SAW Components

SAW RF filter

TD-SCDMA

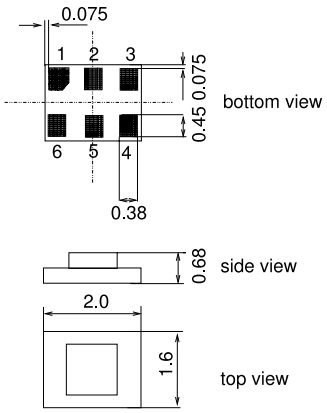
Series/type:	**B9030**
Ordering code:	**B39202B9030K310**
Date:	March 16, 2006
Version:	2.0

Application

- Low-loss RF filter for mobile telephone TD-SCDMA systems
- Impedance transformation from 50 Ω to 200 Ω
- Unbalanced to balanced operation
- Low amplitude ripple
- No matching network required
- Usable passband 15 MHz
- Suitable for GPRS class 1 to 12

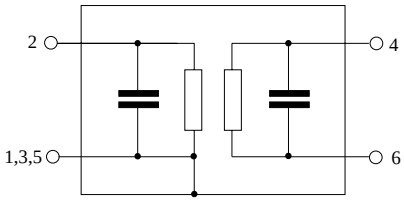
Features

- Package size 2.0 x1.6 x 0.68 mm^3
- Package code DCS6T
- RoHS compatible
- Approximate weight 0.012 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)



Pin configuration

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



Characteristics

Operating temperature range: T = –25 ˚C to +55 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 200 Ω

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	2017.5	—	MHz
Maximum insertion attenuation	α_{max}				
2010.0 ... 2025.0 MHz		—	2.1	2.8 [1]	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
2010.0 ... 2025.0 MHz		—	0.3	1.0 [2]	dB
Input VSWR					
2010.0 ... 2025.0 MHz		—	1.8	2.1	
Output VSWR					
2010.0 ... 2025.0 MHz		—	1.7	2.0	
Group delay ripple (p-p)					
2010.0 ... 2025.0 MHz		—	3	10	ns
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
2010.0 ... 2025.0 MHz		–1.5	-1.1/-0.5	0.0	dB
Output phase balance ($\phi(S_{31}) - \phi(S_{21})+180^\circ$)					
2010.0 ... 2025.0 MHz		–2.0	1.0/2.5	5.0	°
Attenuation	α				
0.0 ... 1840.0 MHz		50	53	—	dB
1840.0 ... 1970.0 MHz		22	25	—	dB
1970.0 ... 1980.0 MHz		15	21	—	dB
1980.0 ... 1990.0 MHz		7	11	—	dB
2045.0 ... 2085.0 MHz		11 [3]	14	—	dB
2085.0 ... 2120.0 MHz		22	24	—	dB
2120.0 ... 2160.0 MHz		30	34	—	dB
2160.0 ... 2300.0 MHz		36	40	—	dB
2300.0 ... 3000.0 MHz		42	45	—	dB
3000.0 ... 6000.0 MHz		42	62	—	dB

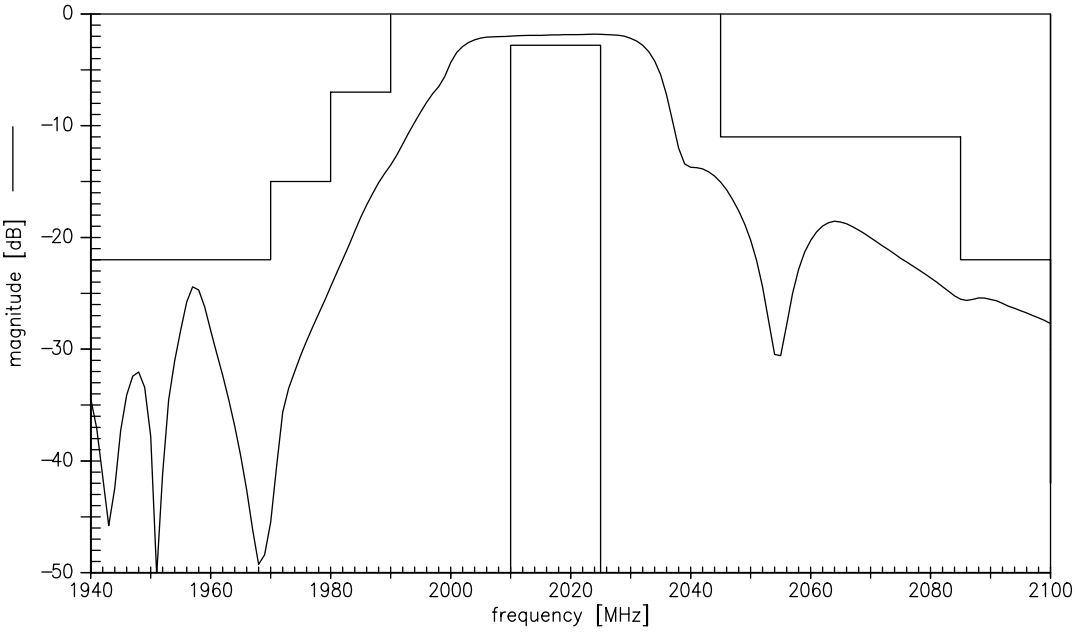
[1] 3.2 dB max. at –30 ˚C ... 85 ˚C
[2] 1.4 dB max. at –30 ˚C ... 85 ˚C
[3] 7 dB attenuation at -30 ˚C ... 85 ˚C

