



# SAW Components

Data sheet B4179





**SAW Components**

**B4179**

**Low-Loss Filter for Mobile Communication**

**897,5 MHz**

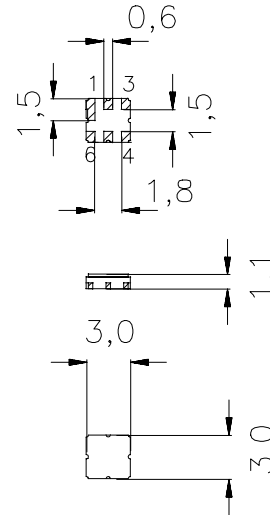
**Data sheet**



**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 **Surface Mounted Technology (SMT)**

Ceramic package **DCC6D**



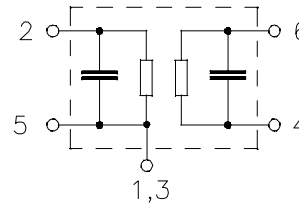
Dimensions in mm, approx. weight 0,037 g

**Terminals**

- Ni, gold-plated

**Pin configuration**

- 2 Output, unbalanced
- 4, 6 Input, balanced
- 1, 3, 5 Case ground 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 Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T$	- 10 / + 80	°C	source impedance 100 Ω, load impedance 50 Ω; effective input power in ON-state, duty cycle 2 : 8 continuous wave
Storage temperature range	$T_{stg}$	- 40 / + 85	°C	
DC voltage	$V_{DC}$	3	V	
ESD voltage	$V_{ESD}$	200	V	
Input power max. 880...915 MHz	$P_{IN}$	10	dBm	
elsewhere		0	dBm	



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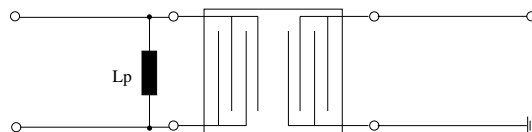
**Characteristics**

Operating temperature range:  $T = 25 \pm 2 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 100 \text{ } \Omega$  including matching network  
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	897,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	2,6	3,0	dB
	880,0 ... 915,0 MHz				
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,9	1,3	dB
	880,0 ... 915,0 MHz				
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^\circ$ )		-7	—	7	degree
	880,0 ... 915,0 MHz				
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )		-1,0	—	1,0	dB
	880,0 ... 915,0 MHz				
<b>Input VSWR</b>		—	1,6	2,0	
	880,0 ... 915,0 MHz				
<b>Output VSWR</b>		—	1,8	2,0	
	880,0 ... 915,0 MHz				
<b>Attenuation</b>	$\alpha$				dB
	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**

$L_p = 27 \text{ nH}$   
 (20% tolerance,  $Q = 30$ )





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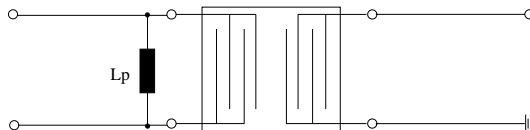
**Characteristics**

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

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

**Test matching network**

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





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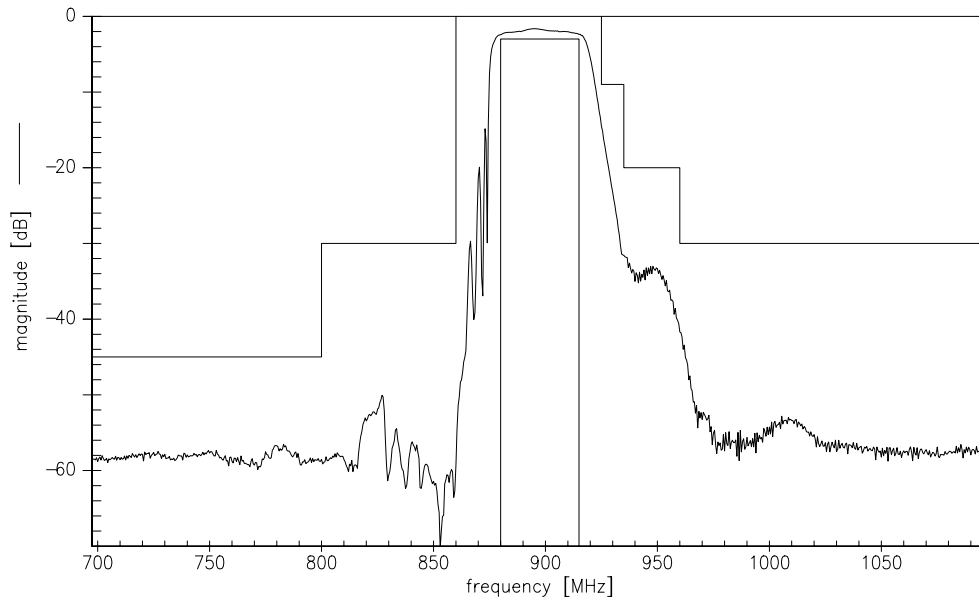
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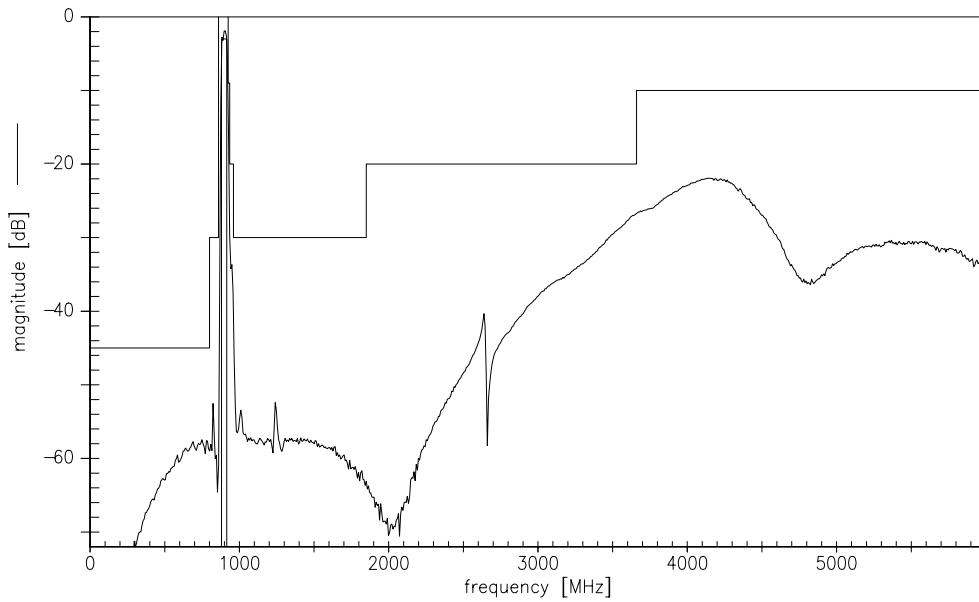
Data sheet



