



SAW Components

SAW RF filter

Short range devices

Series/type:	B4147
Ordering code:	B39841B4147U410
Date:	April 29, 2008
Version:	2.1



SAW Components

B4147

SAW RF filter

836.50 MHz

Data sheet

SMD

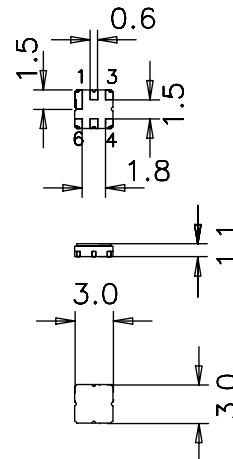
Application

- Low-loss RF filter for mobile telephone AMPS systems, transmit path
- Usable passband 25 MHz
- No matching network required for operation at 50 Ω



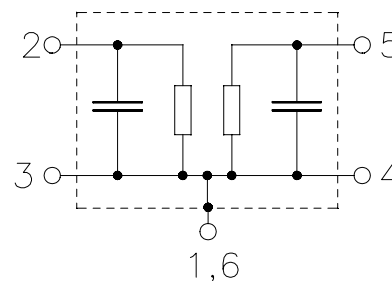
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- Lead free soldering compatible with J - STD20C
- AEC-Q200 qualified component family
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

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



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



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Characteristics

Reference temperature: $T_A = + 25\text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	836.50	—	MHz
Maximum insertion attenuation	α_{\max}	—	2.7	3.0	dB
824.00 ... 849.00 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1.7	2.0	dB
824.00 ... 849.00 MHz					
VSWR		—	1.78	1.92	
	824.00 ... 849.00 MHz				
Attenuation	α				
	0.00 ... 779.00 MHz	31	34	—	dB
	779.00 ... 805.00 MHz	25	31	—	
	869.00 ... 894.00 MHz	40	44	—	
	894.00 ... 979.00 MHz	36	40	—	
	979.00 ... 1030.00 MHz	38	40	—	
	1030.00 ... 1300.00 MHz	36	39	—	
	1300.00 ... 1580.00 MHz	28	32	—	
	1580.00 ... 1698.00 MHz	24	30	—	
	1698.00 ... 2547.00 MHz	14	22	—	
Rx band suppression	α				
	869.00 ... 894.00 MHz	40	44	—	dB



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Characteristics

Temperature range for specification: $T_A = -30\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	836.50	—	MHz
Maximum insertion attenuation	α_{max}	—	3.0	3.5	dB
824.00 ... 849.00 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	2.0	2.5	dB
824.00 ... 849.00 MHz					
VSWR		—	1.78	1.92	
Attenuation	α				
0.00 ... 779.00 MHz		31	34	—	dB
779.00 ... 805.00 MHz		25	31	—	dB
869.00 ... 894.00 MHz		40	43	—	dB
894.00 ... 979.00 MHz		36	40	—	dB
979.00 ... 1030.00 MHz		38	40	—	dB
1030.00 ... 1300.00 MHz		36	39	—	dB
1300.00 ... 1580.00 MHz		28	32	—	dB
1580.00 ... 1698.00 MHz		24	30	—	dB
1698.00 ... 2547.00 MHz		14	22	—	dB
Rx band suppression	α				
869.00 ... 894.00 MHz		40	43	—	dB



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Data sheet



Characteristics

Temperature range for specification: $T_A = -40\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

		min.	typ.	max.	
Center frequency	f_C	—	836.50	—	MHz
Maximum insertion attenuation	α_{max}	—	3.1	3.7	dB
824.00 ... 849.00 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	2.1	2.7	dB
824.00 ... 849.00 MHz					
VSWR		—	1.80	1.97	
Attenuation	α				
0.00 ... 779.00 MHz		31	34	—	dB
779.00 ... 805.00 MHz		25	31	—	dB
869.00 ... 894.00 MHz		40	43	—	dB
894.00 ... 979.00 MHz		36	40	—	dB
979.00 ... 1030.00 MHz		38	40	—	dB
1030.00 ... 1300.00 MHz		36	39	—	dB
1300.00 ... 1580.00 MHz		28	32	—	dB
1580.00 ... 1698.00 MHz		24	30	—	dB
1698.00 ... 2547.00 MHz		14	22	—	dB
Rx band suppression	α				
869.00 ... 894.00 MHz		40	43	—	dB

