



SAW Components

SAW Duplexer

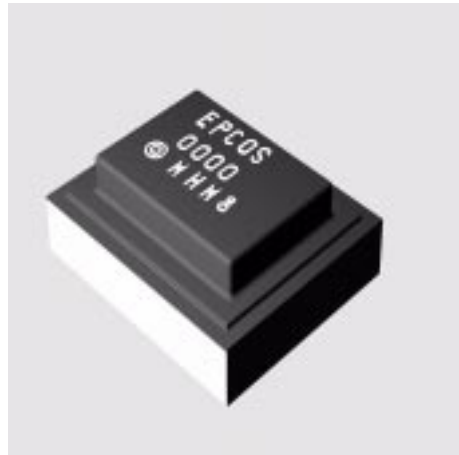
for WCDMA Band I (UMTS)

Series/type:	B7643
Ordering code:	B39212B7643P510
Date:	July 06, 2006
Version:	2.0



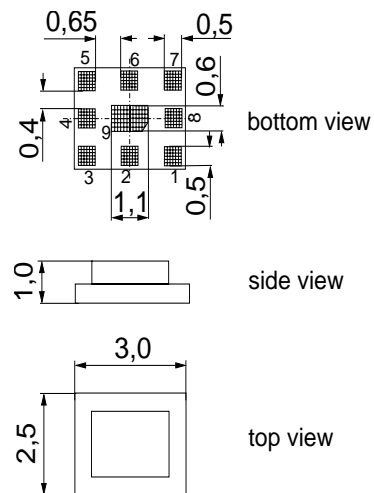
Application

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



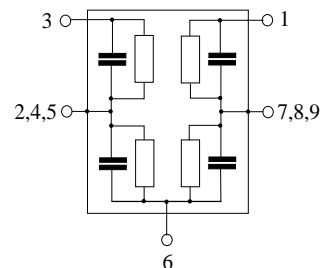
Features

- Package size 3.0 x 2.5 x 1.0 mm³
- RoHS compliant
- Approx. weight 0.035 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals



Pin configuration

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





Data sheet



Characteristics

Operating temperature range: 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 || 3.9nH

Characterisitcs TX - ANT		min.	typ. @ 25 °C	max.	
Center frequency	f _C	—	1950.0	—	MHz
Maximum insertion attenuation 1920.0 ... 1980.0 MHz	α _{max}	—	1.4	1.7	dB
Amplitude ripple (p-p) 1920.0 ... 1980.0 MHz	Δα	—	0.4	0.7	dB
Amplitude ripple (p-p) over any 3.84 MHz within passband 1920.0 ... 1980.0 MHz	Δα _{ch}	—	0.2	—	dB
Input VSWR (TX port) 1920.0 ... 1980.0 MHz		—	1.8	2.1	
Output VSWR (ANT port) 1920.0 ... 1980.0 MHz		—	1.6	1.9	
Attenuation	α				
1.0 ... 1570.0 MHz		10	27	—	dB
1570.0 ... 1580.0 MHz		20	27	—	dB
1805.0 ... 1880.0 MHz		1	26	—	dB
2110.0 ... 2170.0 MHz		38	42	—	dB
2402.0 ... 2480.0 MHz		5	27	—	dB
3840.0 ... 3960.0 MHz		13	18	—	dB
5760.0 ... 5940.0 MHz		7	12	—	dB



Data sheet



Characteristics

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 TX terminating impedance: Z_{TX} = 50 Ω
 RX terminating impedance: Z_{RX} = 50 Ω || 3.9nH