Transfer function:

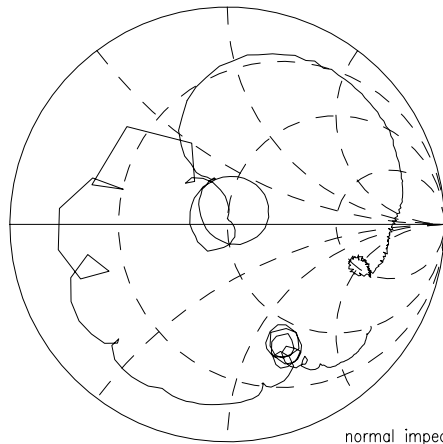


Transfer function (wideband)

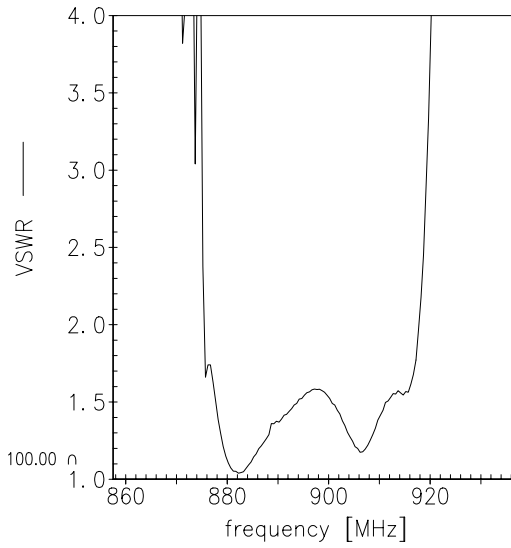


**Matching** (measurement including calculated matching network; S11 is balanced input )

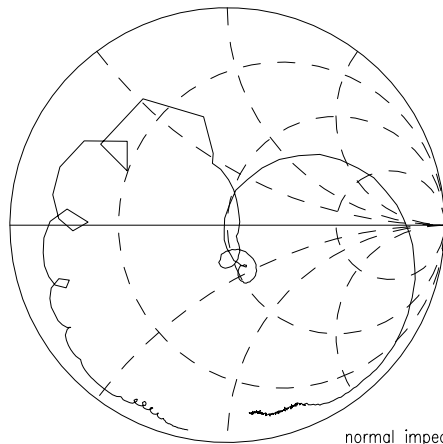
S11



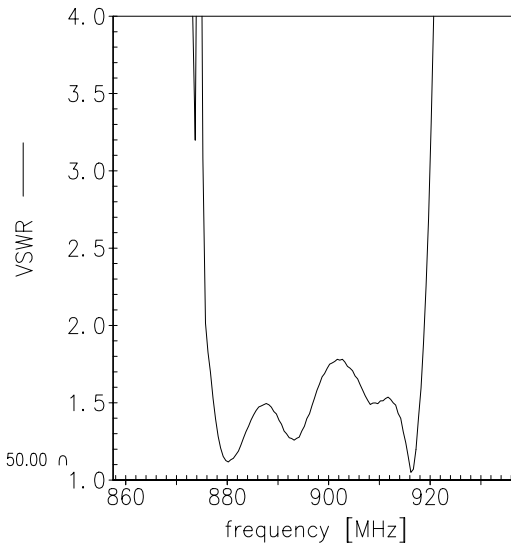
normal impedance: 100.00  $\Omega$



S22



normal impedance: 50.00  $\Omega$





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