EPCOS

SAW Components

Data Sheet B5013

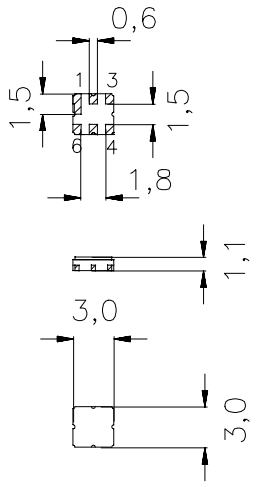
Ceramic package DCC6D

Features

- Low-loss filter (RX) for Trunked Radio
- Usable bandwidth 19 MHz
- No matching required for operation at 50 Ω
- Unbalanced to unbalanced or unbalanced to balanced operation
- Package for Surface Mounted Technology (SMT)
- Hermetically sealed ceramic package

Terminals

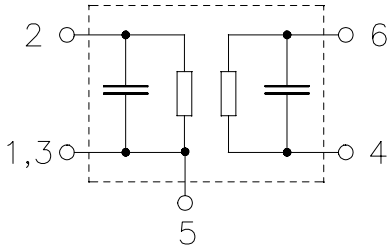
- Gold-plated



typ. Dimensions in mm, approx. weight 0,037 g

Pin configuration

2	Input
6	Output / Output balanced
4	Output ground / Output balanced
1, 3, 5	Input ground / Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B5013	B39861-B5013-U510	C61157-A7-A68	F61074-V8168-Z000

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

Maximum ratings

Operable temperature range	T_A	-40 / +85	˚C	
Storage temperature range	T_{stg}	-40 / +85	˚C	
DC voltage	V_{DC}	5	V	
Source power	P_s	13,0	dBm	source impedance 50 Ω

Characteristics

Operating temperature range: T_A = +15 ... +35 °C
Terminating source impedance: Z_S = 50 Ω unbalanced to balanced operation
Terminating load impedance: Z_L = 50 Ω unbalanced to balanced operation

		min.	typ.	max.	
Nominal frequency	f_N	—	860,5	—	MHz
Maximum insertion attenuation	α_{max}				
851,0 MHz ... 870,0 MHz		—	3,0	3,9	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
851,0 MHz ... 870,0 MHz		—	0,9	1,5	dB
VSWR (Input)					
851,0 MHz ... 870,0 MHz		—	2,2	2,4	
VSWR (Output)					
851,0 MHz ... 870,0 MHz		—	2,6	2,8	
Absolute attenuation	α_{abs}				
0,1 MHz ... 708,0 MHz		42	44	—	dB
708,0 MHz ... 789,0 MHz		30	40	—	dB
789,0 MHz ... 825,0 MHz		23	37	—	dB
825,0 MHz ... 841,0 MHz		13	22	—	dB
888,0 MHz ... 950,0 MHz		13	18	—	dB
950,0 MHz ... 2450,0 MHz		22	25	—	dB
2450,0 MHz ... 3700,0 MHz		20	23	—	dB
3700,0 MHz ... 4000,0 MHz		10	18	—	dB
Symmetry in band					
$\lvert S_{31}\rvert/\lvert S_{21}\rvert$ 851,0 ... 870,0 MHz		-1,5	-0,5	0,5	dB
$\arg(S_{31}/S_{21})$ 851,0 ... 870,0 MHz		170	180	190	°
Temperature coefficient of frequency	TC_f	—	– 36	—	ppm/K

Characteristics

Operating temperature range: T_A = -30 ... +70 °C
Terminating source impedance: Z_S = 50 Ω unbalanced to balanced operation
Terminating load impedance: Z_L = 50 Ω unbalanced to balanced operation