Characteristics ANT - RX		min.	typ. @ 25 °C	max.	
Center frequency	f _C	—	2140.0	—	MHz
Maximum insertion attenuation	α _{max}	—	2.1	2.5	dB
2110.0 ... 2170.0 MHz					
Amplitude ripple (p-p)	Δα	—	0.6	1.0	dB
2110.0 ... 2170.0 MHz					
Amplitude ripple (p-p) over any 3.84 MHz within passband	Δα _{ch}	—	0.2	—	dB
2110.0 ... 2170.0 MHz					
Input VSWR (ANT port)		—	1.6	1.9	
2110.0 ... 2170.0 MHz					
Output VSWR (RX port)		—	1.8	2.2	
2110.0 ... 2170.0 MHz					
Attenuation	α				
1.0 ... 200.0 MHz		28	90	—	dB
200.0 ... 1730.0 MHz		6	38	—	dB
1730.0 ... 1790.0 MHz		20	39	—	dB
1790.0 ... 1920.0 MHz		25	41	—	dB
1920.0 ... 1980.0 MHz		46	50	—	dB
1980.0 ... 2025.0 MHz		20	46	—	dB
2025.0 ... 2050.0 MHz		8	46	—	dB
2050.0 ... 2075.0 MHz		2	28	—	dB
2230.0 ... 2255.0 MHz		2.5	46	—	dB
2255.0 ... 2402.0 MHz		8	46	—	dB
2402.0 ... 2480.0 MHz		18	53	—	dB
2480.0 ... 4030.0 MHz		18	40	—	dB
4030.0 ... 4150.0 MHz		25	39	—	dB
4150.0 ... 4220.0 MHz		18	39	—	dB
4220.0 ... 4340.0 MHz		25	38	—	dB
4340.0 ... 6330.0 MHz		18	31	—	dB



Data sheet

**Characteristics**

Operating temperature range:	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 3.9 nH

Characterisitcs TX - RX				min.	typ. @ 25 °C	max.	
Isolation	1920.0 ... 1980.0	α	MHz	49	52	—	dB
	2110.0 ... 2170.0		MHz	41	43	—	



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1950 / 2140 MHz

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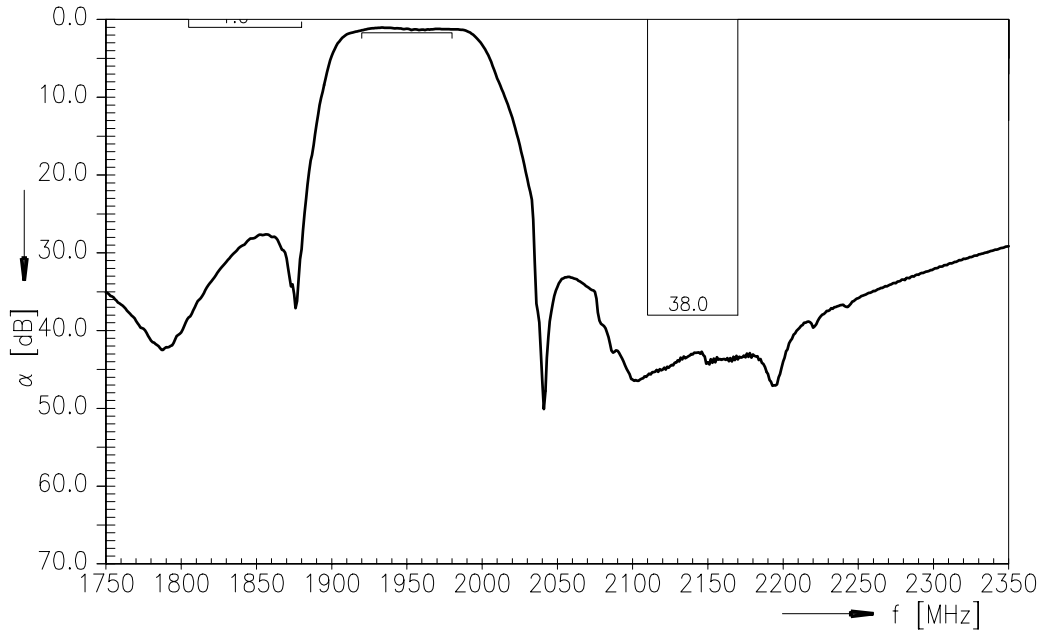
Maximum ratings

