



SAW Components

SAW RF filter

Automotive telematics

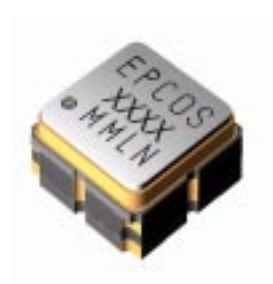
Series/type:	B3517
Ordering code:	B39162-B3517-U510
Date:	May 23, 2011
Version:	2.1

Data sheet



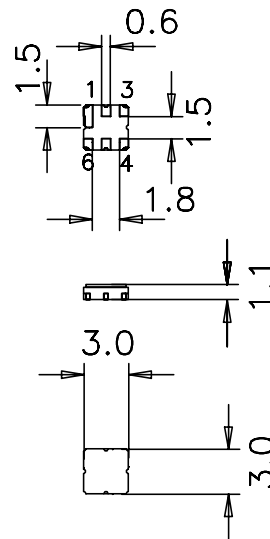
Application

- Low-loss RF filter for automotive telematics applications
- Unbalanced to balanced operation
- Low insertion attenuation
- Low amplitude ripple
- Usable passband 42.0 MHz



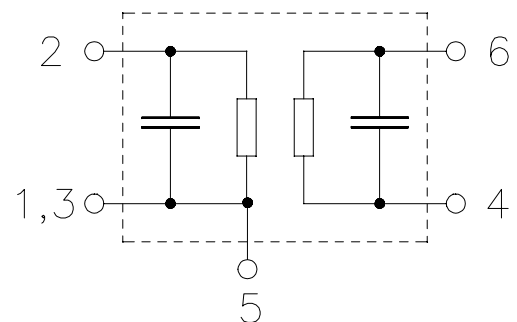
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6D
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- Lead free soldering compatible with J - STD20C
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

- 2 Input unbalanced
- 4,6 Output balanced
- 1,3,5 Case ground (to be grounded)



Data sheet


Characteristics

Temperature range for specification: $T = -40\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 100\ \Omega \parallel 18\text{ nH (balanced)}$

		min.	typ.	max.	
Center frequency	f_C	—	1586	—	MHz
Maximum insertion attenuation	α_{\max}				
1565.0 ... 1607.0 MHz		—	1.9	2.5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1565.0 ... 1607.0 MHz		—	0.7	1.4	dB
Input VSWR					
1565.0 ... 1607.0 MHz		—	1.7	2.4	
Output VSWR					
1565.0 ... 1607.0 MHz		—	1.7	2.3	
Group delay ripple¹⁾ (p-p)					
1565.0 ... 1607.0 MHz		—	9	20	ns
1597.0 ... 1607.0 MHz		—	7	14	ns
Attenuation	α				
10.0 ... 960.0 MHz		52	57	—	dB
960.0 ... 1463.0 MHz		47	52	—	dB
1710.0 ... 1785.0 MHz		39	43	—	dB
1785.0 ... 1850.0 MHz		42	47	—	dB
1850.0 ... 1910.0 MHz		45	50	—	dB
1910.0 ... 2050.0 MHz		50	53	—	dB
2050.0 ... 2300.0 MHz		38	41	—	dB
2300.0 ... 2400.0 MHz		45	55	—	dB
2400.0 ... 2500.0 MHz		53	57	—	dB

