EPCOS

SAW Components

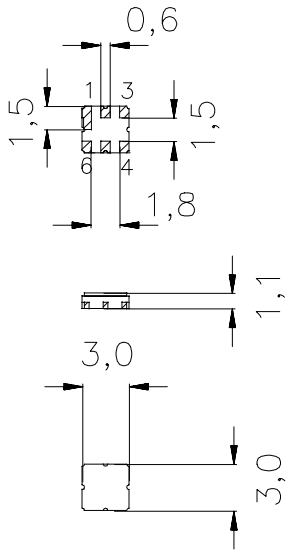
Data sheet B4179

Data sheet

Features

- Low-loss RF filter for mobile telephone EGSM system, transmit path
- Usable passband 35 MHz
- Balanced to unbalanced operation
- Impedance transformation from 100 Ω to 50 Ω
- Ceramic Package for **S**urface **M**ounted **T**echnology (**SMT**)

Ceramic package **DCC6D**



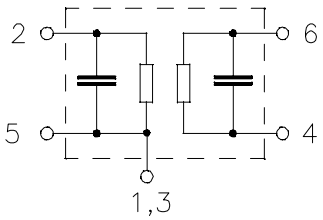
Dimensions in mm, approx. weight 0,037 g

Terminals

- Ni, gold-plated

Pin configuration

2	Output, unbalanced
4, 6	Input, balanced
1, 3, 5	Case ground
1, 3, 5	to be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B4179	B39901-B4179-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}	3	V	
ESD voltage	V_{ESD}	200	V	
Input power max.				source impedance 100 Ω,
880...915 MHz	P_{IN}	10	dBm	load impedance 50 Ω; effective input power in ON-state, duty cycle 2 : 8
elsewhere		0	dBm	continuous wave

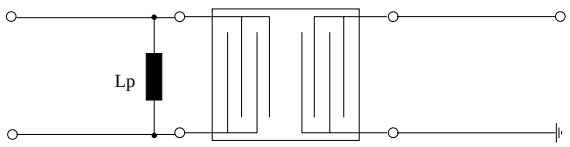
Characteristics

Operating temperature range: T = 25 +- 2 ˚C
Terminating source impedance: Z_S = 100 Ω including matching network
Terminating load impedance: Z_L = 50 Ω

		min.	typ.	max.	
Center frequency	f_C	—	897,5	—	MHz
Maximum insertion attenuation	α_{max}				
880,0 ... 915,0 MHz		—	2,6	3,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
880,0 ... 915,0 MHz		—	0,9	1,3	dB
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^\circ$)					
880,0 ... 915,0 MHz		-7	—	7	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
880,0 ... 915,0 MHz		-1,0	—	1,0	dB
Input VSWR					
880,0 ... 915,0 MHz		—	1,6	2,0	
Output VSWR					
880,0 ... 915,0 MHz		—	1,8	2,0	
Attenuation	α				
0,0 ... 800,0 MHz		45	60	—	dB
800,0 ... 860,0 MHz		30	50	—	dB
925,0 ... 935,0 MHz		9	12	—	dB
935,0 ... 960,0 MHz		20	30	—	dB
960,0 ...1850,0 MHz		30	40	—	dB
1850,0 ...3660,0 MHz		20	30	—	dB
3660,0 ...6000,0 MHz		10	23	—	dB

Test matching network

L_p = 27 nH
(20% tolerance, Q = 30)



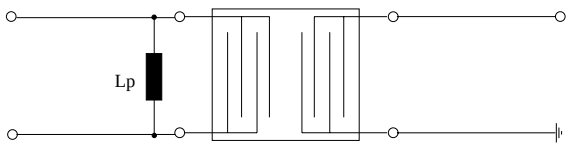
Characteristics

Operating temperature range: T = -10 to +80 °C
Terminating source impedance: Z_S = 100 Ω including matching network
Terminating load impedance: Z_L = 50 Ω

