SAW Components

SAW RF filter

Automotive telematics

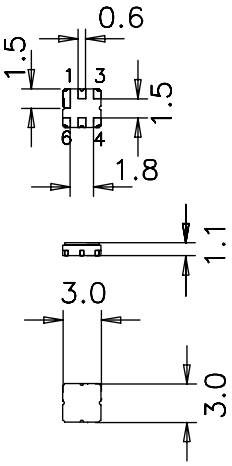
Series/type:	**B3520**
Ordering code:	**B39162B3520U410**
Date:	February 22, 2010
Version:	2.3

Application

- Low-loss RF filter for GPS application
- No matching network required for operation at 50 Ω
- Additional passband charasteristics for Galileo

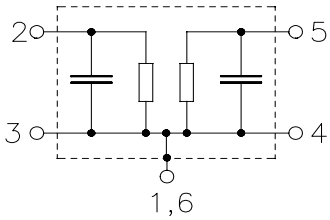
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- Lead free soldering compatible with J - STD20C
- AEC-Q200 qualified component family
- **E**lectrostactic **S**ensitive **D**evice (**ESD**)



Pin configuration

■	2	Input
■	5	Output
■	1,3,4,6	Ground



Data sheet 

Characteristics

Temperature range for specification: T = –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	—	1575.42	—	MHz
Maximum insertion attenuation	α_{max}				
1574.22 ... 1576.62 MHz		—	1.3	1.8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1574.22 ... 1576.62 MHz		—	0.1	1.0	dB
VSWR					
1574.22 ... 1576.62 MHz		—	1.5	2.0	
Relative attenuation (relative to α_{max})	α				
100.00 ... 1450.00 MHz		40	44	—	dB
1450.00 ... 1520.00 MHz		30	34	—	dB
1640.00 ... 1710.00 MHz		25	30	—	dB
1710.00 ... 1750.00 MHz		35	43	—	dB
1750.00 ... 1910.00 MHz		42	44	—	dB
1910.00 ... 2000.00 MHz		40	45	—	dB
Temperature coefficient of frequency	TC_f	—	–30	—	ppm/K

Characteristics

Temperature range for specification: T = –40 ˚C to+105 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	1575.42	—	MHz
Maximum insertion attenuation	α_{max}				
1574.22 ... 1576.62 MHz		—	1.3	2.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1574.22 ... 1576.62 MHz		—	0.1	1.0	dB
VSWR					
1574.22 ... 1576.62 MHz		—	1.5	2.0	
Relative attenuation (relative to α_{max})	α				
100.00 ... 1450.00 MHz		40	44	—	dB
1450.00 ... 1520.00 MHz		30	34	—	dB
1640.00 ... 1710.00 MHz		25	30	—	dB
1710.00 ... 1750.00 MHz		35	43	—	dB
1750.00 ... 1910.00 MHz		42	44	—	dB
1910.00 ... 2000.00 MHz		40	45	—	dB
Temperature coefficient of frequency	TC_f	—	–30	—	ppm/K

