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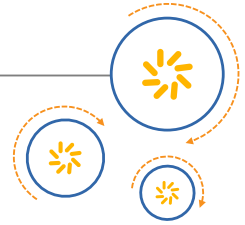
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RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

## SAW Components

SAW GPS + COMPASS + GLONASS  
filter

Series/type: B8839  
Ordering code: B39162B8839P810  
DCN: 80-PA243-27 Rev. A

Date: February 3, 2017  
Version: 2.0

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# SAW Components

## SAW GPS + COMPASS + GLONASS filter

<b>Series/Type:</b>	<b>B8839</b>
<b>Ordering code:</b>	<b>B39162B8839P810</b>
Date:	October 10, 2014
Version:	2.0

<b>SAW Components</b>	<b>B8839</b>
<b>SAW Filter</b>	<b>1582.47 MHz</b>

**Data sheet**

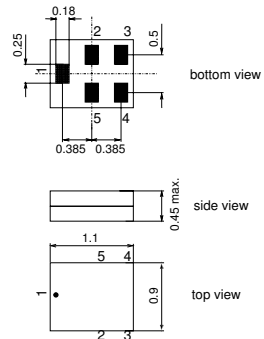
**Application**

- Simultaneous usage of GPS, COMPASS and GLO-NASS bands
- Usable passbands: 2.0 MHz for GPS, 4.092 MHz for COMPASS and 8.34 MHz for GLONASS
- High out of band selectivity
- Unbalanced to unbalanced operation
- No matching network required for operation at 50 Ω



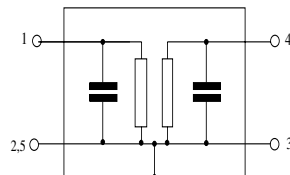
**Features**

- Package size 1.1 x 0.9 mm<sup>2</sup>
- max. Package height 0.45 mm
- RoHS compatible
- Approx. weight 0.001g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level 3**



**Pin configuration**

- 1 Input, unbalanced
- 4 Output, unbalanced
- 2,3,5 To be grounded



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**Characteristics of filter**

Temperature range for specification:  $T = -30\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

		min.	typ. @ 25°C	max.	
<b>Center frequency</b>	$f_C$	—	1582.47	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$				
	1559.052 ... 1563.144 MHz	—	1.7	2.6	dB
	1574.420 ... 1576.420 MHz	—	1.2	2.0	dB
	1597.550 ... 1605.890 MHz	---	1.9	2.6	dB
<b>Input VSWR</b>					
	1559.052 ... 1563.144 MHz	—	1.6	2.1	
	1574.420 ... 1576.420 MHz	—	1.4	1.9	
	1597.550 ... 1605.890 MHz	---	1.6	2.1	
<b>Output VSWR</b>					
	1559.052 ... 1563.144 MHz	—	1.4	2.1	
	1574.420 ... 1576.420 MHz	—	1.3	1.9	
	1597.550 ... 1605.890 MHz	---	1.7	2.1	
<b>Group Delay ripple</b>	$\Delta\tau$				
	1597.550 ... 1605.890 MHz	—	5	15	ns
<b>Attenuation</b>	$\alpha$				
	777.000 ... 798.000 MHz	50	57	—	dB
	814.000 ... 915.000 MHz	50	58	—	dB
	10.000 ... 925.000 MHz	50	56	—	dB
	925.000 ... 960.000 MHz	52	58	—	dB
	1427.000 ... 1463.000 MHz	45	51	—	dB
	1710.000 ... 1785.000 MHz	43	49	—	dB
	1850.000 ... 1980.000 MHz	40	45	—	dB
	2010.000 ... 2025.000 MHz	40	47	—	dB
	2305.000 ... 2315.000 MHz	50	55	—	dB
	2401.000 ... 2483.000 MHz	46	53	—	dB
	2500.000 ... 2570.000 MHz	46	51	—	dB
	5150.000 ... 5850.000 MHz	25	30	—	dB

