



SAW Components

Data Sheet B4141





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Low-Loss Filter for Mobile Communication

942,50 MHz

Data Sheet



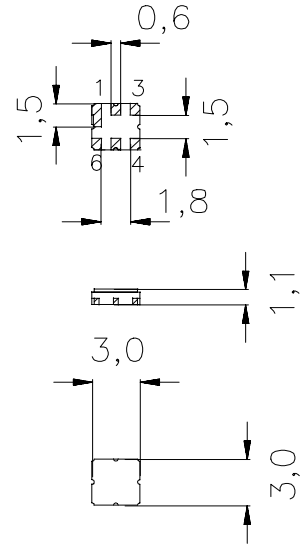
Ceramic package DCC6D

Features

- Low-loss RF filter for mobile telephone EGSM systems, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced Operation
- Impedance transformation from 50 Ω to 200 Ω
- Ceramic package for **Surface Mounted Technology (SMT)**

Terminals

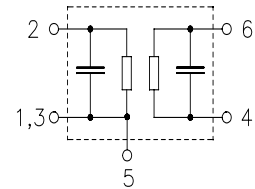
- Ni, gold-plated



Dimensions in mm, approx. weight 0,037 g

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B4141	B39941-B4141-U510	C61157-A7-A68	F61074-V8089-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 10 / + 80	°C	source impedance 50 Ω , load impedance 200 Ω , peak power of GSM signal, duty cycle 2 : 8
Storage temperature range	T_{stg}	- 40 / + 85	°C	
DC voltage	V_{DC}	0	V	
Input power max. 880 ... 915 MHz	P_{IN}	3,5	dBm	



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Characteristics

Operating temperature range: $T = 25 \pm 2 \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \text{ } \Omega$
 Terminating load impedance: $Z_L = 200 \text{ } \Omega \parallel 47\text{nH}$
 (L simulated with Q factor 20)

			min.	typ.	max.	
Center frequency	f_C		—	942,5	—	MHz
Maximum insertion attenuation	α_{\max}	925,0 ... 960,0 MHz	—	2,5	3,2	dB
Amplitude ripple (p-p)	$\Delta\alpha$	925,0 ... 960,0 MHz	—	0,9	1,4	dB
Input VSWR		925,0 ... 960,0 MHz	—	1,8	2,3	
Output VSWR		925,0 ... 960,0 MHz	—	1,8	2,1	
Attenuation	α					
		0,0 ... 600,0 MHz	60	78	—	dB
		600,0 ... 880,0 MHz	50	66	—	dB
		880,0 ... 905,0 MHz	30	47	—	dB
		905,0 ... 915,0 MHz	20	28	—	dB
		980,0 ... 1025,0 MHz	22	25	—	dB
		1025,0 ... 1050,0 MHz	35	45	—	dB
		1050,0 ... 1920,0 MHz	50	70	—	dB
		1920,0 ... 2880,0 MHz	30	60	—	dB
		2880,0 ... 3840,0 MHz	23	49	—	dB
		3840,0 ... 5000,0 MHz	18	36	—	dB
		5000,0 ... 6000,0 MHz	10	35	—	dB
Symmetry in band (referenced to the matched operating condition)						
	$ S_{31} / S_{21} $	925,0 ... 960,0 MHz	-1,0	0	1,0	dB
	$\arg(S_{31}/S_{21})$	925,0 ... 960,0 MHz	170	180	190	$^\circ$



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Operating temperature range: $T = +20$ to $+40$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 200 \Omega \parallel 47 \text{ nH}$
 (L simulated with Q factor 20)

			min.	typ.	max.	
Center frequency	f_C		—	942,5	—	MHz
Maximum insertion attenuation	α_{\max}					
		925,0 ... 960,0 MHz	—	2,6	3,4	dB
Amplitude ripple (p-p)	$\Delta\alpha$					
		925,0 ... 960,0 MHz	—	1,0	1,6	dB
Input VSWR						
		925,0 ... 960,0 MHz	—	1,8	2,3	
Output VSWR						
		925,0 ... 960,0 MHz	—	1,8	2,1	
Attenuation	α					
		0,0 ... 600,0 MHz	60	78	—	dB
		600,0 ... 880,0 MHz	50	66	—	dB
		880,0 ... 905,0 MHz	30	44	—	dB
		905,0 ... 915,0 MHz	20	28	—	dB
		980,0 ... 1025,0 MHz	22	25	—	dB
		1025,0 ... 1050,0 MHz	35	45	—	dB
		1050,0 ... 1920,0 MHz	50	70	—	dB
		1920,0 ... 2880,0 MHz	30	60	—	dB
		2880,0 ... 3840,0 MHz	23	48	—	dB
		3840,0 ... 5000,0 MHz	18	36	—	dB
		5000,0 ... 6000,0 MHz	10	35	—	dB
Symmetry in band						
(referenced to the matched operating condition)						
	$ S_{31} / S_{21} $	925,0 ... 960,0 MHz	-1,0	0	1,0	dB
	$\arg(S_{31}/S_{21})$	925,0 ... 960,0 MHz	170	180	190	°