Additional Passband Characteristics for Galileo

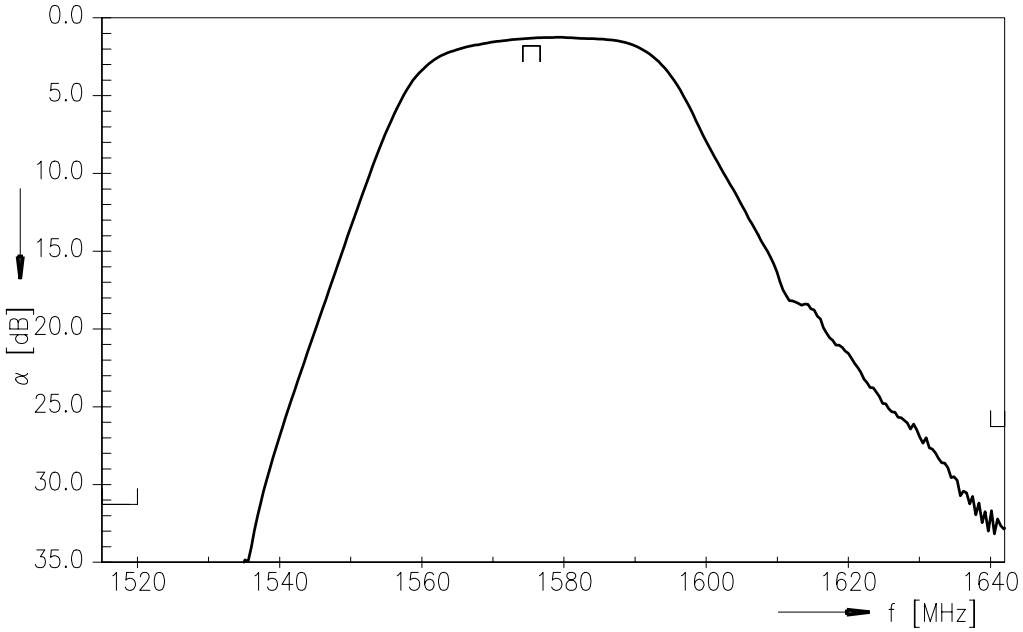
Temperature range for specification: T = –40 ˚C to+105 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	1575.42	—	MHz
Maximum insertion attenuation	α_{max}				
1572.42 ... 1578.42 MHz		—	1.6	2.7	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1572.42 ... 1578.42 MHz		—	0.6	1.6	dB
VSWR					
1572.42 ... 1578.42 MHz		—	1.8	2.6	

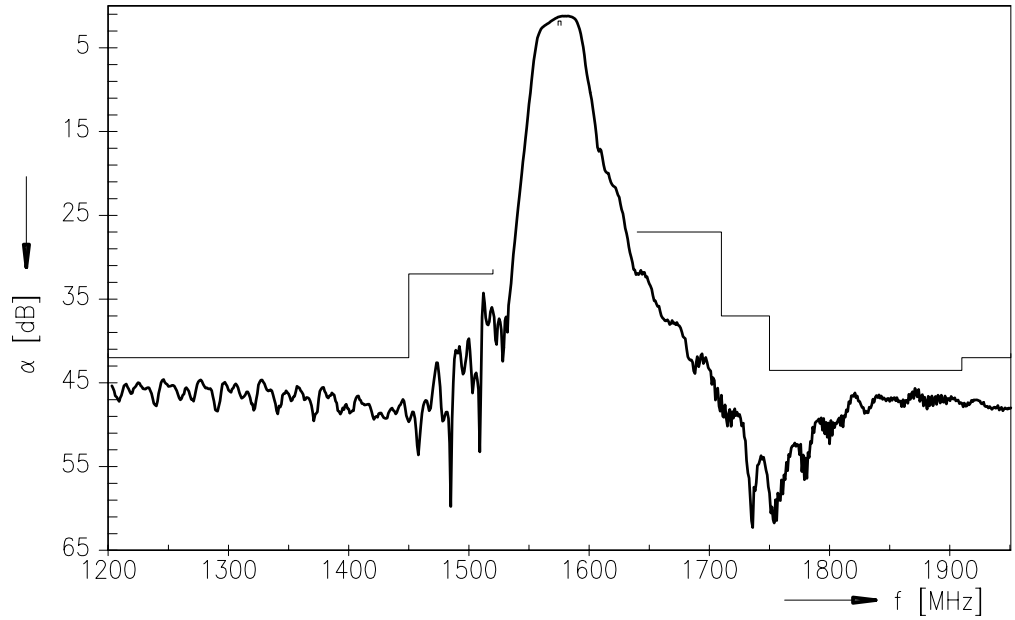
Maximum ratings

Operable temperature range	T	–45/+125	˚C	
Storage temperature range	T_{stg}	–45/+125	˚C	
DC voltage	V_{DC}	6	V	
Source power	P_S	10	dBm	source impedance 50 Ω
		20	dBm	824 MHz to 915 MHz, 1710 MHz to1785 MHz

Transfer function



Transfer function (wideband)



References

Type	B3520
Ordering code	B39162B3520U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B3520_NB.s2p B3520_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."

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