Maximum ratings

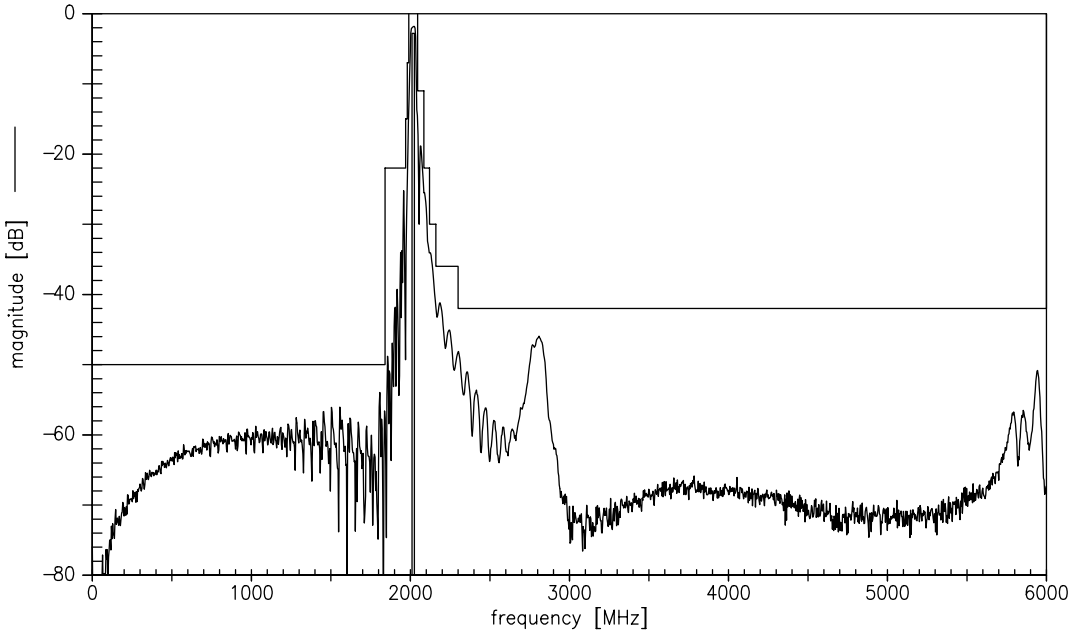
Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 10 pulses
Source power	P_S	7	dBm	Continuous wave

