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SAW Components

SAW filter

Short range devices

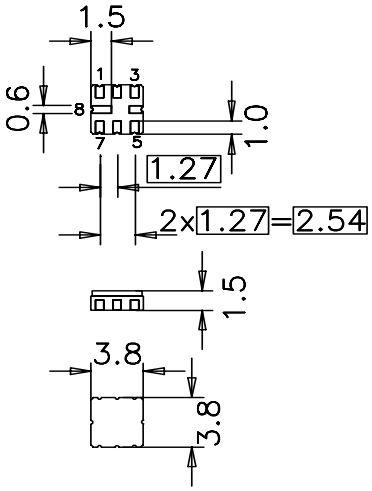
Series/type:	**B3590**
Ordering code:	**B39461B3590Z810**
Date:	November 08, 2007
Version:	2.0

Application

- Low-loss RF filter for meter reading
- Unbalanced to unbalanced operation
- No matching network required for operation at 50 Ω

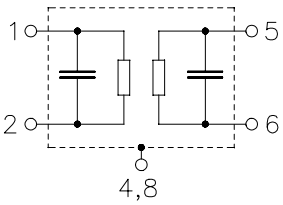
Features

- Package size 3.8 x 3.8 x 1.5 mm³
- Package code QCC8B
- RoHS compatible
- Approximate weight 0.07 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- Lead free soldering compatible with J - STD20C
- Passivation layer ELPAS
- AEC-Q200 qualified component family
- **E**lectrostactic **S**ensitive **D**evice (**ESD**)



Pin configuration

- 2 Input
- 6 Output
- 1,3,5,7 To be grounded
- 4,8 Case ground



Data sheet SMD

Characteristics

Temperature range for specification: T_A = –40 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	460.0	—	MHz
Maximum insertion attenuation	α_{max}				
450.0 ... 470.0 MHz		—	2.0	3.5 [1]	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
450.0 ... 470.0 MHz		—	0.7	2.7 [2]	dB
Input return loss					
450.0 ... 470.0 MHz		10.0	14.5	—	dB
Output return loss					
450.0 ... 470.0 MHz		10.0	17.5	—	dB
Attenuation	α				
1.0 ... 300.0 MHz		30	42	—	dB
300.0 ... 380.0 MHz		24	34	—	dB
380.0 ... 430.0 MHz		15	23	—	dB
504.825... 524.825MHz		12	32	—	dB
559.65 ... 579.65 MHz		28	41	—	dB
669.3 ... 689.3 MHz		24	37	—	dB
689.3 ... 1000.0 MHz		26	34	—	dB

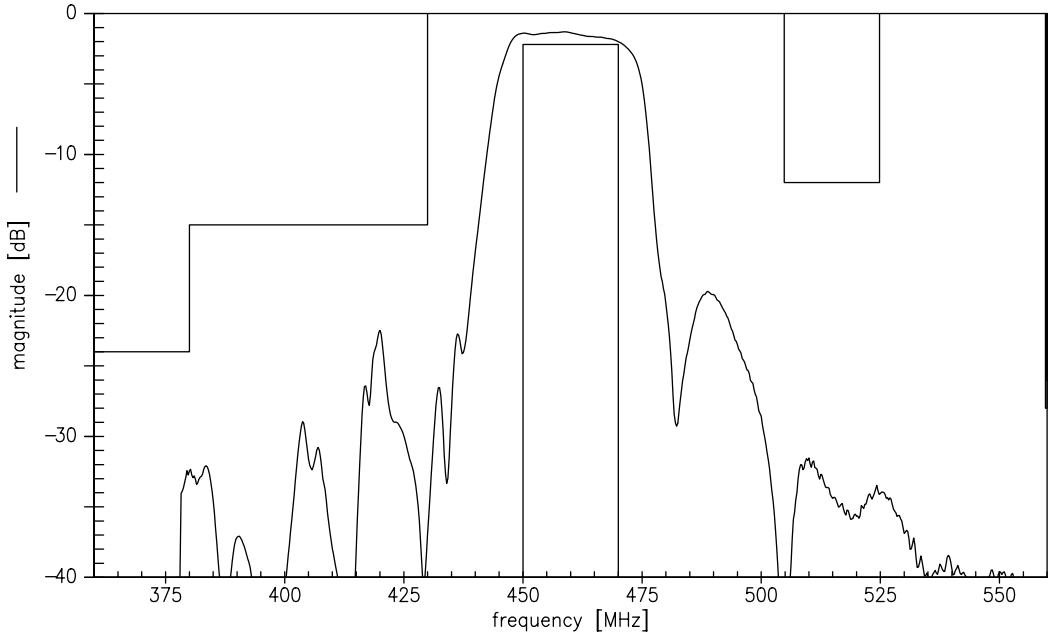
[1] 2.2 dB at 25 ˚C; 3.2 dB for –30 ˚C to +60˚C
[2] 1.4 dB at 25 ˚C; 2.4 dB for –30 ˚C to +60˚C

