SAW Components

SAW filter

AMPS TX

Series/type: **B4180**
Ordering code: **B39841B4180U410**

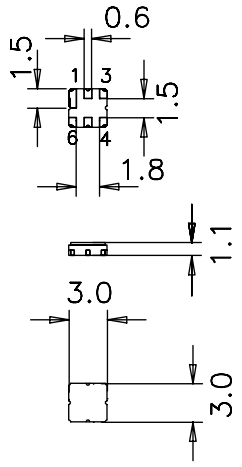
Date: August 22, 2012
Version: 2.0

Application

- Low-loss RF filter for mobile telephone AMPS system, transmit path
- High selectivity
- Usable passband of 25MHz
- No matching required for operation at 50Ω

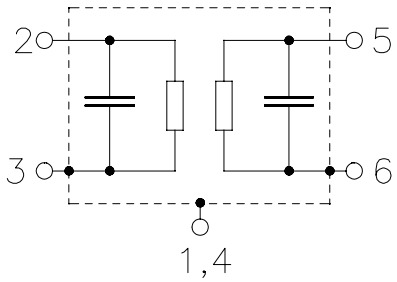
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- 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**)
- **M**oisture **S**ensitive **L**evel 1
- Filter surface passivated



Pin configuration

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



Characteristics

Temperature range for specification: T = -30 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ.	max.	
Center frequency	f_c	—	836,5	—	MHz
Maximum insertion attenuation	α_{max}				
824,0 ... 849,0 MHz		—	2,2	2,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
824,0 ... 849,0 MHz		—	1,0	1,5	dB
Group delay ripple (p-p)	$\Delta\tau$				
824,0 ... 849,0 MHz		—	30	50	ns
VSWR					
824,0 ... 849,0 MHz		—	1,9	2,1	
Attenuation	α				
0,0 ... 300,0 MHz		25,0	27,0	—	dB
300,0 ... 800,0 MHz		22,0	24,0	—	dB
869,0 ... 894,0 MHz		30,0	32,0	—	dB
894,0 ...1800,0 MHz		25,0	27,0	—	dB
1800,0 ...2200,0 MHz		20,0	22,0	—	dB
2200,0 ...3000,0 MHz		13,0	15,0	—	dB

Temperature range for specification: T = -40 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

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824,0 ... 849,0 MHz		—	30	50	ns
VSWR					
824,0 ... 849,0 MHz		—	1,9	2,2	
Attenuation	α				
0,0 ... 300,0 MHz		25,0	27,0	—	dB
300,0 ... 800,0 MHz		22,0	24,0	—	dB
869,0 ... 894,0 MHz		30,0	32,0	—	dB
894,0 ...1800,0 MHz		25,0	27,0	—	dB
1800,0 ...2200,0 MHz		20,0	22,0	—	dB
2200,0 ...3000,0 MHz		13,0	15,0	—	dB

