



SAW Components

SAW RF low loss filter

Satellite CSS

Series/type:	B1638
Ordering code:	B39192B1638U510
Date:	October 16, 2008
Version:	2.1

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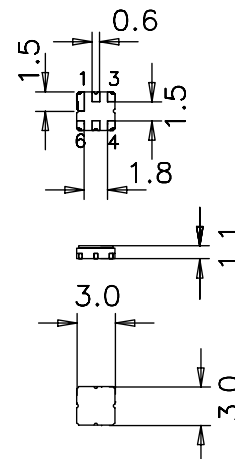
Data Sheet

Application

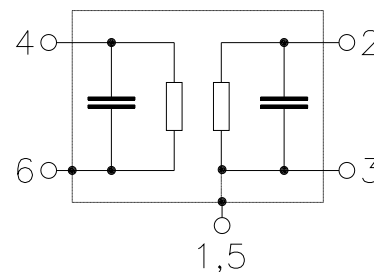
- Low loss RF filter for satellite CSS
- Usable passband 40.5 MHz
- High rejection
- 200 Ω balanced to 75 Ω unbalanced operation


Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Maximum height of 1.225 mm
- Package code DCC6D
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**


Pin configuration

- 4 Input
- 6 Input
- 2 Output
- 1, 3, 5 Case ground



SAW Components
B1638
SAW RF low loss filter
1864.0 MHz
Data Sheet

Characteristics

Temperature range for specification:

$$T = +25\text{ °C} \pm 2\text{ °C}$$

Terminating source impedance:

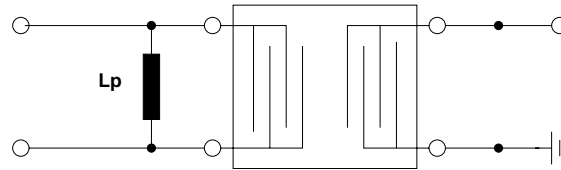
$$Z_S = 200\ \Omega \text{ and matching network}$$

Terminating load impedance:

$$Z_L = 75\ \Omega$$

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	1864.0	—	MHz
Insertion attenuation at 1864.0 MHz	α_0	—	2.9	3.2	dB
Pass bandwidth $\alpha_{rel} \leq 1.0\text{ dB}$	$B_{1\text{ dB}}$	—	65.2	—	MHz
Amplitude ripple (p-p) 1840.5 ... 1887.4 MHz	$\Delta\alpha$	—	0.6	1.0	dB
Group delay ripple (p-p) 1845.8 ... 1882.1 MHz	$\Delta\tau$	—	5.0	10.0	ns
Relative attenuation (relative to α_0)	α_{rel}				
0.3 ... 862.0 MHz		60.0	65.0	—	dB
862.0 ... 1655.5 MHz		45.0	50.0	—	dB
1655.5 ... 1771.3 MHz		33.0	47.0	—	dB
1956.3 ... 2072.1 MHz		33.0	37.0	—	dB
2072.1 ... 2500.0 MHz		40.0	46.0	—	dB
2500.0 ... 3500.0 MHz		30.0	38.0	—	dB
Common Mode Rejection Ratio (CMRR) 1840.5 ... 1887.4 MHz		20.0	33.0	—	dB
Input VSWR 1840.5 ... 1887.4 MHz		—	1.8	2.1	
Output VSWR 1840.5 ... 1887.4 MHz		—	2.0	2.1	

Matching network (element value depends on PCB layout)

 $L_p = 14 \text{ nH}$

Maximum ratings

Operable temperature range	T	-30/+80	°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 1840.5... 1887.4 MHz	P _{IN}	0	dBm	source impedance 200 Ω

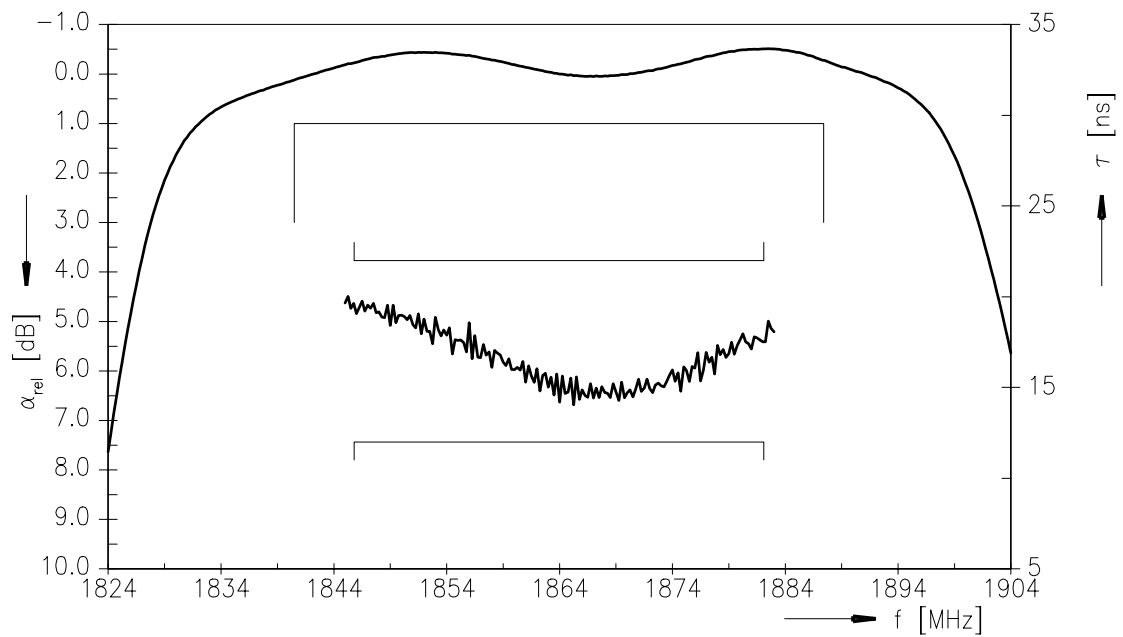
¹⁾ acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulses.



Transfer function S_{21} with matching network



Transfer function S_{21} (passband) with matching network




References

Type	B1638
Ordering code	B39192B1638U510
Marking and package	C61157-A7-A68
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	LI20A_NB_UN.s3p
Soldering profile	S_6001
RoHS compatible	<p>defined as compatible with the following documents:</p> <p>"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."</p>

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