EPCOS

SAW Components

Data Sheet B4141

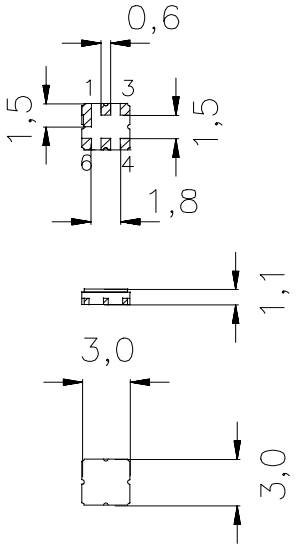
Ceramic package DCC6D

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 **S**urface **M**ounted **T**echnology (**SMT**)

Terminals

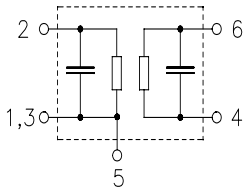
- Ni, gold-plated



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 **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operable temperature range	T	– 10 / + 80	˚C	
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	source impedance 50 Ω, load impedance 200 Ω, peak power of GSM signal, duty cycle 2 : 8

Characteristics

Operating temperature range: T = 25+-2 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 200 Ω || 47nH
(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)							
$\lvert S_{31}\rvert/\lvert S_{21}\rvert$	925,0 ... 960,0	MHz		-1,0	0	1,0	dB
$\arg(S_{31}/S_{21})$	925,0 ... 960,0	MHz		170	180	190	°

Characteristics

Operating temperature range: T = +20 to +40 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 200 Ω || 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	3,4	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)						
$\lvert S_{31}\rvert/\lvert S_{21}\rvert$	925,0 ... 960,0 MHz		-1,0	0	1,0	dB
$\arg(S_{31}/S_{21})$	925,0 ... 960,0 MHz		170	180	190	°

Characteristics

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

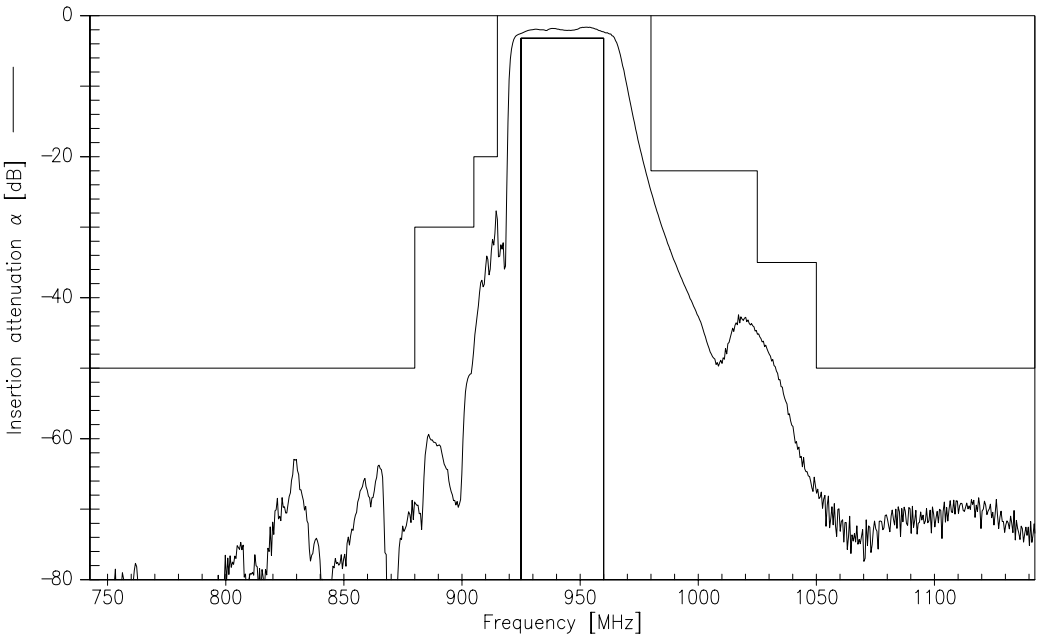
				min.	typ.	max.	
Center frequency			f_C	—	942,5	—	MHz
Maximum insertion attenuation			α_{max}				
	925,0 ... 960,0	MHz		—	2,6	3,6	dB
Amplitude ripple (p-p)			$\Delta\alpha$				
	925,0 ... 960,0	MHz		—	1,0	1,8	dB
Input VSWR							
	925,0 ... 960,0	MHz		—	1,8	2,3	
Output VSWR							
	925,0 ... 960,0	MHz		—	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)							
$\lvert S_{31}\rvert/\lvert S_{21}\rvert$	925,0 ... 960,0	MHz		-1,0	0	1,0	dB
$\arg(S_{31}/S_{21})$	925,0 ... 960,0	MHz		170	180	190	°