Maximum ratings

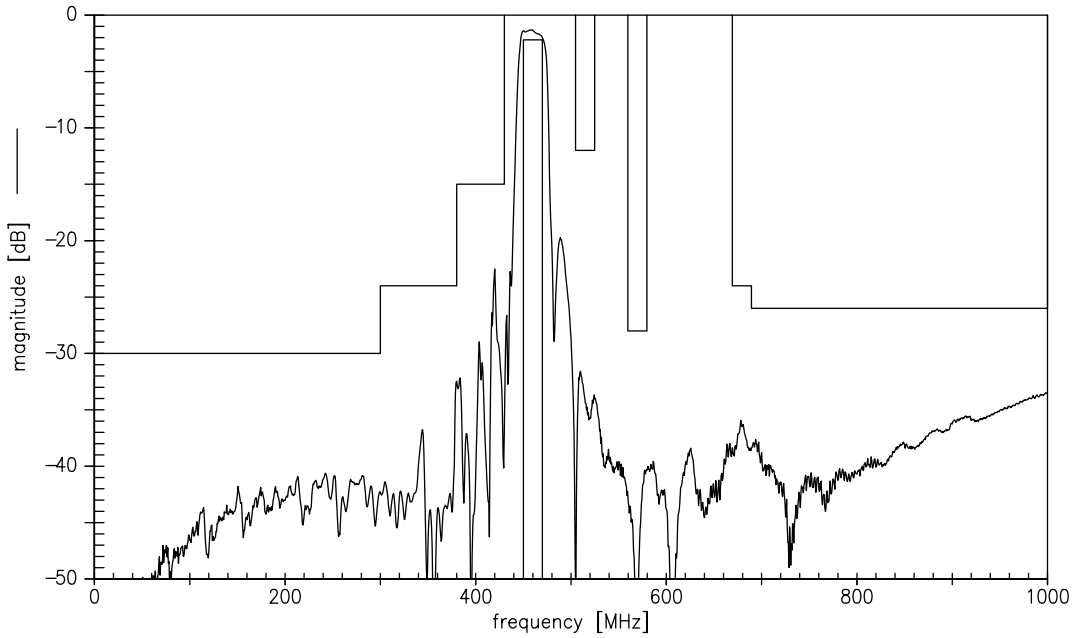
Operable temperature range	T_A	–45/+125	˚C	
Storage temperature range	T_{stg}	–45/+125	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	100 [1]	V	machine model, 10 pulses
Input Power at 450.0 ... 470.0 MHz	P_{IN}	10	dBm	continuous wave

[1] acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

Transfer function (narrowband)

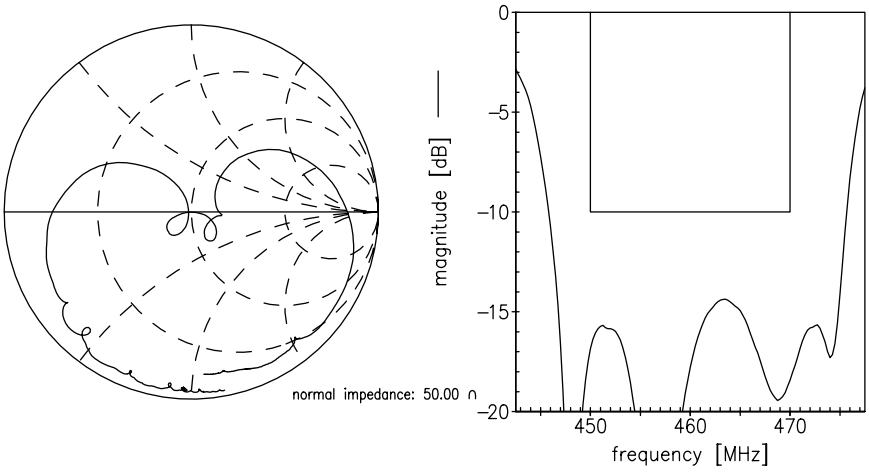


Transfer function (wideband)

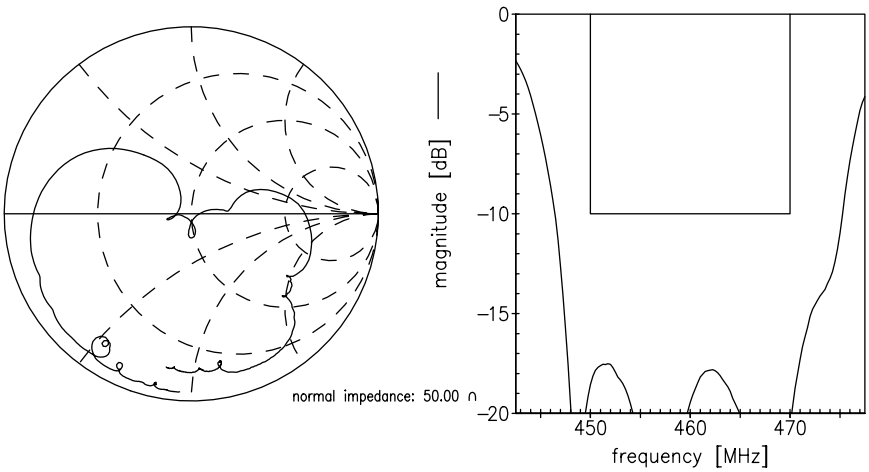


Smith chart

S_{11} function



S_{22} function



References

Type	B3590
Ordering code	B39461B3590Z810
Marking and package	C61157-A7-A46
Packaging	F61074-V8167-Z000
Date codes	L_1126
S-parameters	B3590_NB.s2p B3590_WB.s2p
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."

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

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