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Data sheet

**Maximum ratings**

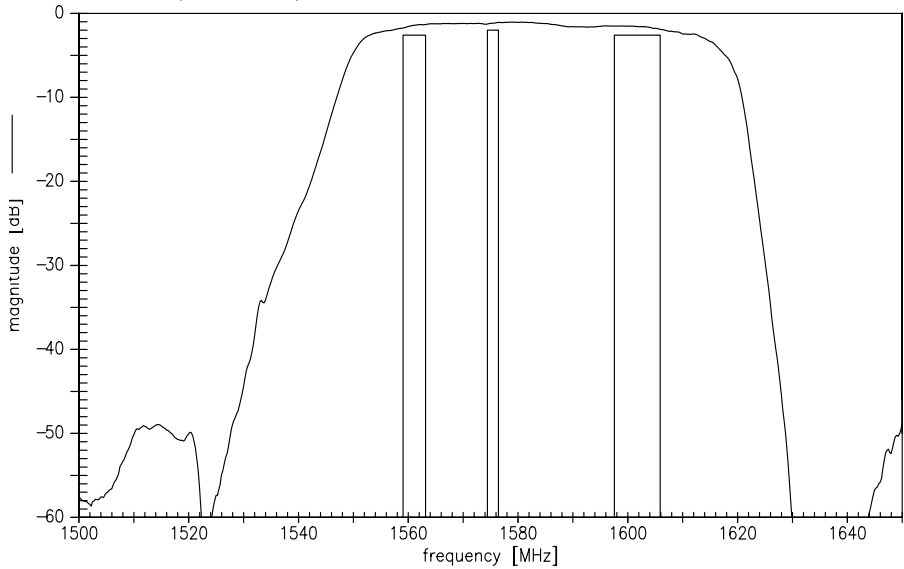
Operable temperature range	T	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5 <sup>1)</sup>	V	
ESD voltage	V <sub>ESD</sub>	100 <sup>2)</sup>	V	Machine Model
Input Power at	P <sub>IN</sub>	15	dBm	Continuous wave

1) 168h Damp Heat Steady State acc. to IEC60068-2-67 Cy

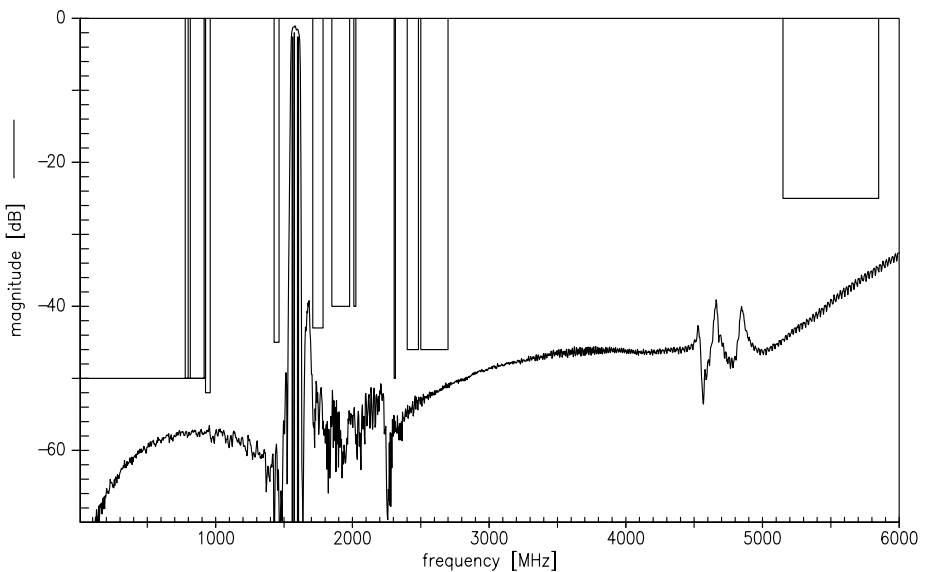
2) acc. to JESD22-A115B (MM - Machine Model), 10 negative & 10 positive pulses.

