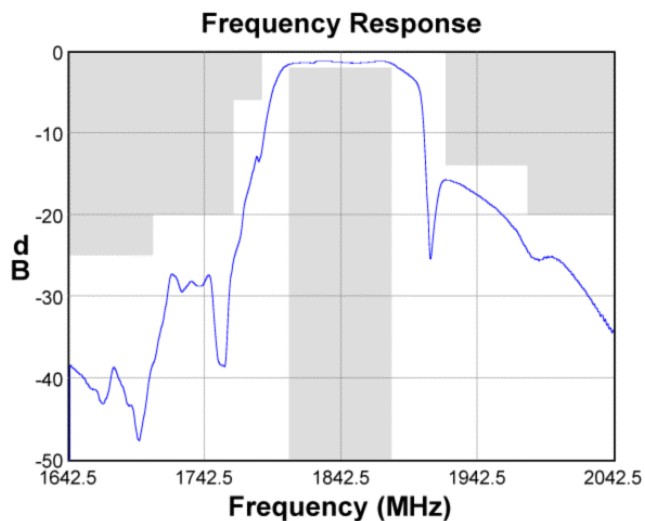
1. All specifications are based on the test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
4. This is the optimum impedance in order to achieve the performance shown

Test Circuit:

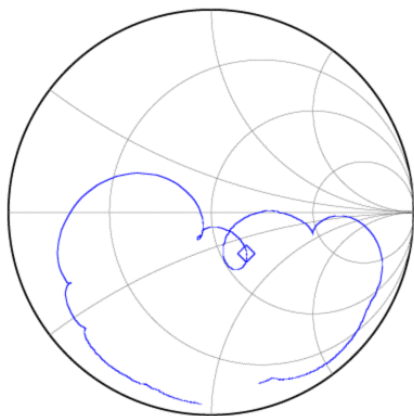
Actual matching values may vary due to PCB layout and parasitics



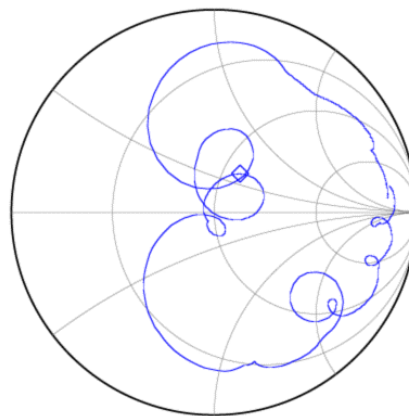
Typical Performance (at +25°C)



Input Smith Chart



Output Smith Chart

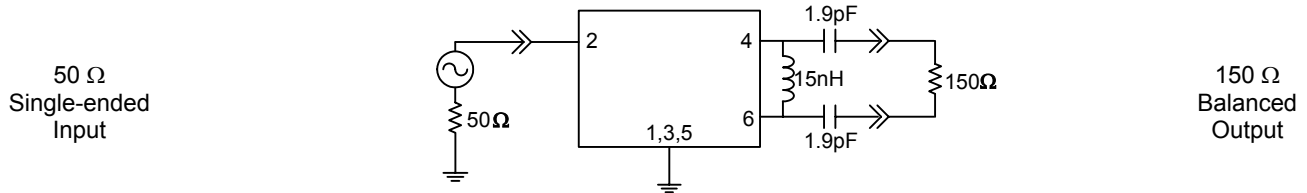


Preliminary Data Sheet

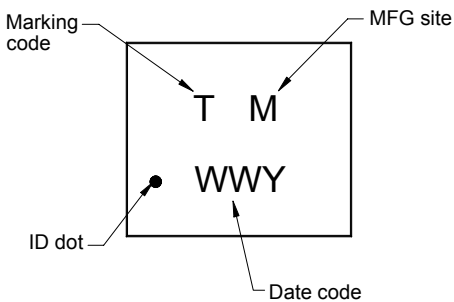
Part Number 856575
1842.5 MHz SAW Filter

Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

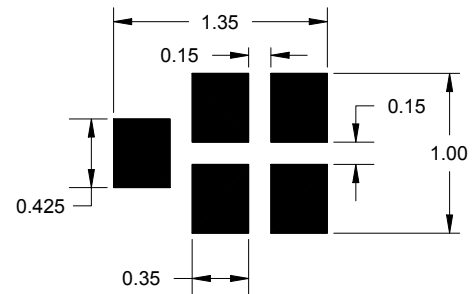


Marking



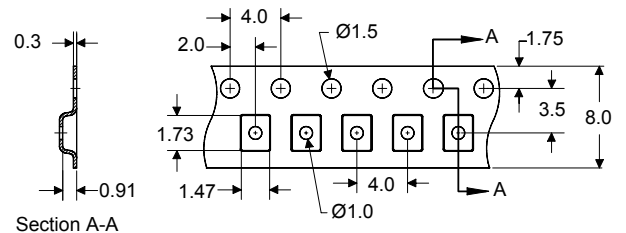
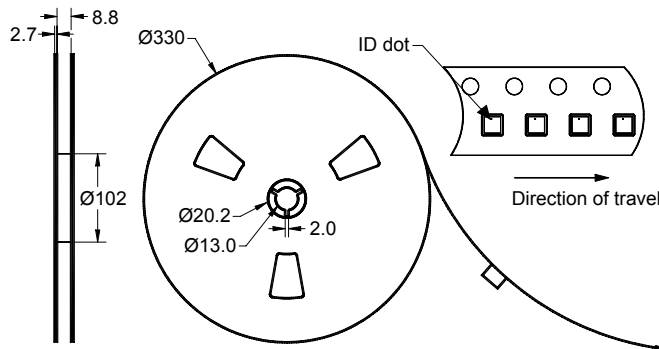
The date code consists of: WW = 2 digit week,
Y = last digit of year, M = manufacturing site code

PCB Footprint



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

Tape and Reel



Dimensions shown are nominal in millimeters
Packaging quantity: 10000 units/reel

Preliminary Data Sheet

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-20	+80	°C
Storage Temperature Range	T _{stg}	-40	+85	°C

Important Notes

Warnings

- Electrostatic Sensitive Device (ESD) 
- Avoid ultrasonic exposure

RoHS Compliance

- This product complies with EU directive 2002/95/EC (RoHS) 

Solderability

- Compatible with JEDEC J-STD-020C **Pb-free** process, **260°C** peak reflow temperature ([see soldering profile](#))

Links to Additional Technical Information

[PCB Layout Tips](#)

[Qualification Flowchart](#)

[Soldering Profile](#)

[S-Parameters](#)

[RoHS Information](#)

[Other Technical Information](#)

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Contact Information



PO Box 609501
Orlando, FL 32860-9501
USA

Phone: +1 (407) 886-8860
Fax: +1 (407) 886-7061
Email: info-product@tqs.com
Web: www.triquint.com

Or contact one of our worldwide
Network of [sales offices](#),
[Representatives or distributors](#)