		min.	typ.	max.	
Nominal frequency	f_N	—	860,5	—	MHz
Maximum insertion attenuation	α_{max}				
851,0 MHz ... 870,0 MHz		—	3,6	4,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
851,0 MHz ... 870,0 MHz		—	1,1	2,5	dB
VSWR (Input)					
851,0 MHz ... 870,0 MHz		—	2,4	2,6	
VSWR (Output)					
851,0 MHz ... 870,0 MHz		—	2,7	2,9	
Absolute attenuation	α_{abs}				
0,1 MHz ... 708,0 MHz		42	44	—	dB
708,0 MHz ... 789,0 MHz		30	40	—	dB
789,0 MHz ... 825,0 MHz		23	37	—	dB
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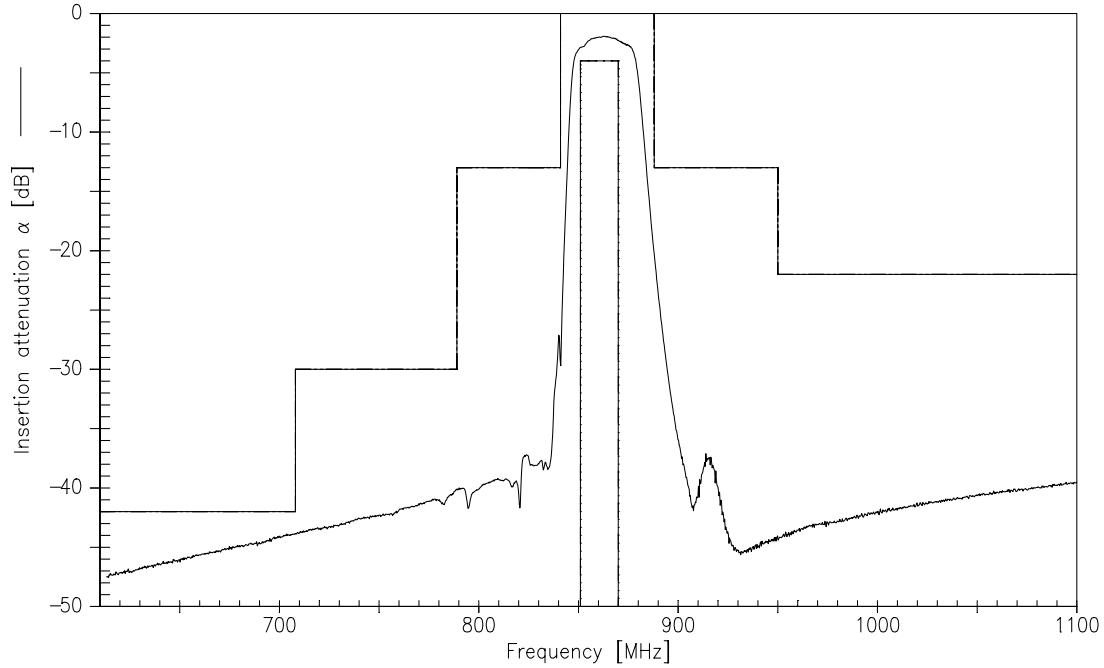
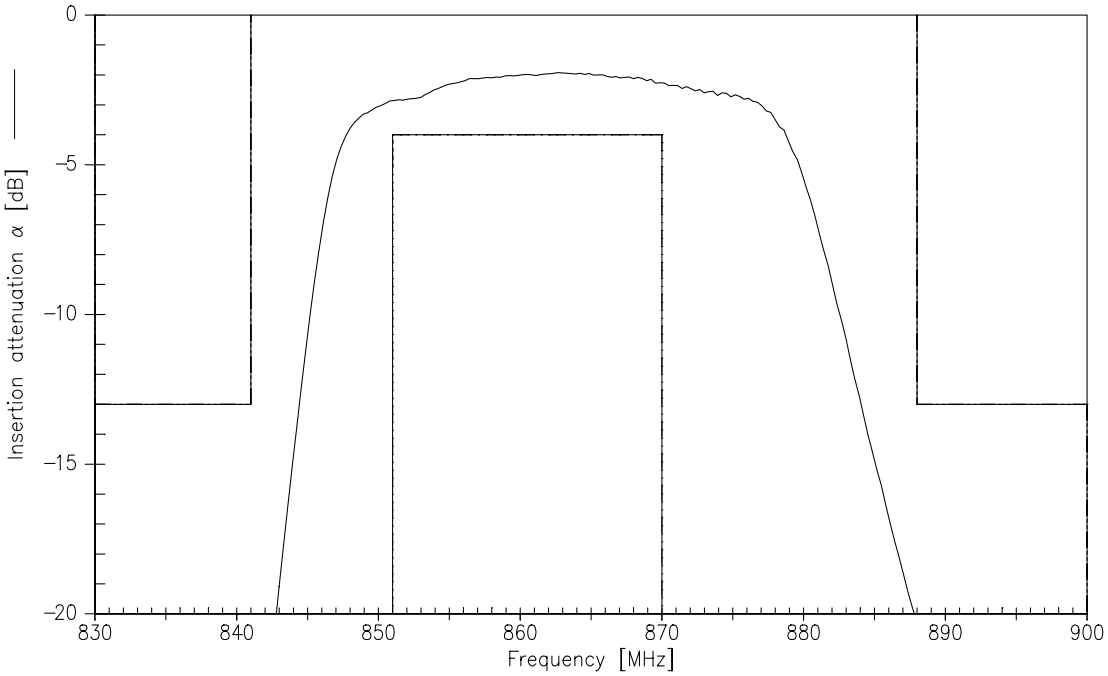
2450,0 MHz ... 3700,0 MHz		20	23	—	dB
3700,0 MHz ... 4000,0 MHz		10	18	—	dB
Symmetry in band					
$\lvert S_{31}\rvert/\lvert S_{21}\rvert$ 851,0 ... 870,0 MHz		-1,5	-0,5	0,5	dB
$\arg(S_{31}/S_{21})$ 851,0 ... 870,0 MHz		170	180	190	°
Temperature coefficient of frequency	TC_f	—	– 36	—	ppm/K

