



SAW Components

SAW Duplexer for WCDMA Band I

Series/type:	B7697
Ordering code:	B39212B7697E110
Date:	September 23, 2009
Version:	2.0

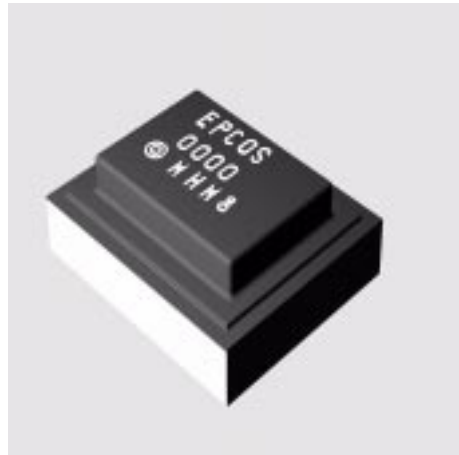


Data Sheet



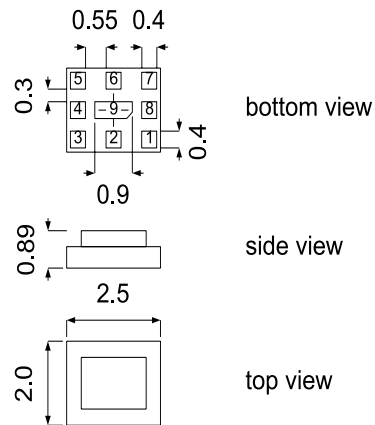
Application

- Low-loss SAW duplexer for mobile telephone WCDMA Band I systems
- Low insertion attenuation
- Low amplitude ripple
- Usable passband 60 MHz



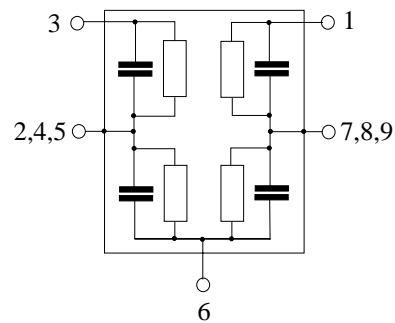
Features

- Package size 2.5 x 2.0 x 0.89 mm³
- RoHS compatible
- Approx. weight 0.018 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Fully matched by integrated matching network



Pin configuration

- 1 RX Output
- 3 TX Input
- 6 Antenna
- 2, 4, 5 To be grounded
- 7, 8, 9 To be grounded





Data Sheet



Characteristics

Temperature range for specification: T = -30 °C to +85 °C
 Antenna terminating impedance: Z_{ANT} = 50 Ω
 TX terminating impedance: Z_{TX} = 50 Ω
 RX terminating impedance: Z_{RX} = 50 Ω

Characteristics TX - ANT	min.	typ. @ 25 °C	max.	
Center frequency f _C	–	1950.0	–	MHz
Maximum insertion attenuation α _{max} 1920.0 ... 1980.0 MHz	–	1.5	1.8	dB
Amplitude ripple (p-p) Δα 1920.0 ... 1980.0 MHz	–	0.2	0.7	dB
Amplitude ripple (p-p) over any 3.84 MHz within passband Δα _{ch} 1920.0 ... 1980.0 MHz	–	0.1	0.4	dB
Input VSWR (TX port) 1920.0 ... 1980.0 MHz	–	1.6	2.0	
Output VSWR (ANT port) 1920.0 ... 1980.0 MHz	–	1.5	1.9	
Attenuation α				
0.3 ... 1570.0 MHz	25	32	–	dB
1570.0 ... 1580.0 MHz	30	33	–	dB
1805.0 ... 1880.0 MHz	10	35	–	dB
2110.0 ... 2170.0 MHz	38	41	–	dB
2400.0 ... 2500.0 MHz	18	27	–	dB
3840.0 ... 3960.0 MHz	20	30	–	dB
5760.0 ... 5940.0 MHz	10	22	–	dB