Characteristics

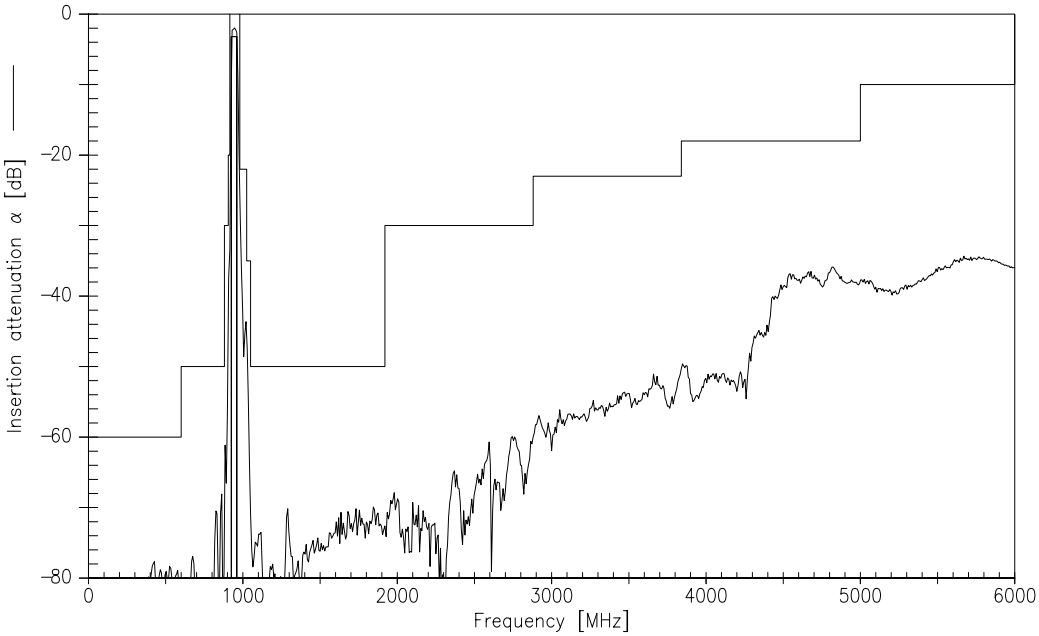
Operating temperature range: T = -10 to +80 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 200 Ω || 47 nH
(L simulated with Q factor 20)

				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)							
$\lvert S_{31}\rvert/\lvert S_{21}\rvert$	925,0 ... 960,0	MHz		-1,0	0	1,0	dB
$\arg(S_{31}/S_{21})$	925,0 ... 960,0	MHz		170	180	190	°

