SAW Components

SAW RF low loss filter

Satellite CSS

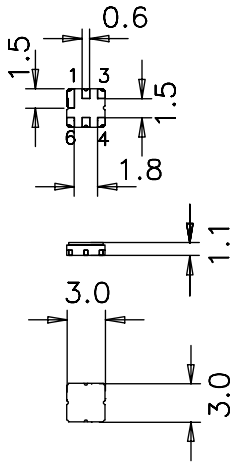
Series/type:	**B1666**
Ordering code:	**B39142-B1666-U510**
Date:	October 01, 2010
Version:	2.0

Application

- Low-loss RF filter for digital video
- Impedance transformation from 200 Ω to 50 Ω
- Balanced to unbalanced operation
- Usable passband 60.0 MHz

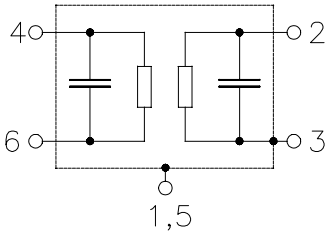
Features

- Package size 3.0 x3.0 x 1.1 mm³
- Maximum height of 1.225 mm
- Package code DCC6D
- RoHS compatible
- Approximate weight 0.037 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- AEC-Q200 qualified component family



Pin configuration

- 4,6 Input balanced
- 2 Output unbalanced
- 1,3,5 To be grounded



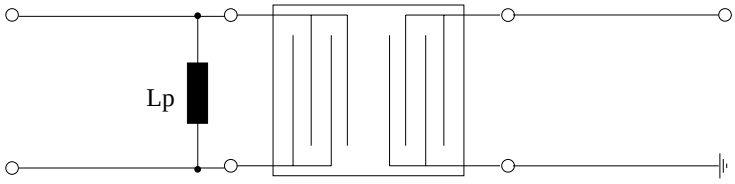
Data sheet SMD

Characteristics

Temperature range for specification: T = –40 ˚C to +85 ˚C
Terminating source impedance: Z_S = 200Ω (balanced) and matching network
Terminating load impedance: Z_L = 50Ω

		min.	typ. @ 25 ˚C	max.	
Nominal frequency	f_N	—	1420.00	—	MHz
Maximum insertion attenuation	α_{max}				
1390.0 ... 1450.0 MHz		—	2.6	3.6	dB
Amplitude ripple in any 30MHz band (p-p)	$\Delta\alpha$				
1390.0 ... 1450.0 MHz		—	1.2	2.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1390.0 ... 1450.0 MHz		—	1.2	2.0	dB
Differential to common mode ratio ($\lvert S_{dd21}/S_{cd21}\rvert$)					
1390.0 ... 1450.0 MHz		18.0	21.0	—	dB
Input return loss		6.0	8.0	—	dB
Output return loss		6.0	8.0	—	dB
Attenuation	α				
50.0 ... 900.0 MHz		45	48	—	dB
1180.0 ... 1240.0 MHz		32	35	—	dB
1650.0 ... 1710.0 MHz		29	32	—	dB
1710.0 ... 2070.0 MHz		31	34	—	dB
2070.0 ... 5000.0 MHz		20	25	—	dB
Group delay ripple (p-p)					
1390.0 ... 1450.0 MHz		—	15	30	ns

Matching Network (element values depend on PCB layout)



