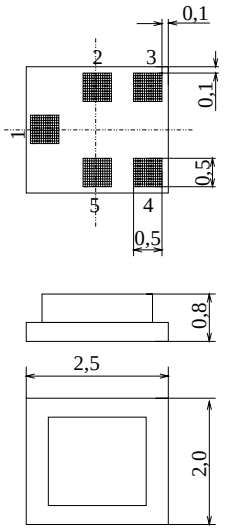
EPCOS

SAW Components

Data Sheet B7728, Pb-Free

Chip **S**ized **S**AW **P**ackage **QCS5H**



Dimensions in mm, approx. weight 0,015 g

Features

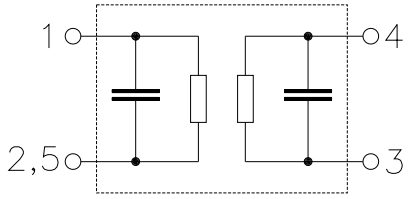
- Low loss RF filter
- Unbalanced to balanced operation
- Low amplitude ripple
- Impedance transformation from 50 Ω to 100 Ω
- Suitable for GPRS class 1 to 12
- Pb-Free
- Package for **S**urface **M**ounted **T**echnology **(SMT)**

Terminals

- Ni, gold-plated

Pin configuration

1	Input, unbalanced
3, 4	Output, balanced
2, 5	Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B7728	B39212-B7728-K910	C61157-A7-A139	F61074-V8189-Z000

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

Maximum ratings

Operable temperature range	T	– 40/+ 85	˚C	
Storage temperature range	T_{stg}	– 40/+ 85	˚C	
DC voltage	V_{DC}	3	V	
ESD voltage	V^*_{ESD}	50*	V	Machine Model, 10 pulses
Source power	P_s	10	dBm	source impedance 50 Ω, load impedance 100 Ω

*- acc. to JESD22-A115A (Machine Model), 10 negative & 10 positive pulses

Data Sheet

Characteristics

Operating temperature range: T_A = -30 ... +85 °C
Terminating source impedance: Z_S = 50 Ω unbal.
Terminating load impedance: Z_L = 100 Ω bal.

		min.	typ.	max.	
Nominal frequency	f_N	—	2140,0	—	MHz
Maximum insertion attenuation	α_{max}				
2110,0 MHz ... 2170,0 MHz		—	2,3	2,9	dB
2110,0 MHz ... 2170,0 MHz *)		—	2,3	2,7	dB
Amplitude ripple in passband (p-p)	$\Delta\alpha$				
2110,0 MHz ... 2170,0 MHz		—	0,6	1,0	dB
Amplitude ripple per 5MHz (p-p)	$\Delta\alpha$				
2110,0 MHz ... 2170,0 MHz		—	0,3	0,5	dB
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
2110,0 MHz ... 2170,0 MHz		-8	-3/+3	+8	°
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
2110,0 MHz ... 2170,0 MHz		-1,9	-0,5/+1,2	+1,9	dB
Input VSWR	$\Delta\alpha$				
2110,0 MHz ... 2170,0 MHz		—	1,8	2,0	
Output VSWR	$\Delta\alpha$				
2110,0 MHz ... 2170,0 MHz		—	2,1	2,3	
Absolute attenuation	α				
50,0 MHz ... 849,0 MHz		45	52	—	dB
849,0MHz ... 1350,0 MHz		40	48	—	dB
1350,0 MHz ... 1980,0 MHz		35	40	—	dB
1980,0 MHz ... 2025,0 MHz		30	34	—	dB
2025,0 MHz ... 2050,0 MHz		15	30	—	dB
2215,0 MHz ... 2255,0 MHz		15	23	—	dB
2255,0 MHz ... 2270,0 MHz		20	21	—	dB
2270,0 MHz ... 2400,0 MHz		22	24	—	dB
2400,0 MHz ... 3910,0 MHz		30	35	—	dB
3910,0 MHz ... 5645,0 MHz		40	45	—	dB