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

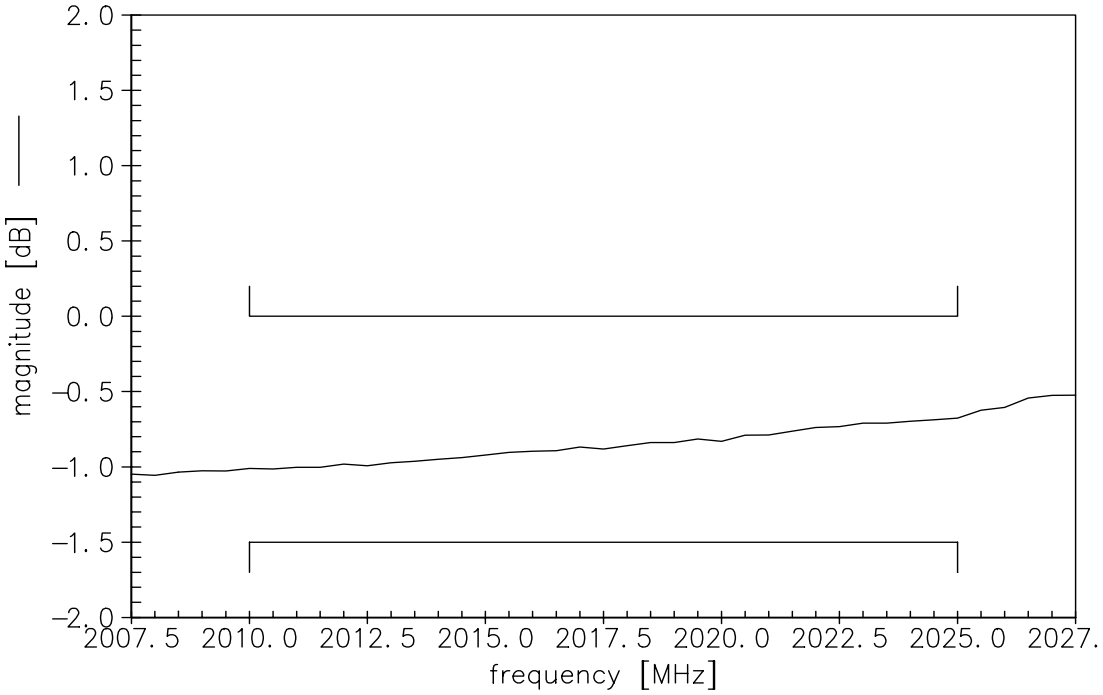
Transfer function



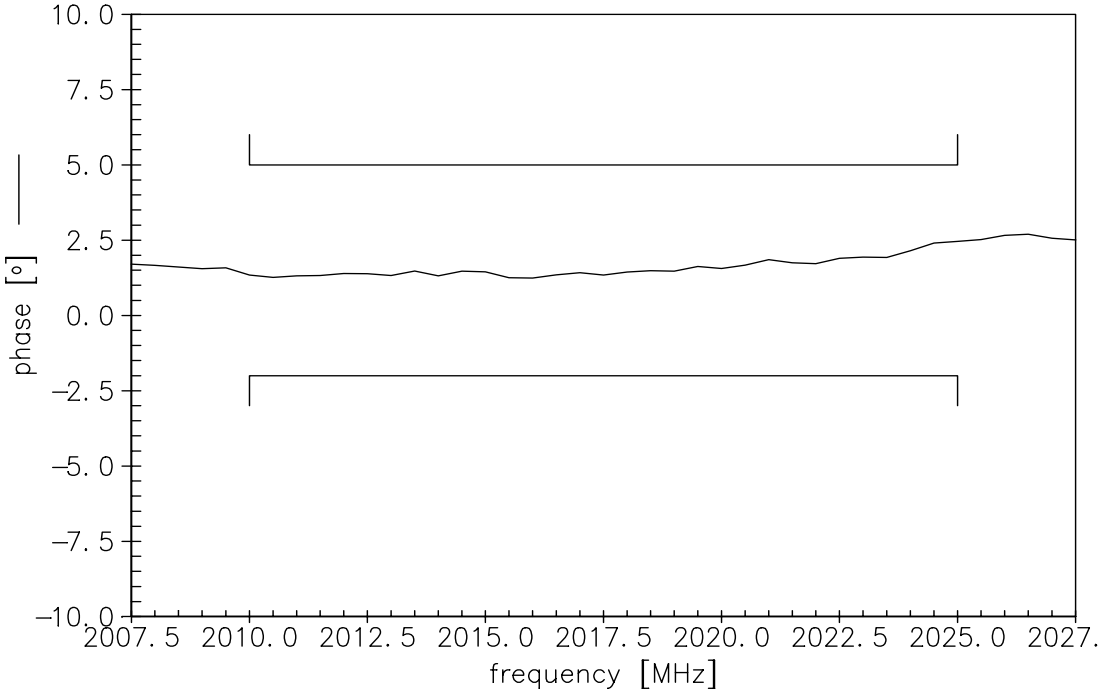
Transfer function (wideband)



Output amplitude balance ($|S_{31}/S_{21}|$, measurement)



Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^{o}$, measurement)



References

Type	B9030	
Ordering code	B39202B9030K310	
Marking and package	C61157-A7-A128	
Packaging	F61074-V8152-Z000	
Date codes	L_1126	
S-parameters	B9030_NB.s3p B9030_WB.s3p	
Soldering profile	S_6001	

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