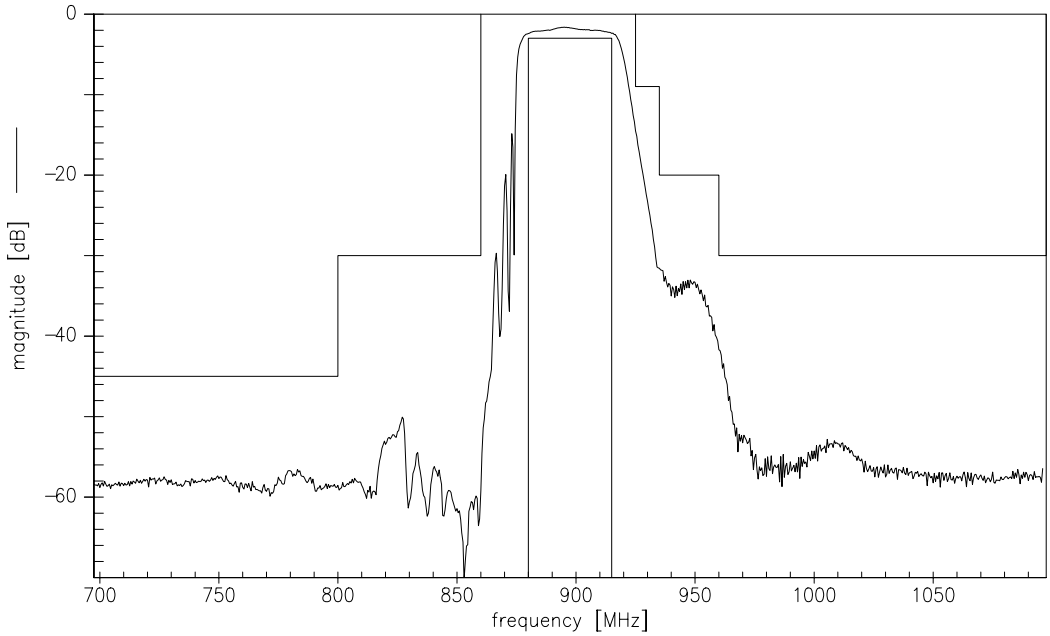
		min.	typ.	max.	
Center frequency	f_C	—	897,5	—	MHz
Maximum insertion attenuation	α_{max}				
880,0 ... 915,0 MHz		—	3,0	3,3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
880,0 ... 915,0 MHz		—	1,3	1,6	dB
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
880,0 ... 915,0 MHz		-7	—	7	degree
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
880,0 ... 915,0 MHz		-1,0	—	1,0	dB
Input VSWR					
880,0 ... 915,0 MHz		—	1,6	2,0	
Output VSWR					
880,0 ... 915,0 MHz		—	1,8	2,0	
Attenuation	α				
0,0 ... 800,0 MHz		45	60	—	dB
800,0 ... 860,0 MHz		20	50	—	dB
925,0 ... 935,0 MHz		7	10	—	dB
935,0 ... 960,0 MHz		20	30	—	dB
960,0 ...1850,0 MHz		30	40	—	dB
1850,0 ...3660,0 MHz		20	30	—	dB
3660,0 ...6000,0 MHz		10	23	—	dB

Test matching network

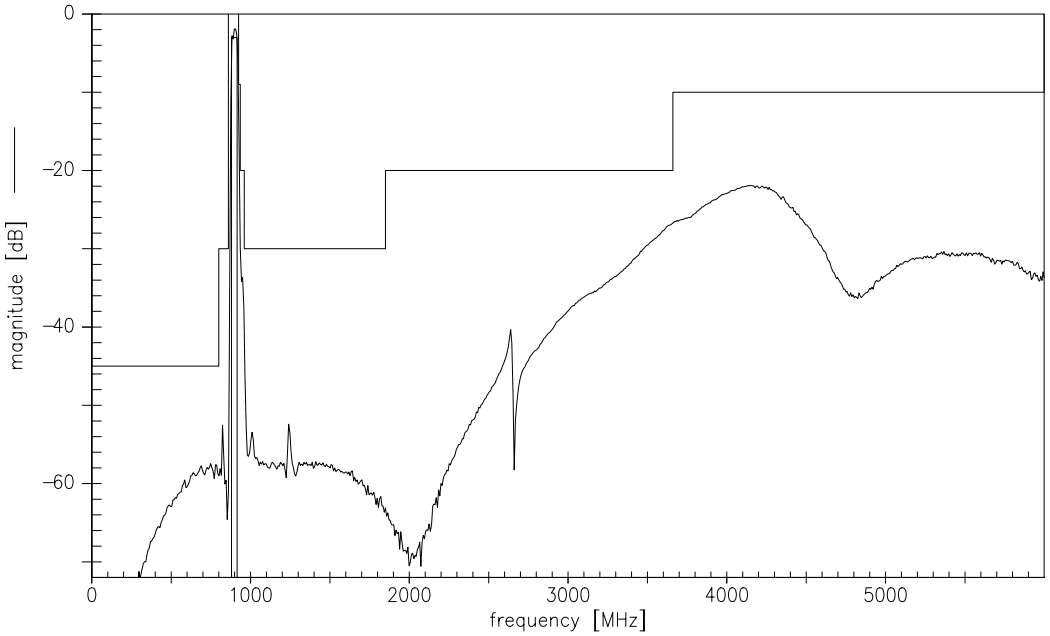
L_p = 27 nH
(20% tolerance, Q = 30)