Operable temperature range	T	-30/+85	°C	machine model, 10 pulses source and load impedance 50 Ω } continuous wave } T = 55°C, 50.000 h
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	5	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	
Input power at	P _{IN}			
1920.0 ... 1980.0 MHz		30	dBm	
elsewhere		10	dBm	

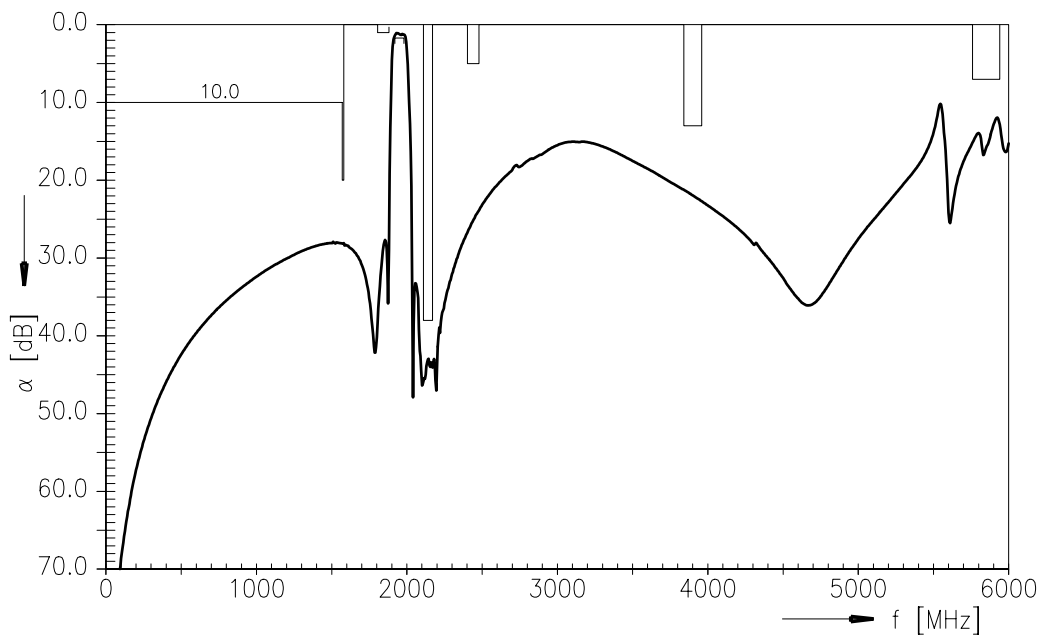
¹⁾ acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Frequency Response TX-ANT