1) Averaged over 500 kHz

Maximum ratings

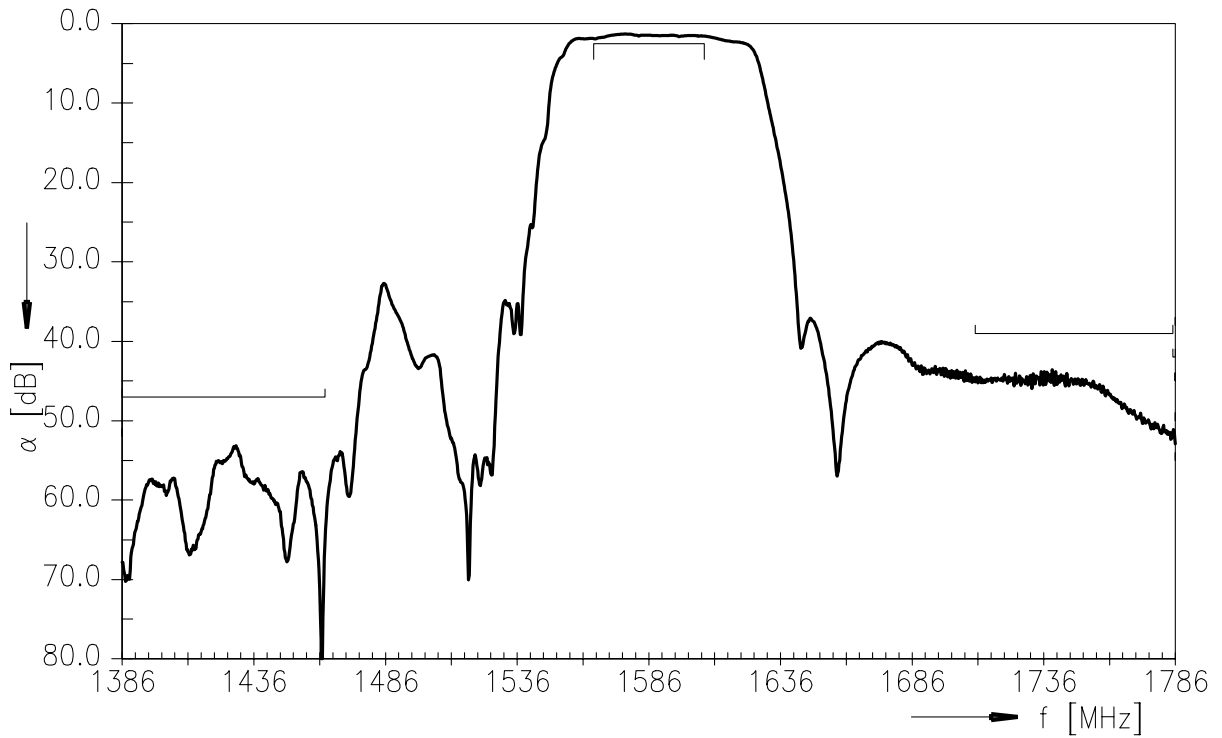
Operable temperature range	T	-45/+125	°C	
Storage temperature range	T _{stg}	-45/+125	°C	
DC voltage	V _{DC}	6	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	machine model, 10 pulses
Input power at				source 50Ω, load 100Ω 18nH
1565.0 ... 1607.0 MHz	P _{IN}	5	dBm	cw
2400 ... 2483.5 MHz	P _{IN}	20	dBm	cw
824...960, 1710...2170 MHz	P _{IN}	20	dBm	cw
960...1525 MHz	P _{IN}	10	dBm	cw