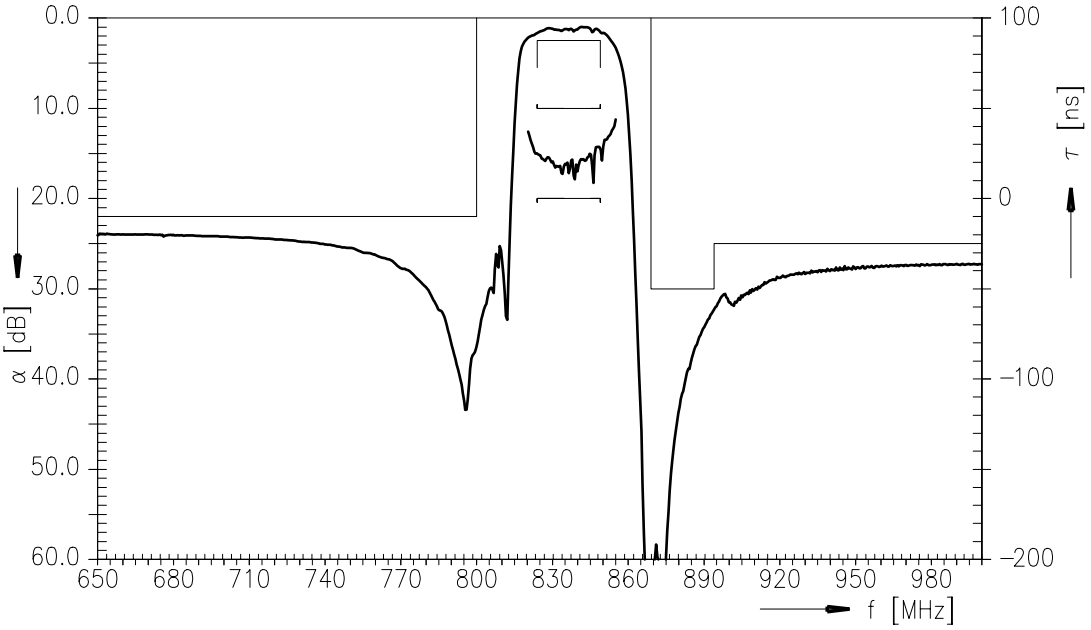
Characteristics

Maximum ratings

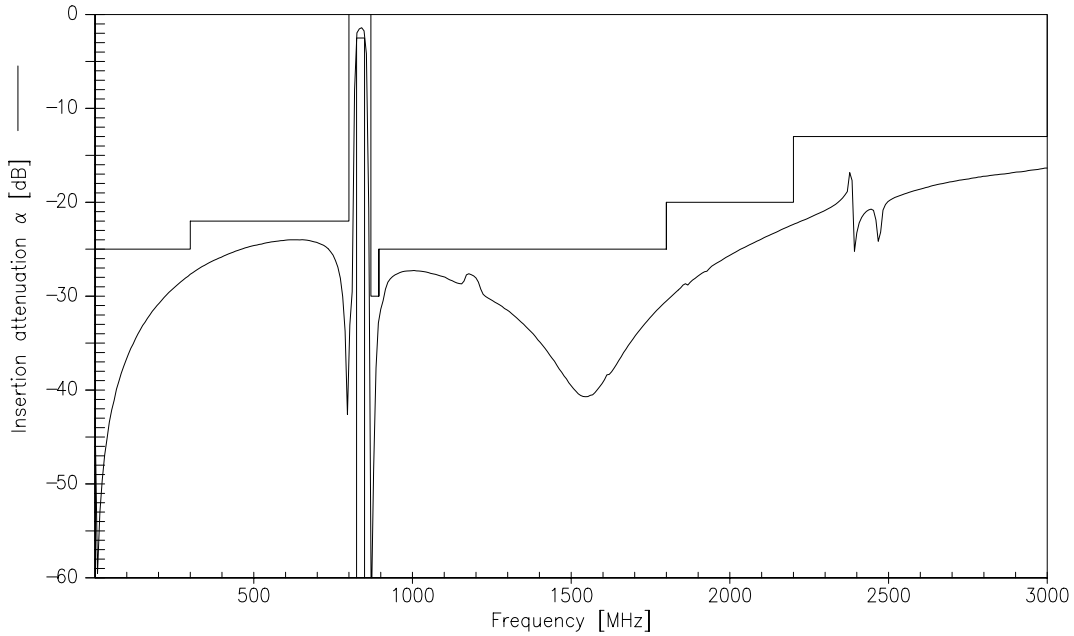
Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 10 pulses
Input power at				
824.0 ... 849.0 MHz	P_{IN}	15	dBm	CW

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

Transfer function (narrowband)(-30 to 85˚C)

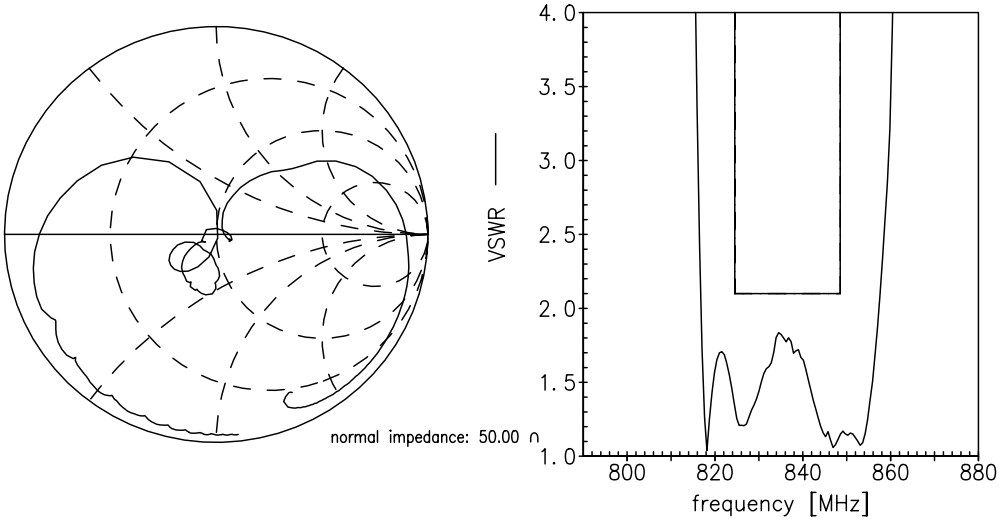


Transfer function (wideband)

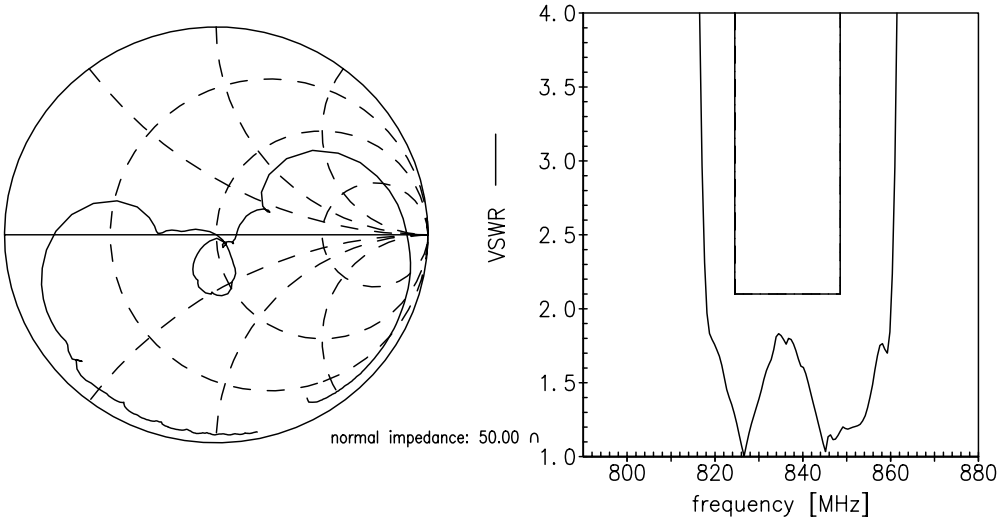


Smith charts

S_{11} function



S_{22} function



References

Type	B4180
Ordering code	B39841B4180U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B4180_NB.s2p, B4180_WB.s2p 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 for a large variety of matching coils.

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