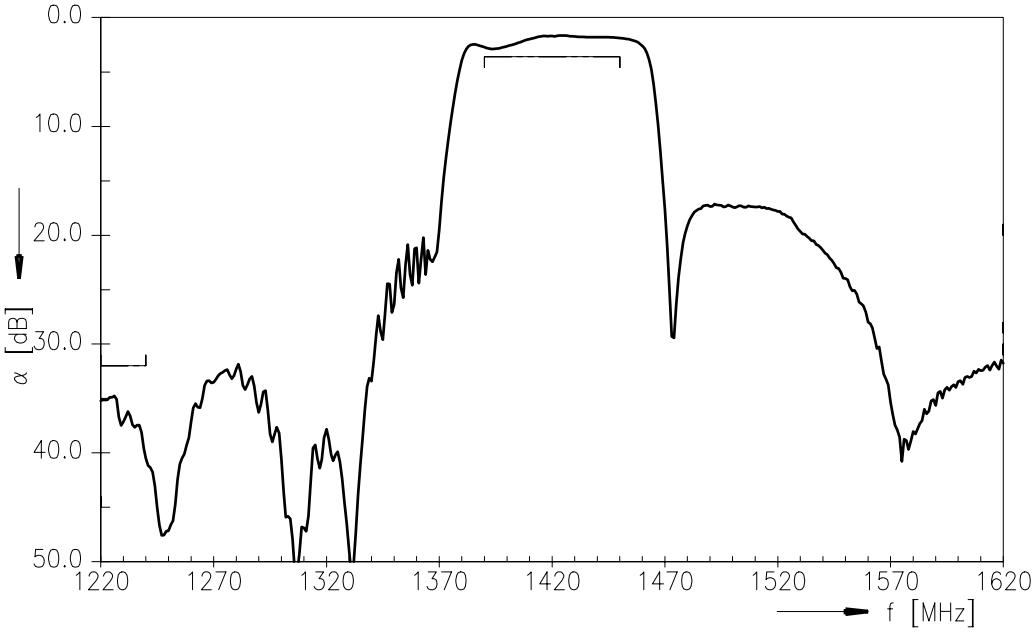
L_p = 22 nH

Maximum ratings

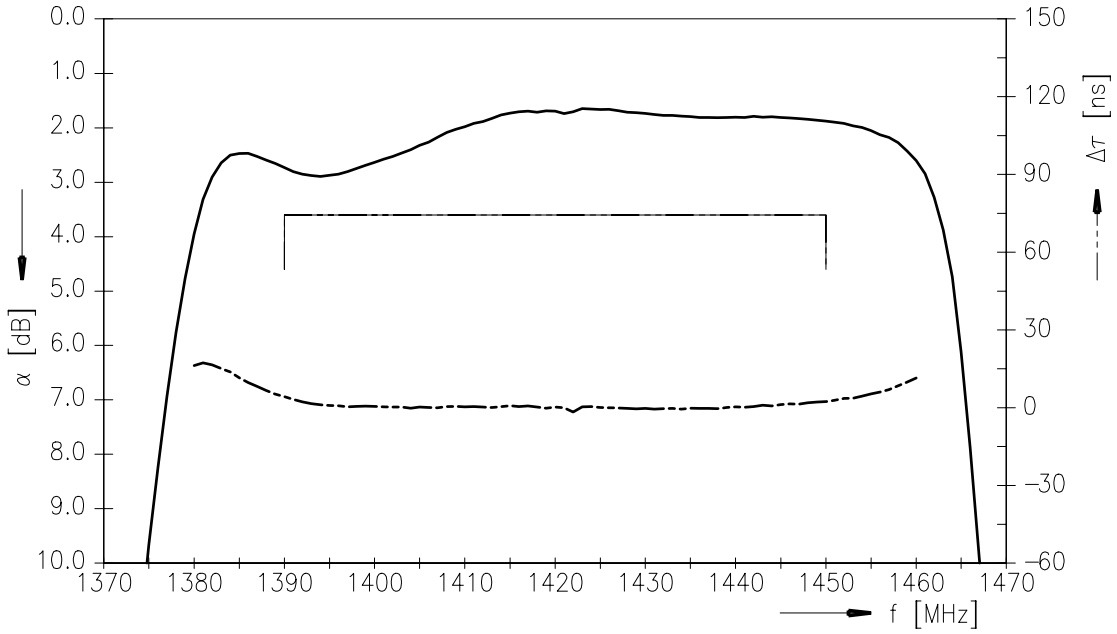
Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	0	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 1 pulse
Input power at				
1390.0 MHz...1450.0 MHz	P_{IN}	0	dBm	source impedance 200 Ω

1) according to JESD22-A115A (machine model), 1 negative & 1 positive pulse.

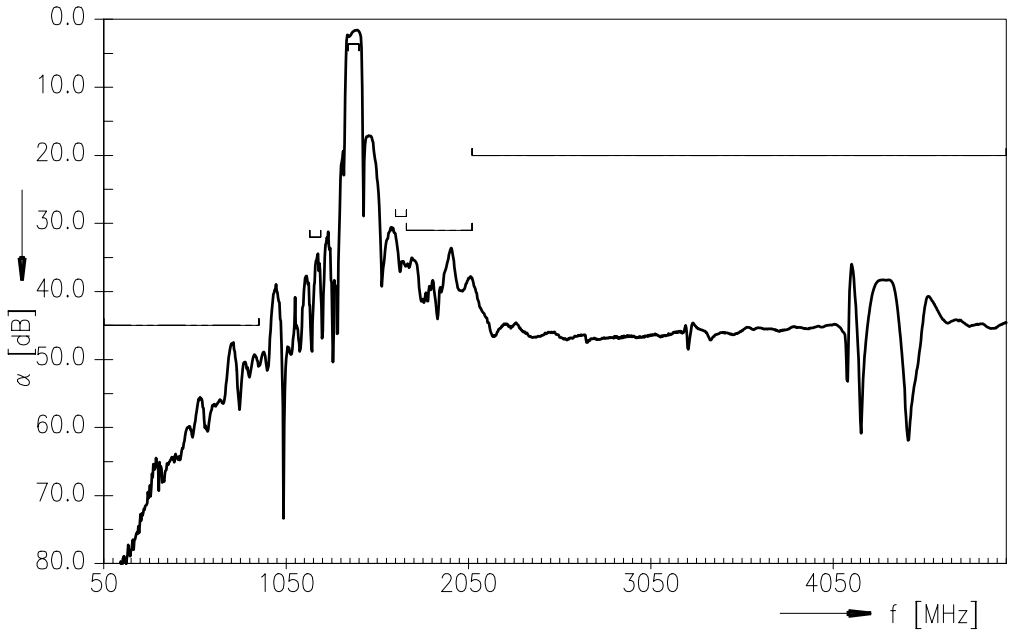
Transfer function



Transfer function (passband)



Transfer function (wideband)



References

Type	B1666
Ordering code	B39142-B1666-U510
Marking and package	C61157-A7-A68
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B1666_NB.s3p B1666_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."
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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