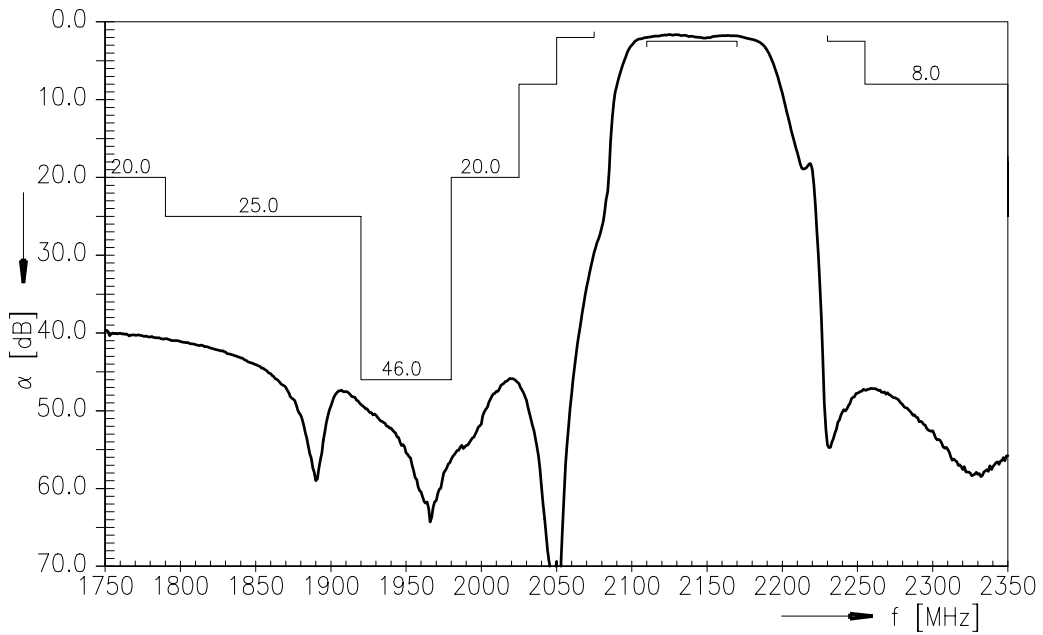


Frequency Response TX-ANT (wideband)