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Characteristics

Temperature range for specification: T = -30 °C to +85 °C
 Antenna terminating impedance: Z_{ANT} = 50 Ω
 TX terminating impedance: Z_{TX} = 50 Ω
 RX terminating impedance: Z_{RX} = 50 Ω

Characteristics ANT - RX		min.	typ. @ 25 °C	max.	
Center frequency	f _C	–	2140.0	–	MHz
Maximum insertion attenuation 2110.0 ... 2170.0 MHz	α _{max}	–	1.8	2.2	dB
Amplitude ripple (p-p) 2110.0 ... 2170.0 MHz	Δα	–	0.4	0.8	dB
Amplitude ripple (p-p) over any 3.84 MHz within passband 2110.0 ... 2170.0 MHz	Δα _{ch}	–	0.2	0.5	dB
Input VSWR (ANT port) 2110.0 ... 2170.0 MHz		–	1.6	1.9	
Output VSWR (RX port) 2110.0 ... 2170.0 MHz		–	1.6	1.9	
Attenuation	α				
0.3 ... 1730.0 MHz		30	39	–	dB
1730.0 ... 1790.0 MHz		30	40	–	dB
1920.0 ... 1980.0 MHz		46	51	–	dB
2015.0 ... 2075.0 MHz		7	13	–	dB
2400.0 ... 2500.0 MHz		40	49	–	dB
4030.0 ... 4150.0 MHz		20	28	–	dB
4220.0 ... 4340.0 MHz		20	26	–	dB
4340.0 ... 6000.0 MHz		15	20	–	dB



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Characteristics

Temperature range for specification:	T = -30 °C to +85 °C
Antenna terminating impedance:	Z _{ANT} = 50 Ω
TX terminating impedance:	Z _{TX} = 50 Ω
RX terminating impedance:	Z _{RX} = 50 Ω

Characterisitcs TX - RX				min.	typ. @ 25 °C	max.	
Isolation	α	1920.0 ... 1980.0 MHz		50	54	–	dB
		2110.0 ... 2170.0 MHz		42	45	–	dB

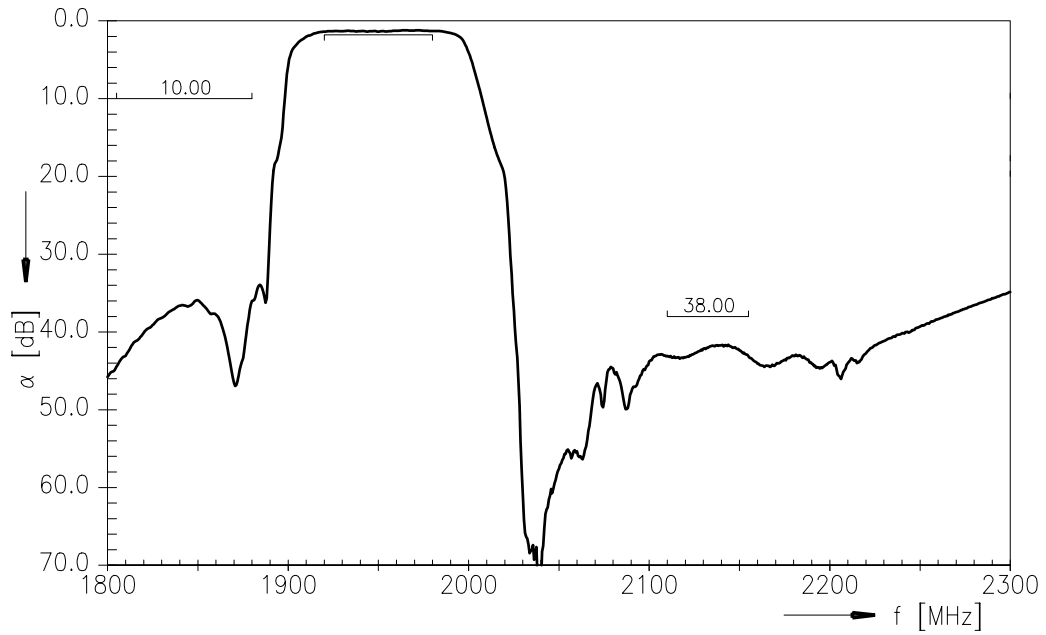
Maximum ratings

Storage temperature range	T _{stg}	-40/+85	°C	machine model, 10 pulses source and load impedance 50 Ω } continuous wave T = 55 °C, 5000 h
DC voltage	V _{DC}	5	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	
Input power at	P _{IN}	tbd		
1920.0 ... 1980.0 MHz elsewhere		29 10	dBm dBm	