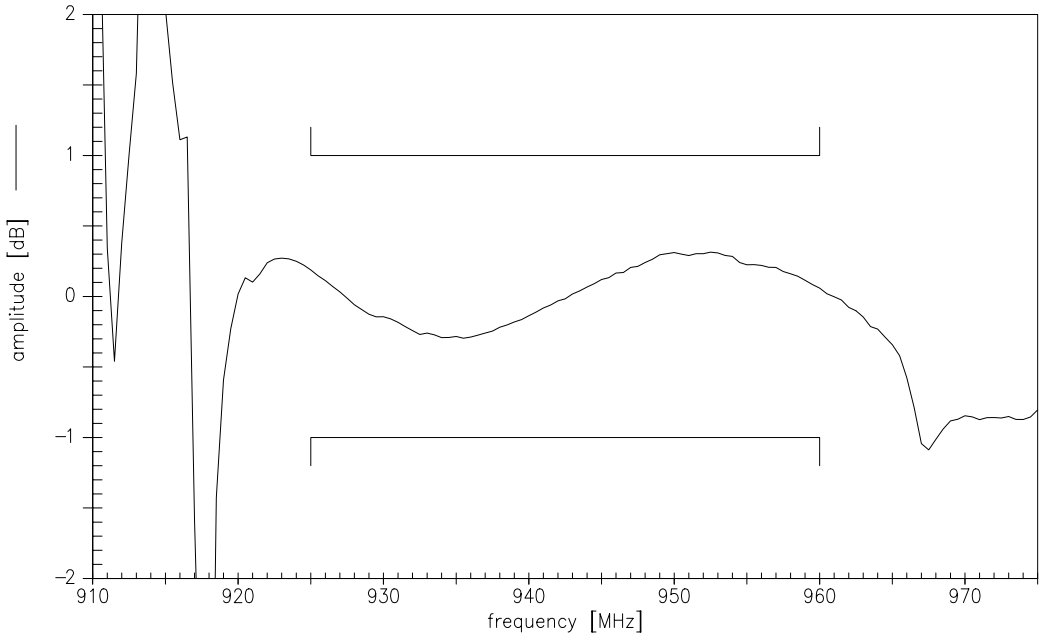
Transfer function (spec at 25 ˚C)



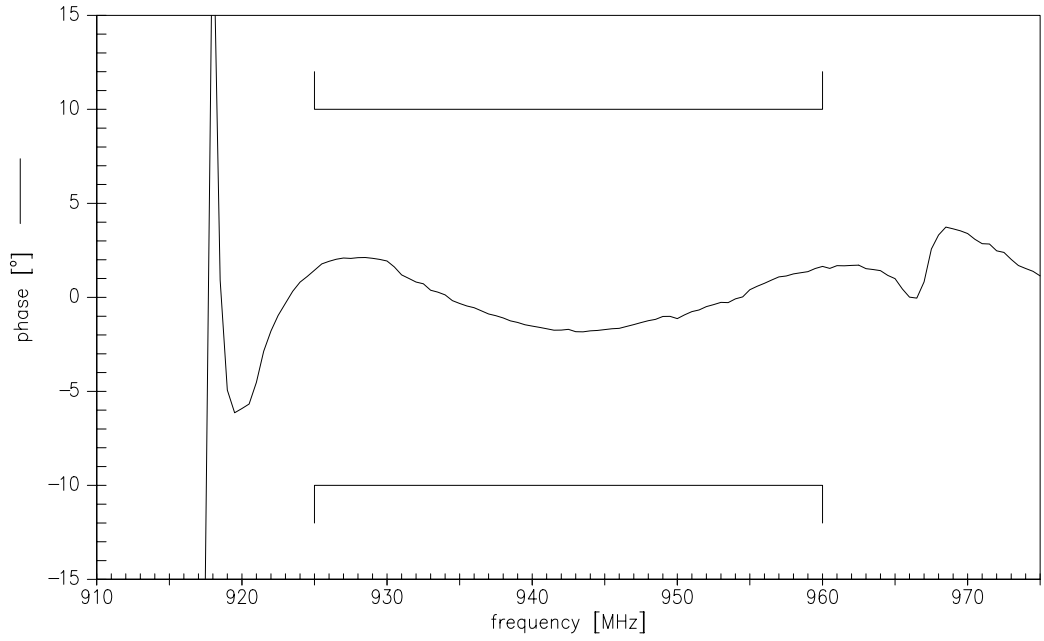
Transfer function (wideband)



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



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



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