Maximum ratings

Operable temperature range	T_A	-40/+85	°C	
Storage temperature range	T_{stg}	-40/+85	°C	
DC voltage	V_{DC}	5	V	
Input power max.	P_{IN}	16	dBm	CDMA signal

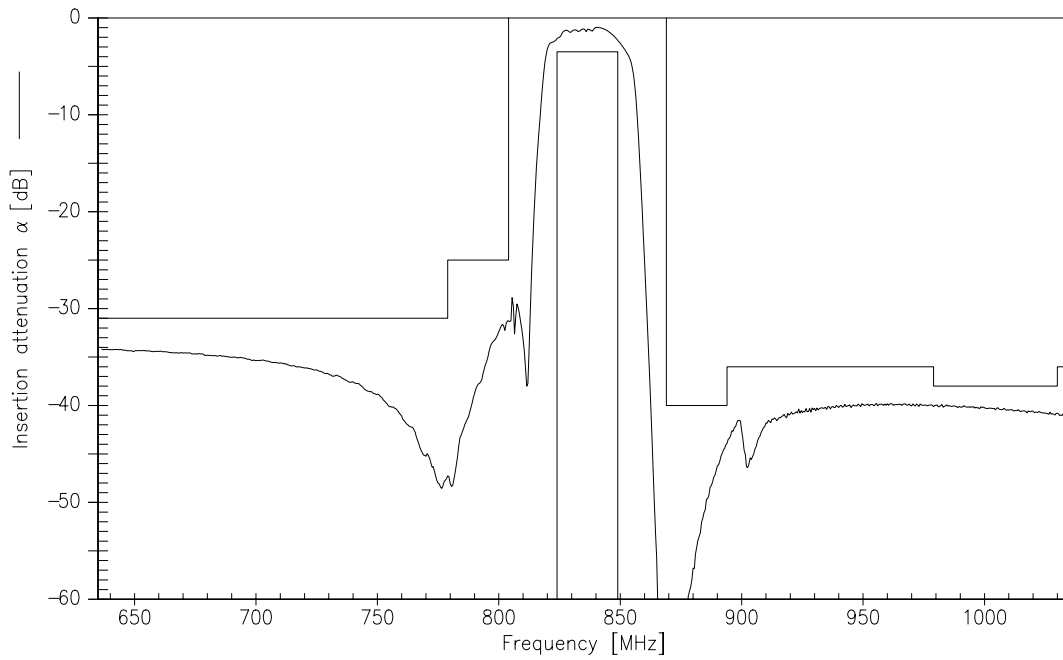
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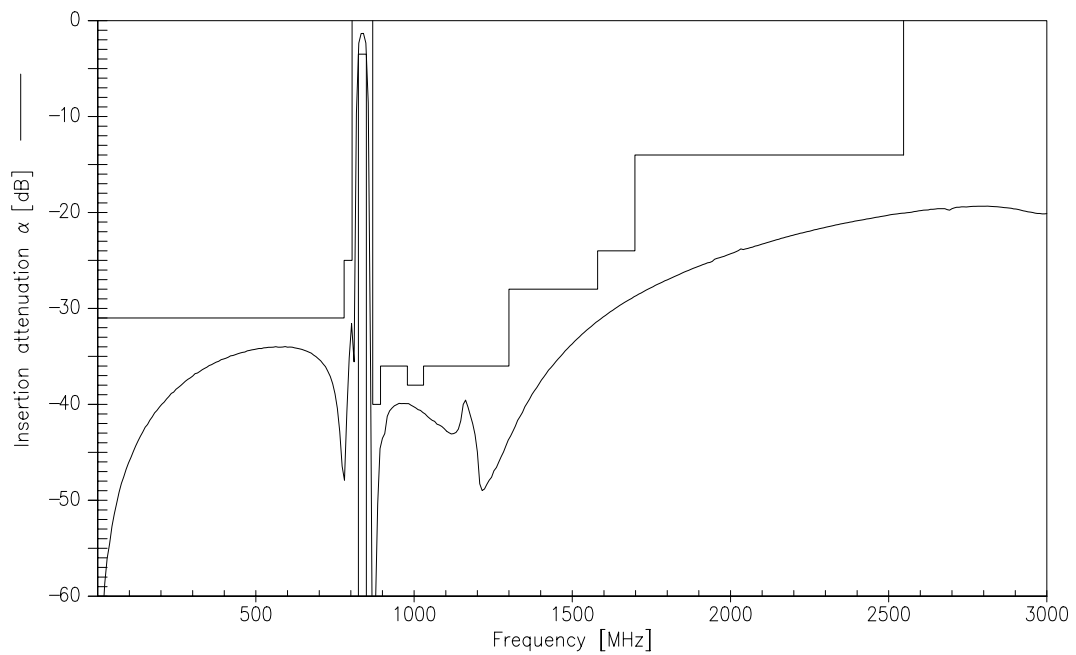
Data sheet