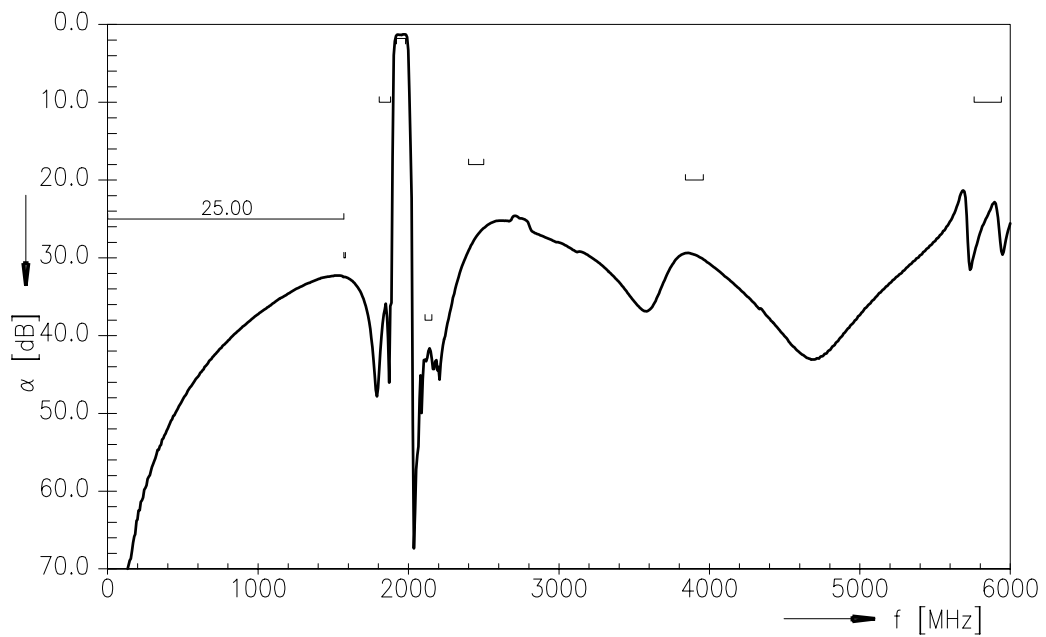
1) acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Frequency Response TX-ANT