Transfer function:

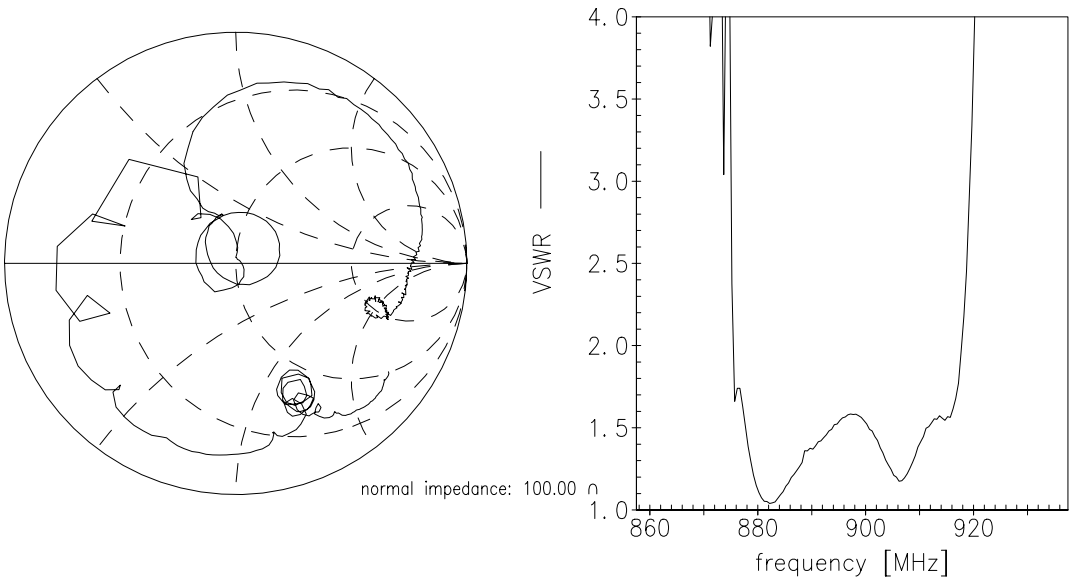


Transfer function (wideband)

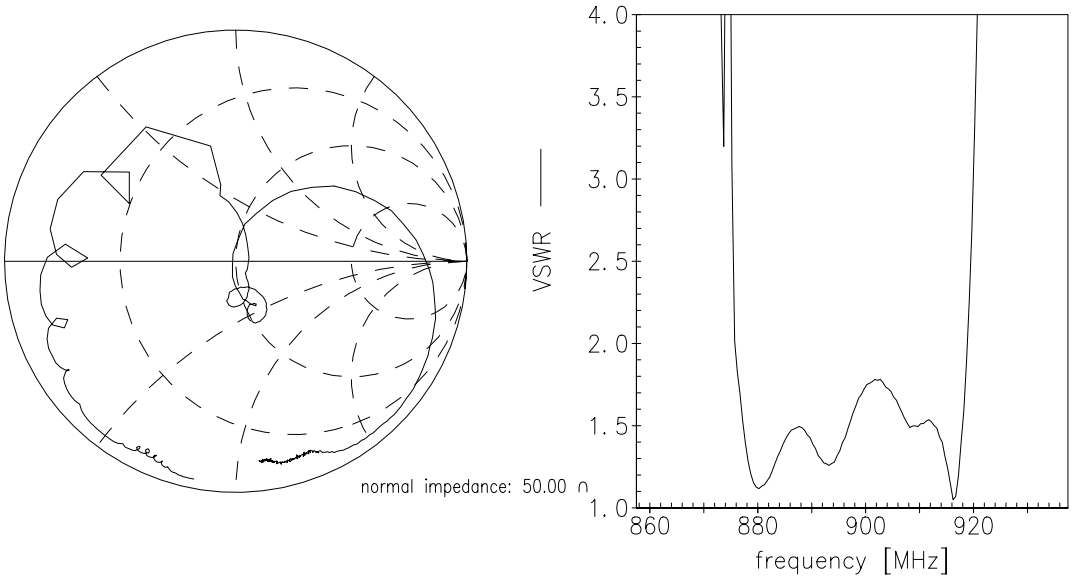


Matching (measurement including calculated matching network; S11 is balanced input)

S11



S22



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