Transfer function (narrowband measurement)



Transfer function (wideband measurement)

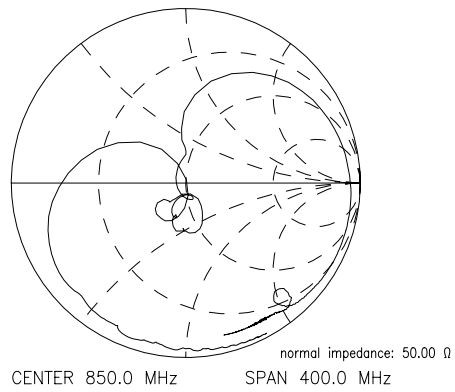
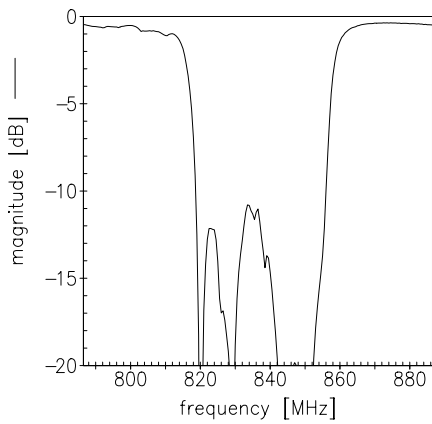


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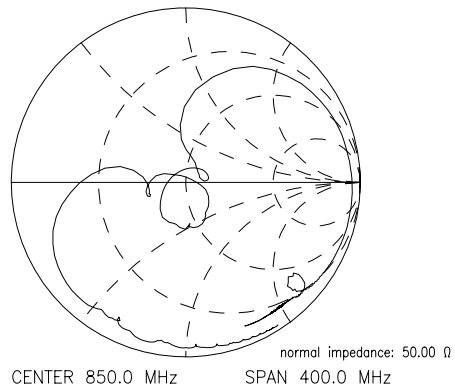
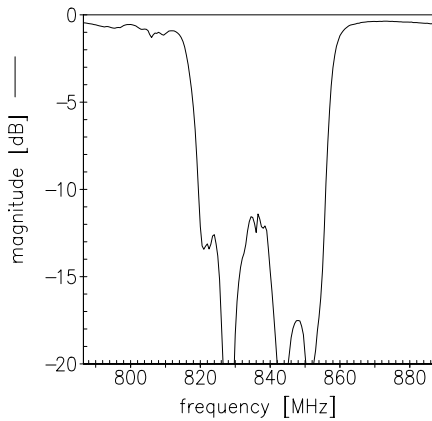


Reflection functions (measurement)

S_{11}



S_{22}





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References

Type	B4147
Ordering code	B39841B4147U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B4147_NB.s2p B4147_WB.s2p
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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**Published by EPCOS AG
Surface Acoustic Wave Components Division
P.O. Box 80 17 09, 81617 Munich, GERMANY**

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