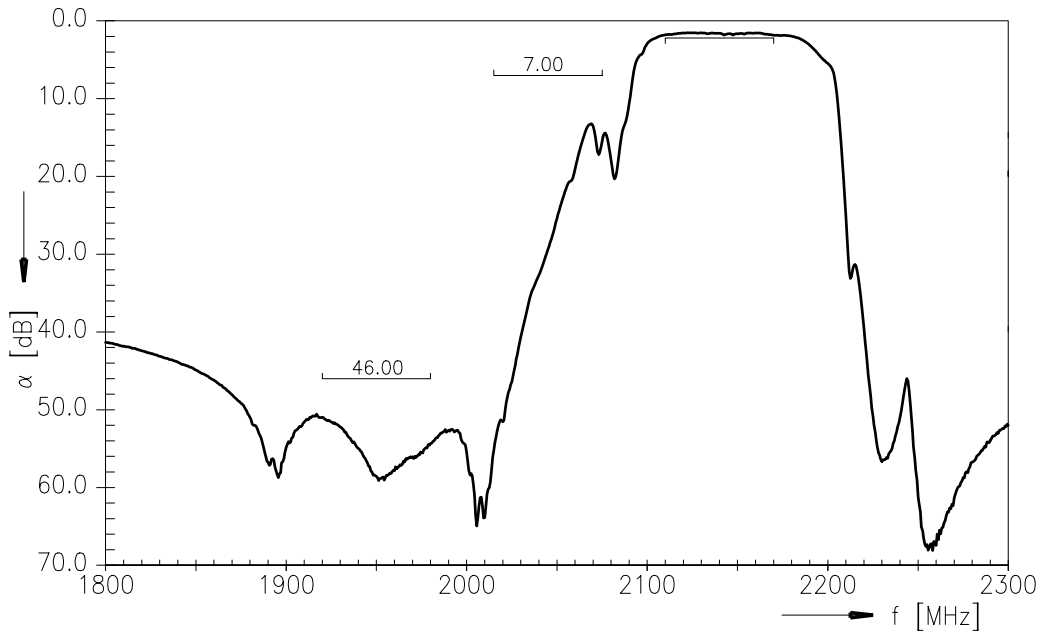


Frequency Response TX-ANT (wideband)