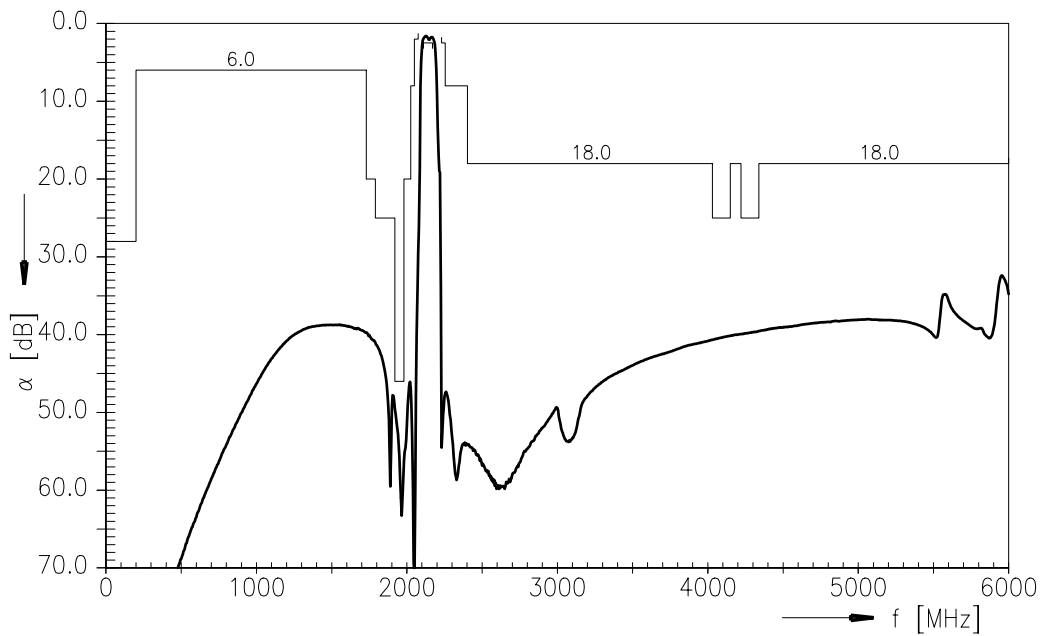




Frequency Response RX-ANT

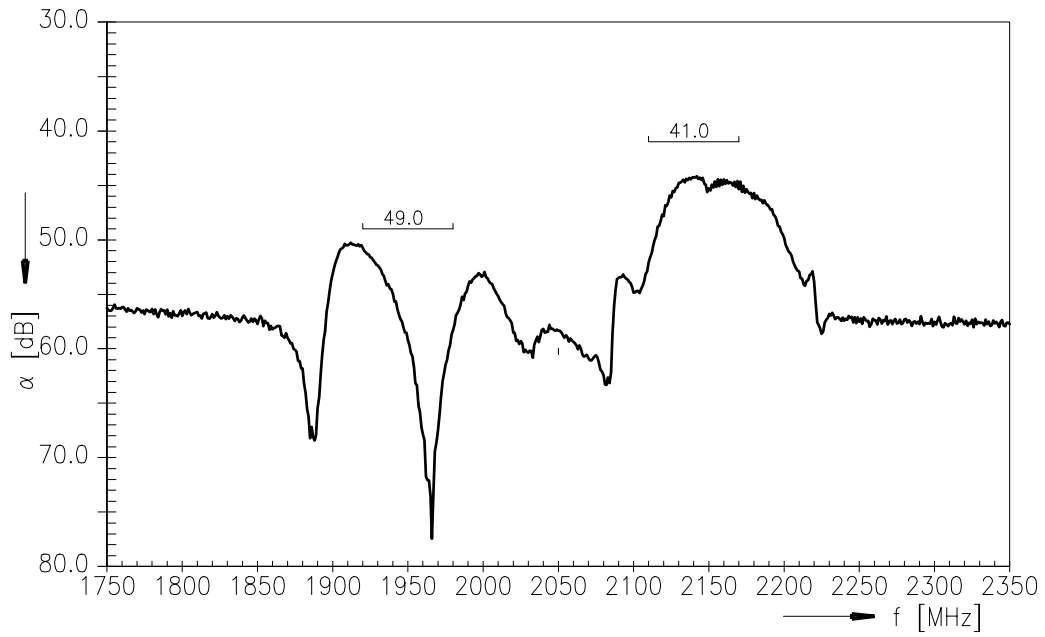


Frequency Response RX-ANT (wideband)

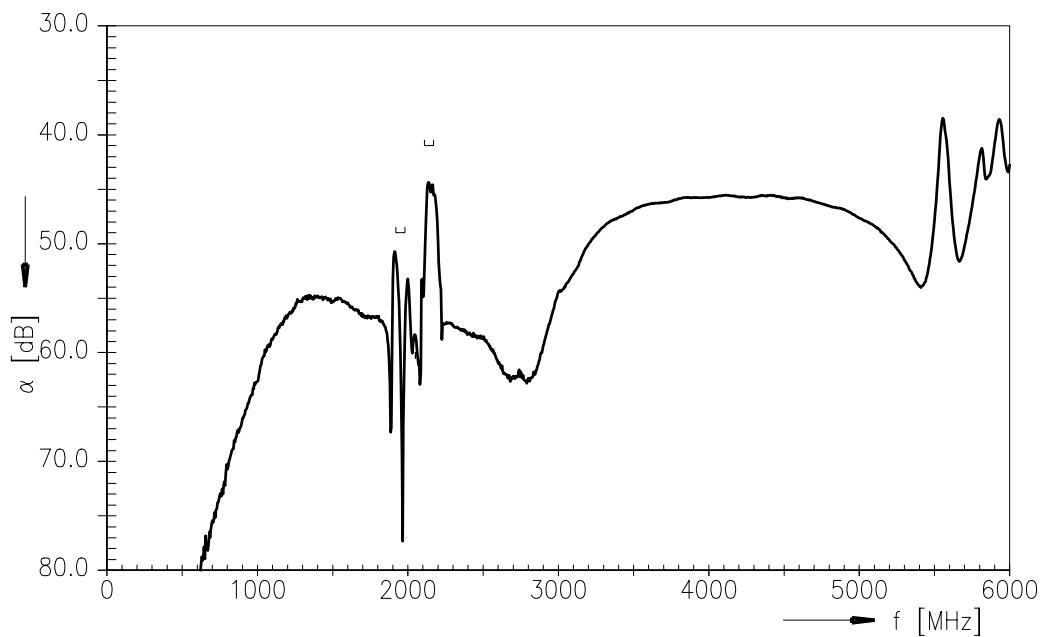




Frequency Response TX-RX



Frequency Response TX-RX (wideband)





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1950 / 2140 MHz

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References

Type	B7643
Ordering code	B39212B7643P510
Marking and package	C61157-A3-A22
Packaging	F61074-V8211-Z000
Date codes	L_1126
S-parameters	B7643_NB.s3p B7643_WB.s3p
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."

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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