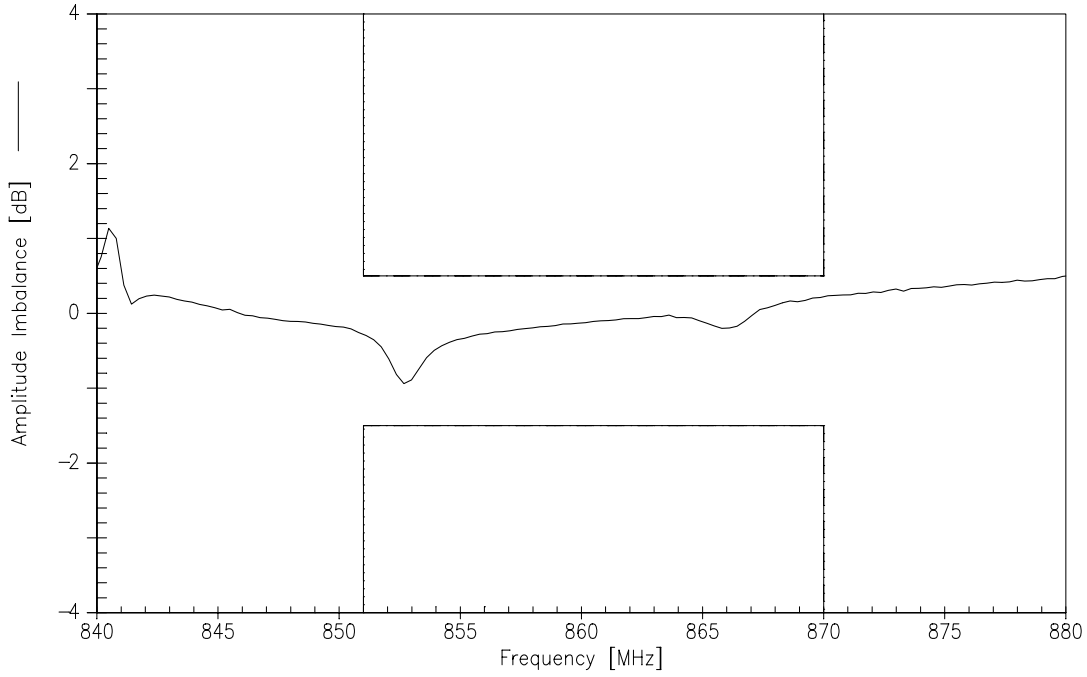
Transfer function (unbalanced to balanced operation)



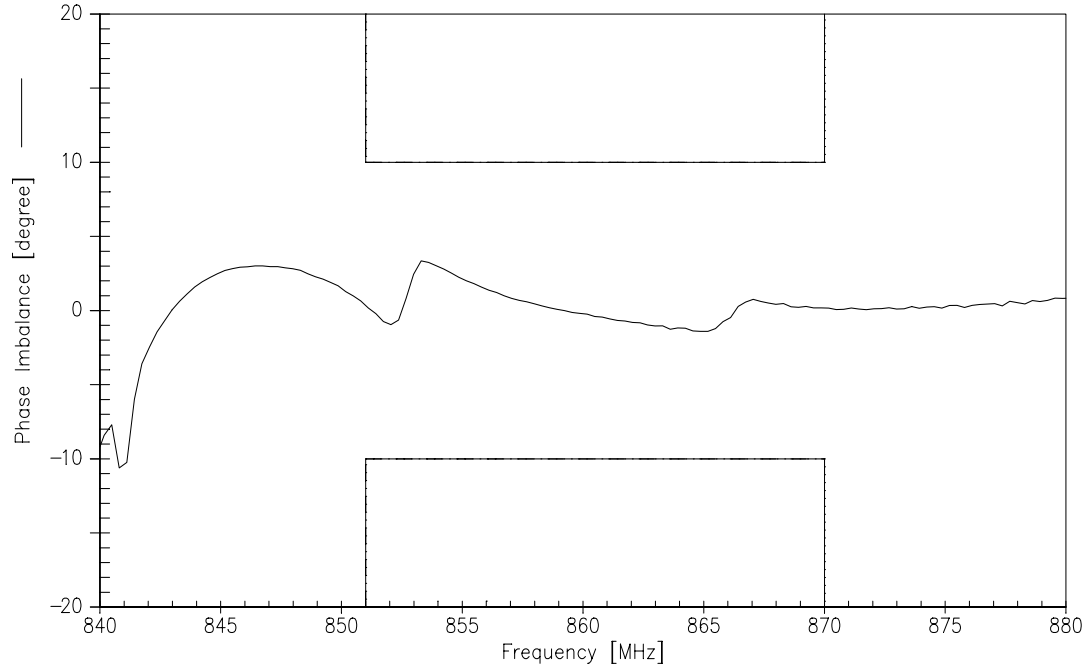
Transfer function (pass band; unbalanced to balanced operation)



Amplitude symmetry $|S_{31}|/|S_{21}|$



Phase symmetry $\arg(S_{31}/S_{21})$ - 180°



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