

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

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

SAW Components	B8839
SAW Filter	1582.47 MHz

Data sheet

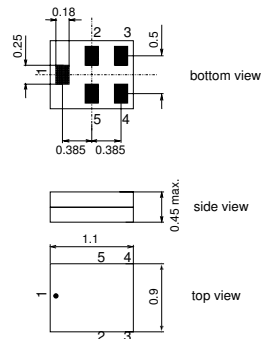
Application

- 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



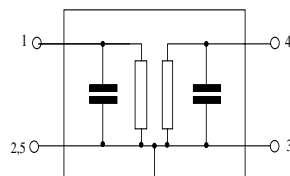
Features

- Package size 1.1 x 0.9 mm²
- 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.	
Center frequency	f_C	—	1582.47	—	MHz
Maximum insertion attenuation	α_{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
Input VSWR					
	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	
Output VSWR					
	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	
Group Delay ripple	$\Delta\tau$				
	1597.550 ... 1605.890 MHz	—	5	15	ns
Attenuation	α				
	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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Maximum ratings

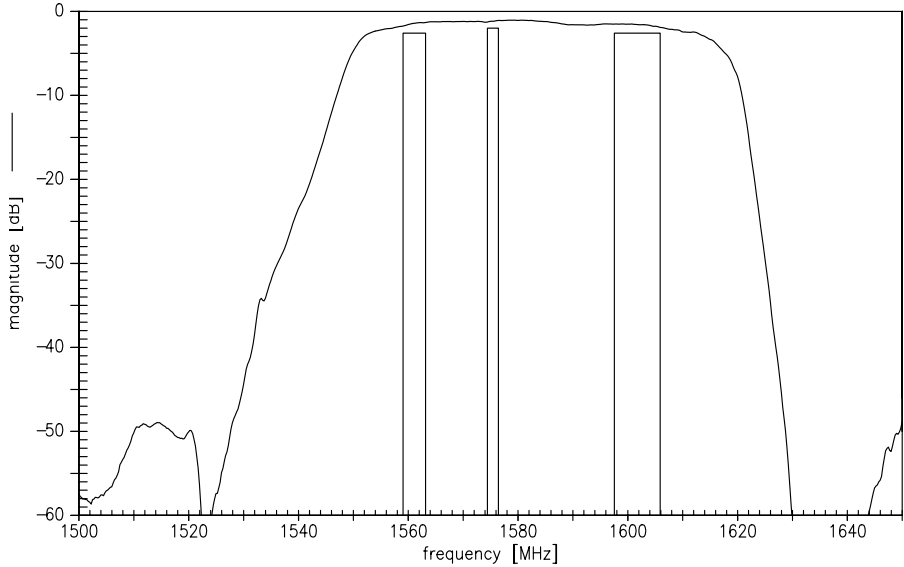
Operable temperature range	T	-40/+85	°C	
DC voltage	V _{DC}	5 ¹⁾	V	
ESD voltage	V _{ESD}	100 ²⁾	V	Machine Model
Input Power at	P _{IN}	15	dBm	Continuous wave

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

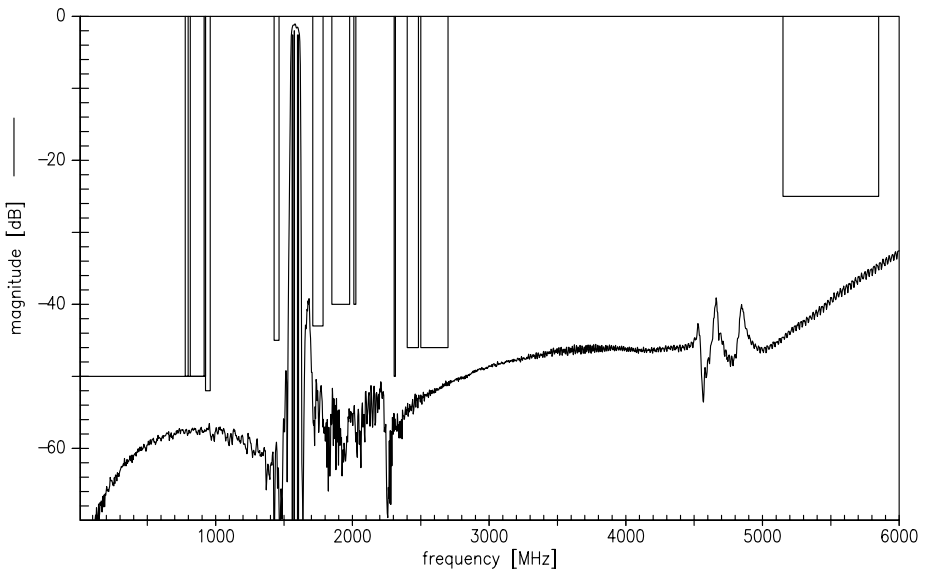
2) acc. to JESD22-A115B (MM - Machine Model), 10 negative & 10 positive pulses.