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Characteristics

Operating temperature range: $T = +10$ to $+60$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 200 \Omega \parallel 47$ nH
 (L simulated with Q factor 20)

			min.	typ.	max.	
Center frequency	f_C		—	942,5	—	MHz
Maximum insertion attenuation	α_{max}					
		925,0 ... 960,0 MHz	—	2,6	3,6	dB
Amplitude ripple (p-p)	$\Delta\alpha$					
		925,0 ... 960,0 MHz	—	1,0	1,8	dB
Input VSWR						
		925,0 ... 960,0 MHz	—	1,8	2,3	
Output VSWR						
		925,0 ... 960,0 MHz	—	1,8	2,1	
Attenuation	α					
		0,0 ... 600,0 MHz	60	78	—	dB
		600,0 ... 880,0 MHz	50	66	—	dB
		880,0 ... 905,0 MHz	30	43	—	dB
		905,0 ... 915,0 MHz	20	28	—	dB
		980,0 ... 1025,0 MHz	21	25	—	dB
		1025,0 ... 1050,0 MHz	35	44	—	dB
		1050,0 ... 1920,0 MHz	50	70	—	dB
		1920,0 ... 2880,0 MHz	30	60	—	dB
		2880,0 ... 3840,0 MHz	23	49	—	dB
		3840,0 ... 5000,0 MHz	18	36	—	dB
		5000,0 ... 6000,0 MHz	10	35	—	dB
Symmetry in band						
(referenced to the matched operating condition)						
	$ S_{31} / S_{21} $	925,0 ... 960,0 MHz	-1,0	0	1,0	dB
	$\arg(S_{31}/S_{21})$	925,0 ... 960,0 MHz	170	180	190	°



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Characteristics

Operating temperature range: $T = -10$ to $+80$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 200 \Omega \parallel 47$ nH
 (L simulated with Q factor 20)