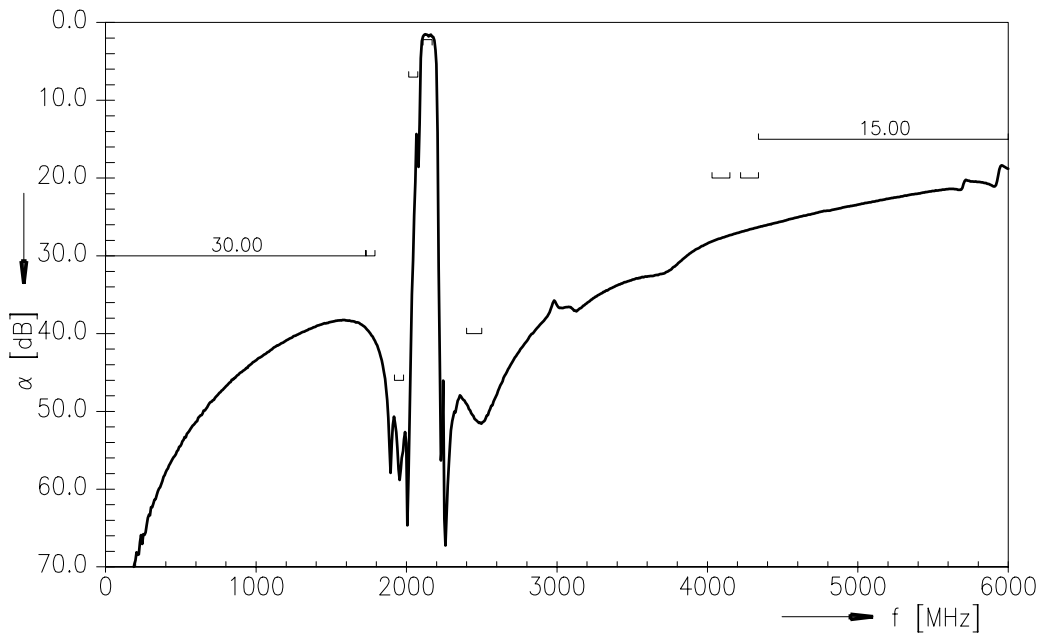




Frequency Response RX-ANT

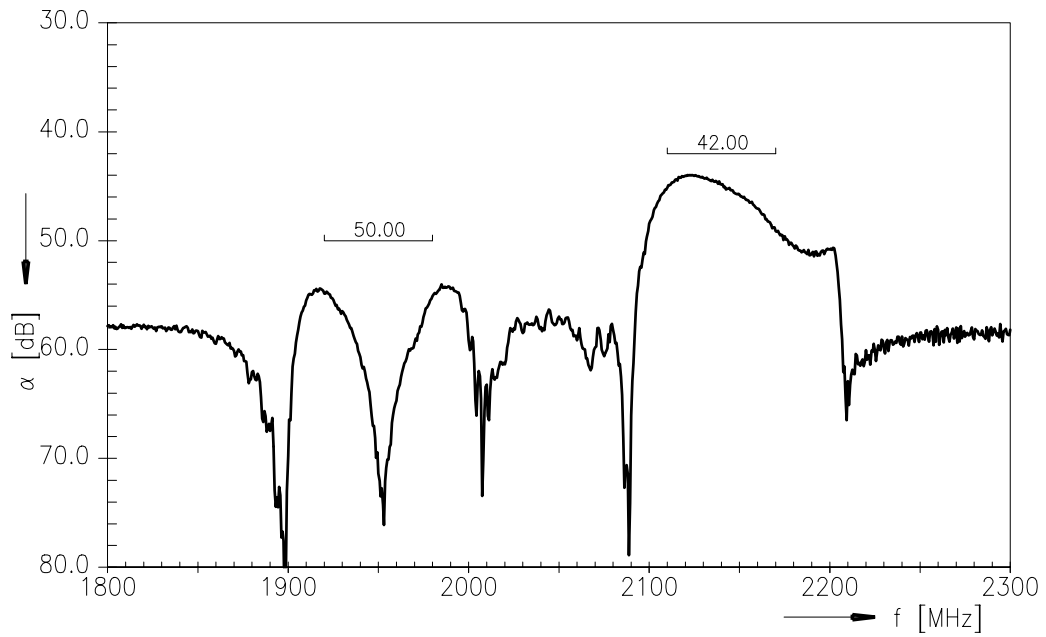


Frequency Response RX-ANT (wideband)

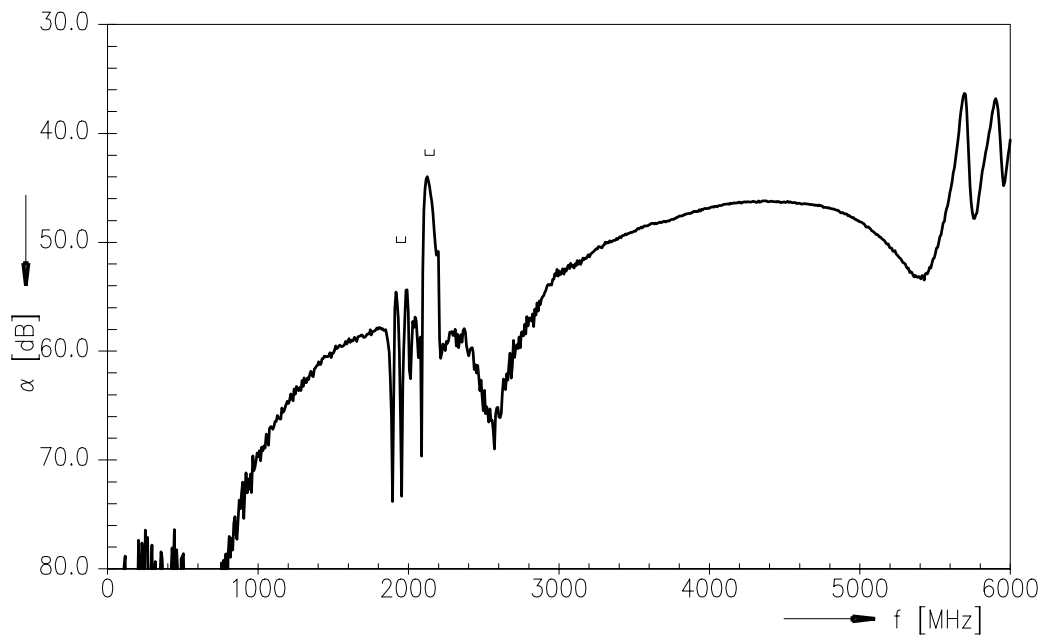




Frequency Response TX-RX



Frequency Response TX-RX (wideband)



Please read *cautions and warnings* and *important notes* at the end of this document.



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B7697

SAW Duplexer

1950 / 2140 MHz

Data Sheet



References

Type	B7697
Ordering code	B39212B7697E110
Marking and package	C61157-A3-A58
Packaging	F61074-V8153-Z000
Date codes	L_1126
S-parameters	B7697_NB.s3p B7697_WB.s3p See file header for pin/port assignment
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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