Data sheet

Transfer function (narrowband)



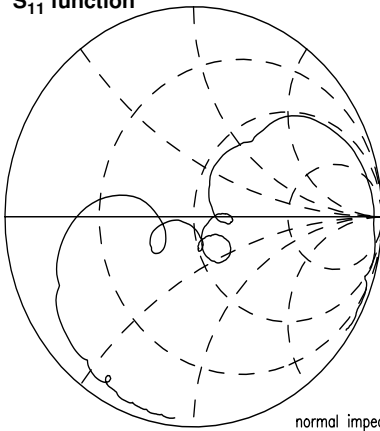
Transfer function (wideband)



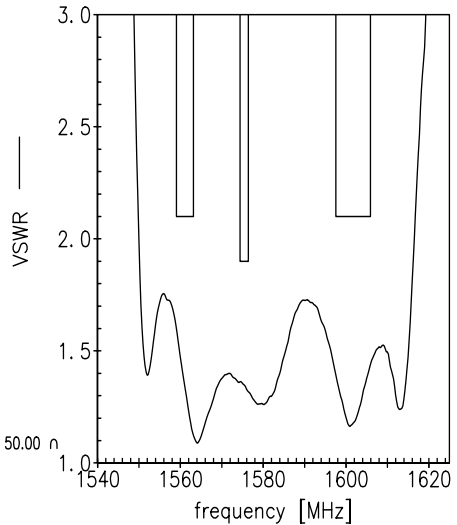
Data sheet

Smith Charts

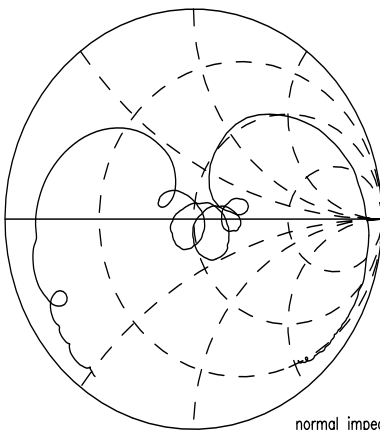
S₁₁ function



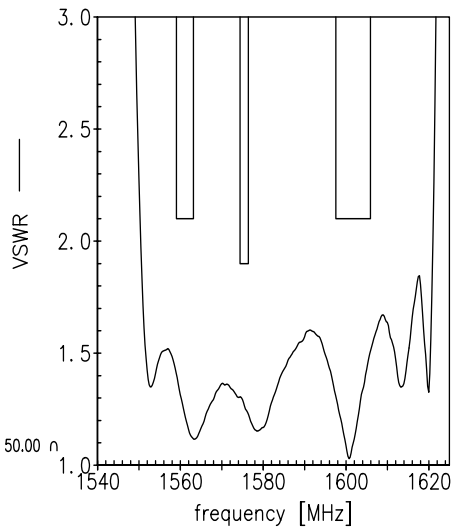
normal impedance: 50.00 Ω



S₂₂ function



normal impedance: 50.00 Ω



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References

Type	B8839
Ordering code	B39162B8839P810
Marking and package	C61157-A8-A56
Packaging	F61074-V8255-Z000
Date codes	L_1126
S-parameters	B8839_NB.s2p B8839_WB.s2p See file header for port/pin assignment table.
Soldering profile	S_6001
RoHS compatible	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."
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
Matching Coils	See http://www.tdk.co.jp/tefe02/coil.htm#aname1 http://www.tdk.co.jp/etvcl/index.htm for a large variety of matching coils.

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com .

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