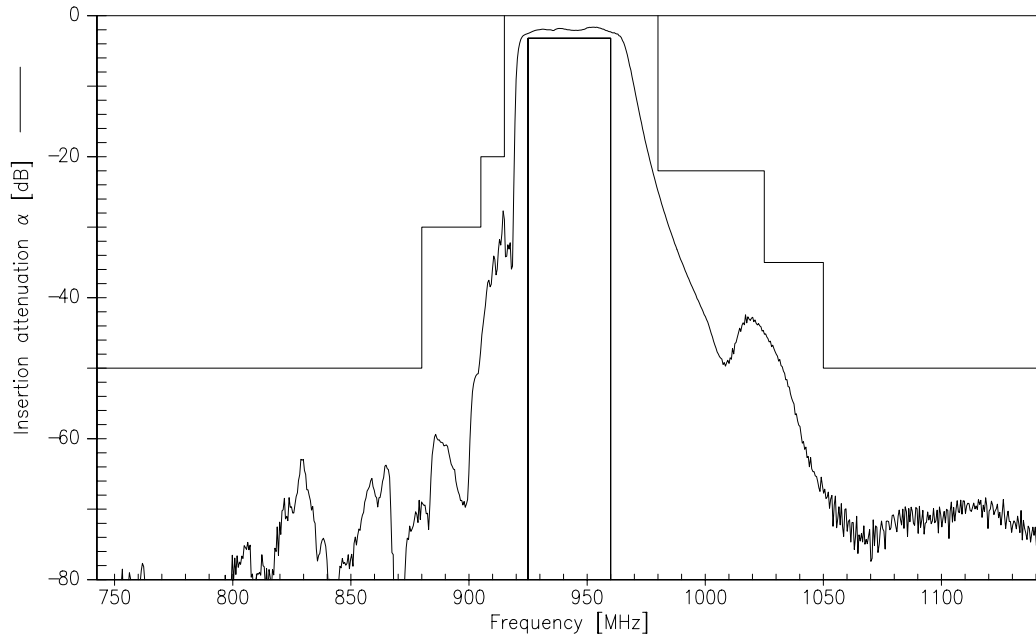
			min.	typ.	max.	
Center frequency	f_C		—	942,5	—	MHz
Maximum insertion attenuation	α_{max}					
		925,0 ... 960,0 MHz	—	2,7	3,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$					
		925,0 ... 960,0 MHz	—	1,1	2,0	dB
Input VSWR						
		925,0 ... 960,0 MHz	—	1,8	2,3	
Output VSWR						
		925,0 ... 960,0 MHz	—	1,8	2,1	
Attenuation	α					
		0,0 ... 600,0 MHz	60	78	—	dB
		600,0 ... 880,0 MHz	50	66	—	dB
		880,0 ... 905,0 MHz	30	40	—	dB
		905,0 ... 915,0 MHz	20	28	—	dB
		980,0 ... 1025,0 MHz	20	23	—	dB
		1025,0 ... 1050,0 MHz	35	44	—	dB
		1050,0 ... 1920,0 MHz	50	70	—	dB
		1920,0 ... 2880,0 MHz	30	60	—	dB
		2880,0 ... 3840,0 MHz	23	49	—	dB
		3840,0 ... 5000,0 MHz	18	36	—	dB
		5000,0 ... 6000,0 MHz	10	35	—	dB
Symmetry in band						
(referenced to the matched operating condition)						
	$ S_{31} / S_{21} $	925,0 ... 960,0 MHz	-1,0	0	1,0	dB
	$\arg(S_{31}/S_{21})$	925,0 ... 960,0 MHz	170	180	190	°



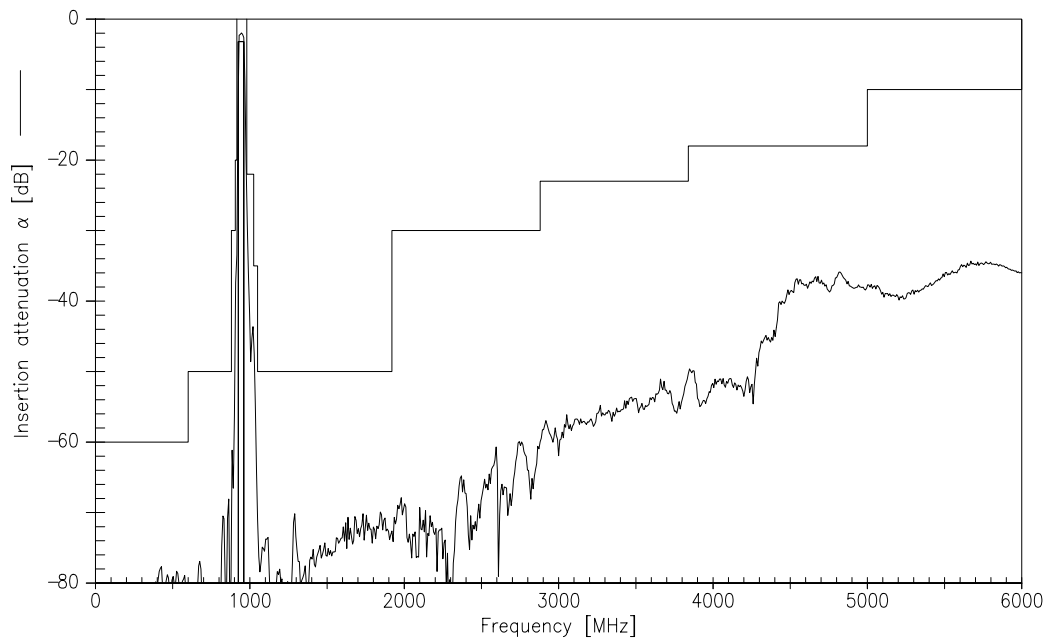
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Transfer function (spec at 25 °C)



Transfer function (wideband)