Data sheet

Transfer function (narrowband)



Transfer function (wideband)

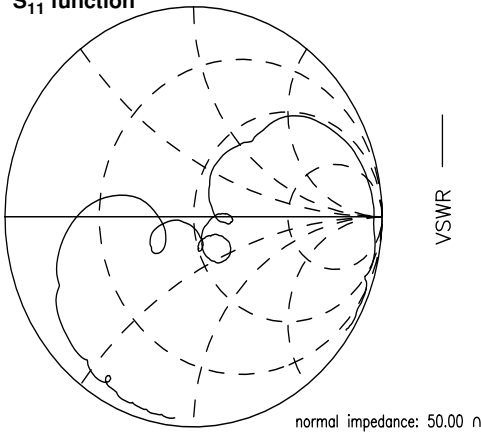




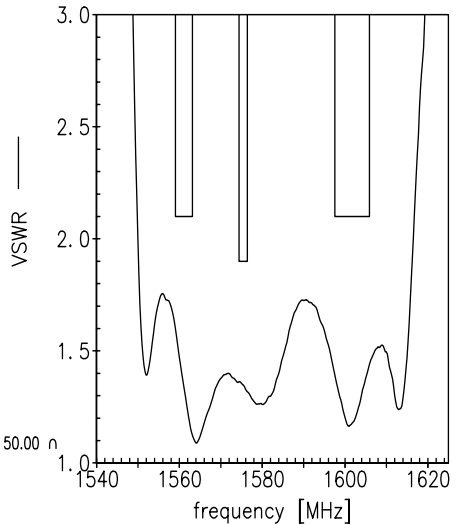
Data sheet

Smith Charts

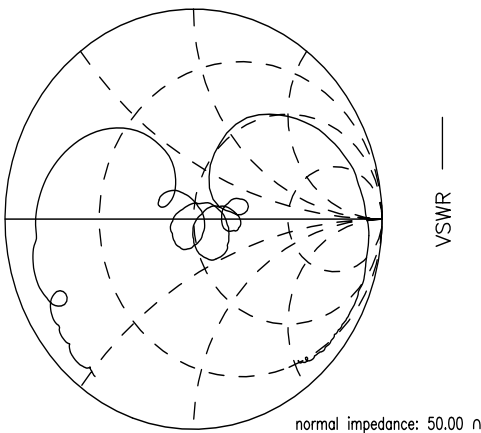
$S_{11}$  function



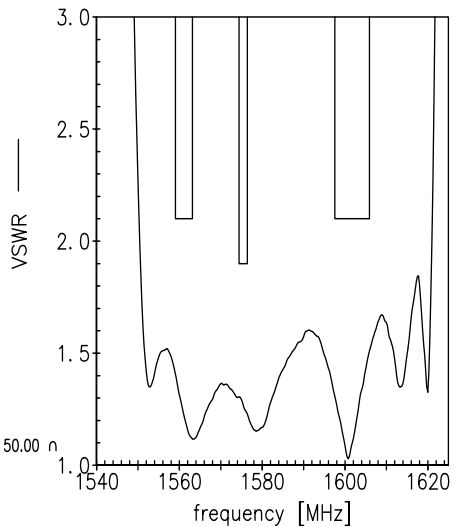
normal impedance: 50.00  $\Omega$



$S_{22}$  function



normal impedance: 50.00  $\Omega$



<b>SAW Components</b>	<b>B8839</b>
<b>SAW Filter</b>	<b>1582.47 MHz</b>

Data sheet

References

<b>Type</b>	B8839
<b>Ordering code</b>	B39162B8839P810
<b>Marking and package</b>	C61157-A8-A56
<b>Packaging</b>	F61074-V8255-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B8839_NB.s2p B8839_WB.s2p See file header for port/pin assignment table.
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."
<b>Moldability</b>	Before using in overmolding environment, please contact your EPCOS sales office.
<b>Matching Coils</b>	See <a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a> <a href="http://www.tdk.co.jp/etvcl/index.htm">http://www.tdk.co.jp/etvcl/index.htm</a> for a large variety of matching coils.

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