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

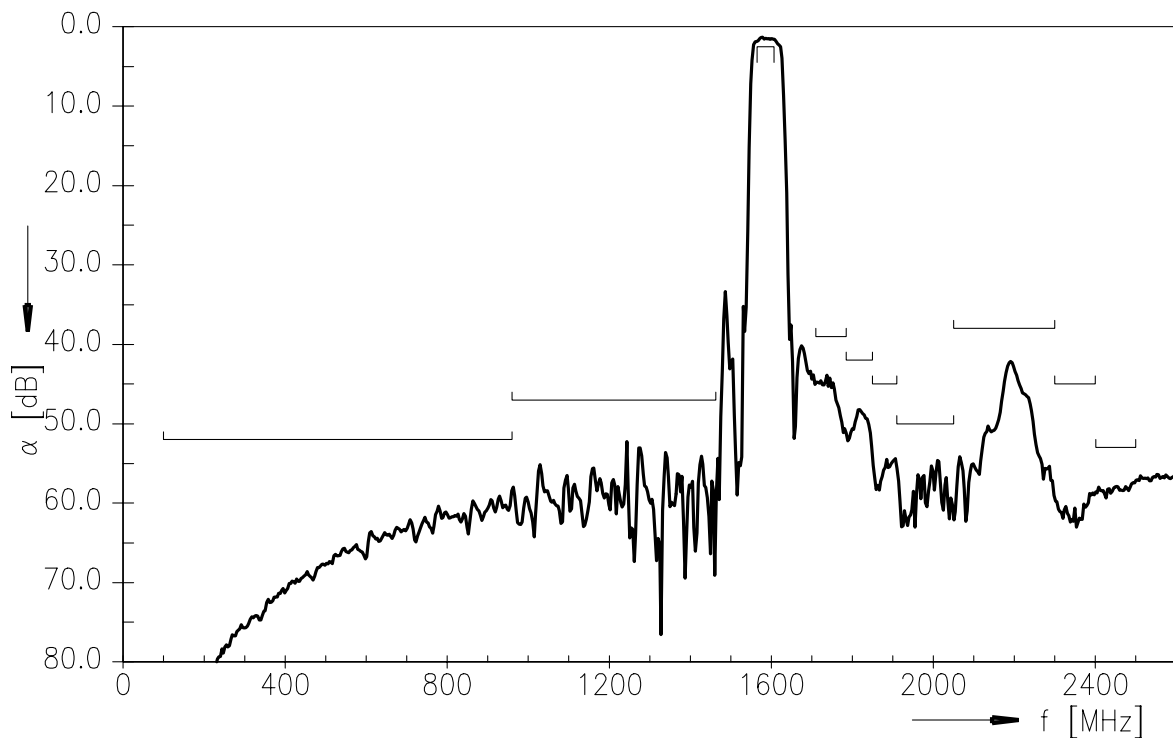
Data sheet



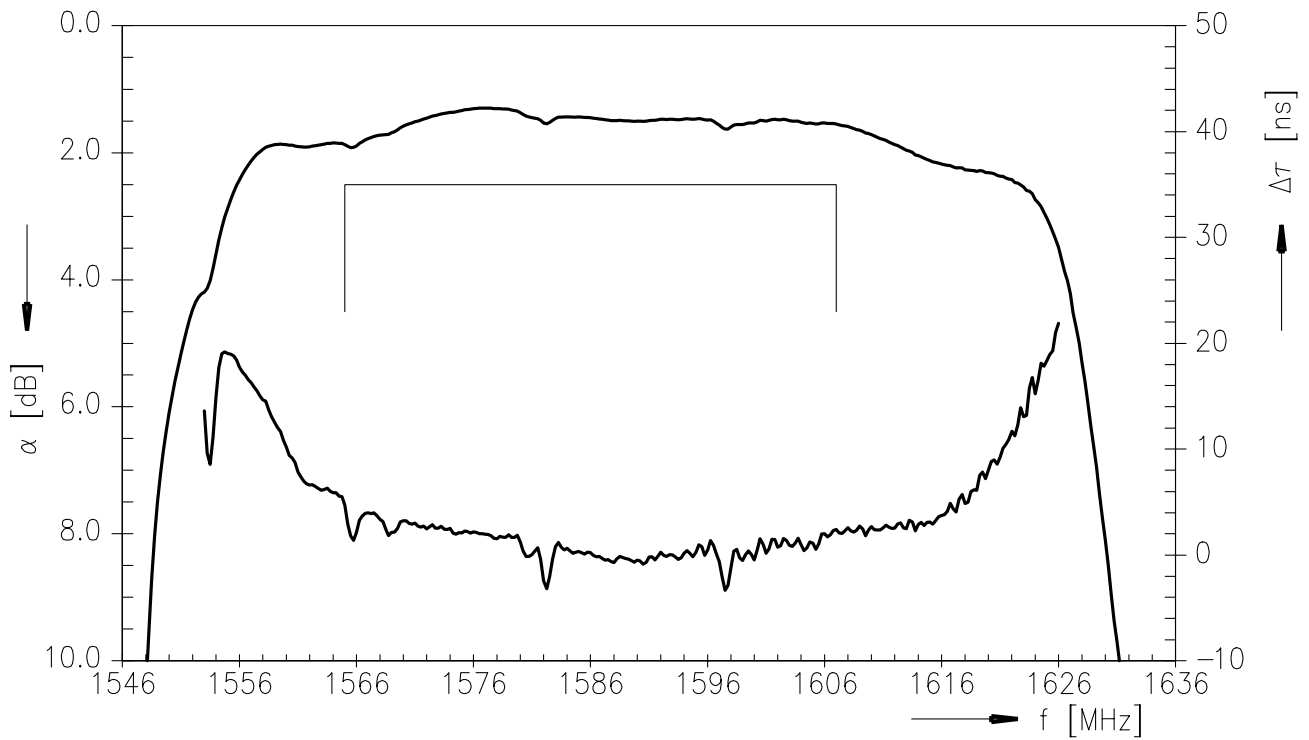
Transfer function



Transfer function (wideband)



Group delay time



References

Type	B3517
Ordering code	B39162-B3517-U510
Marking and package	C61157-A7-A68
Packaging	F61074-V8228-Z000
Date codes	L_1126
S-parameters	B3517_NB.s3p, B3517_WB.s3p 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 Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm

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