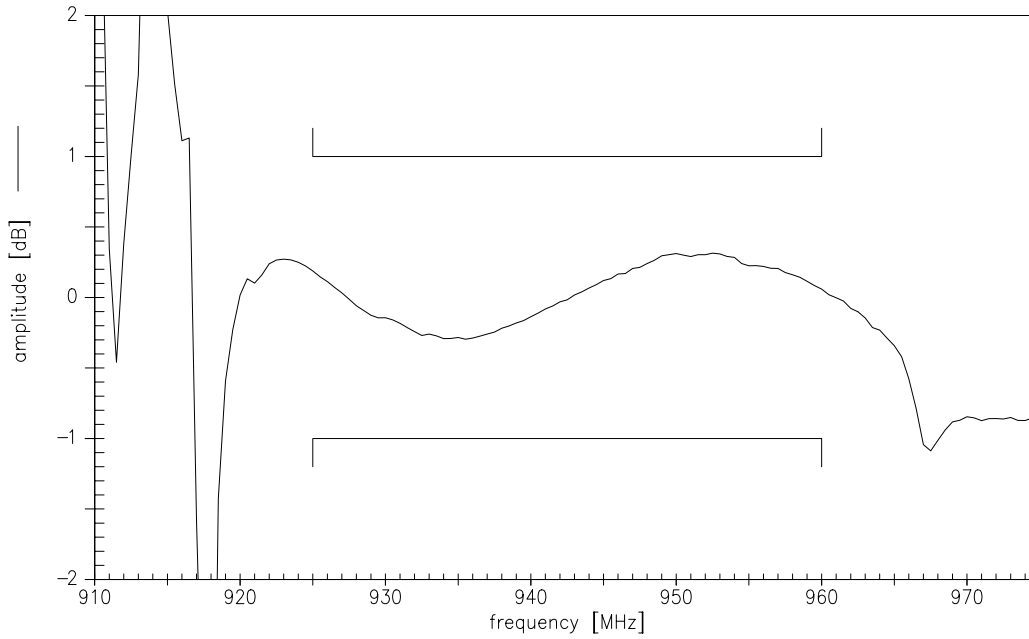




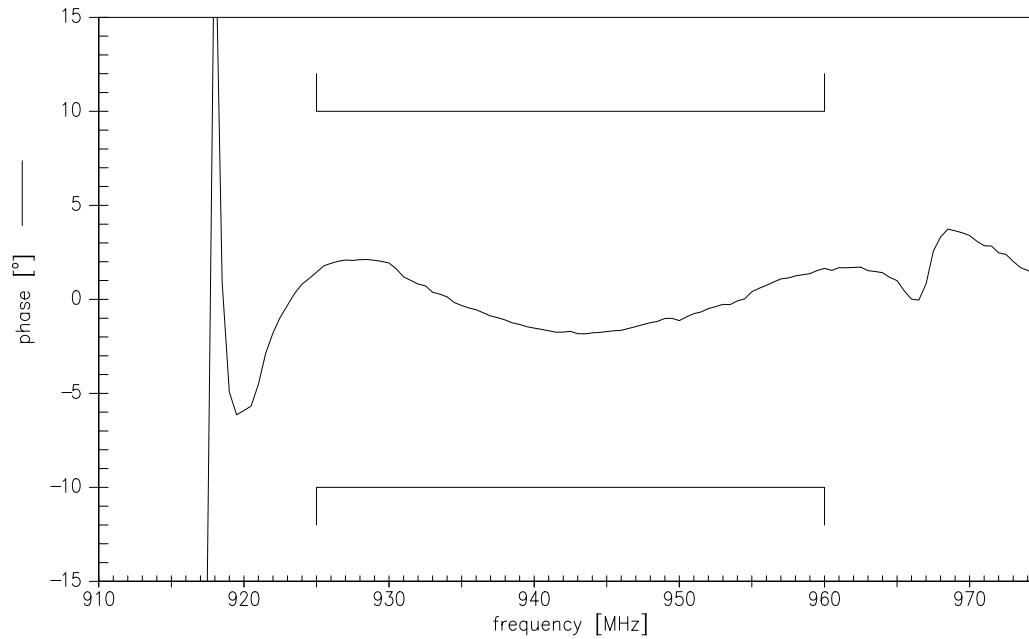
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Amplitude Symmetry $|S_{31}|/|S_{21}|$ (referenced to the matched operating condition)



Phase Symmetry $\arg(S_{31}/S_{21}) - 180^\circ$ (referenced to the matched operating condition)





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