*) T_A= +25 °C

Data Sheet

Characteristics

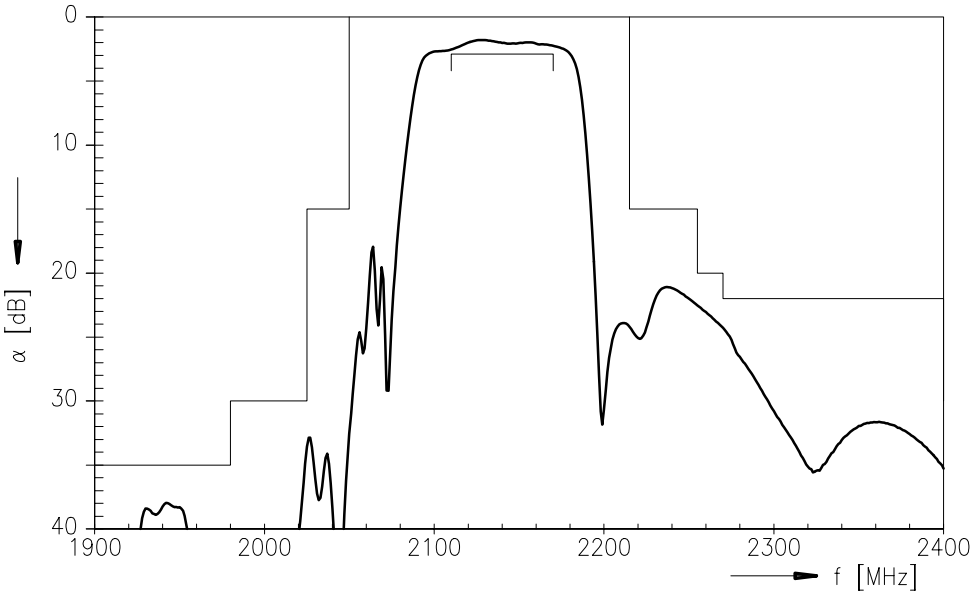
Operating temperature range: T_A = -30 ... +85 °C
Terminating source impedance: Z_S = 50 Ω unbal.
Terminating load impedance: Z_L = 100 Ω bal. || 33 nH **)

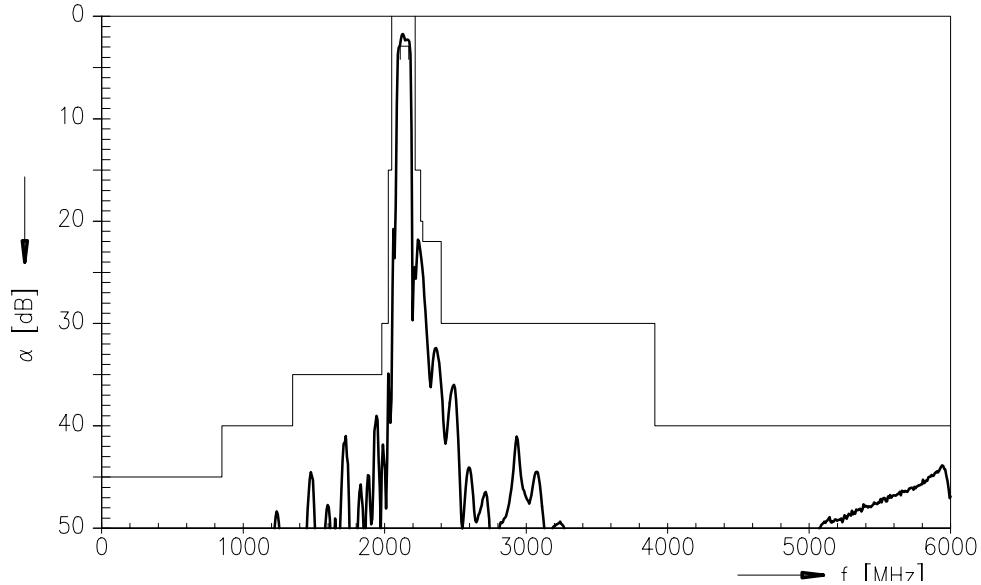
		min.	typ.	max.	
Nominal frequency	f_N	—	2140,0	—	MHz
Maximum insertion attenuation	α_{max}				
2110,0 MHz ... 2170,0 MHz		—	2,3	2,9	dB
2110,0 MHz ... 2170,0 MHz *)		—	2,3	2,7	dB
Amplitude ripple in passband (p-p)	$\Delta\alpha$				
2110,0 MHz ... 2170,0 MHz		—	0,6	1,0	dB
Amplitude ripple per 5MHz (p-p)	$\Delta\alpha$				
2110,0 MHz ... 2170,0 MHz		—	0,3	0,5	dB
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
2110,0 MHz ... 2170,0 MHz		-8	-3/+3	+8	°
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
2110,0 MHz ... 2170,0 MHz		-1,9	-0,5/+1,2	+1,9	dB
Input VSWR	$\Delta\alpha$				
2110,0 MHz ... 2170,0 MHz		—	1,6	2,0	
Output VSWR	$\Delta\alpha$				
2110,0 MHz ... 2170,0 MHz		—	1,8	2,1	
Absolute attenuation	α				
50,0 MHz ... 849,0 MHz		45	52	—	dB
849,0MHz ... 1350,0 MHz		40	48	—	dB
1350,0 MHz ... 1980,0 MHz		35	40	—	dB
1980,0 MHz ... 2025,0 MHz		30	34	—	dB
2025,0 MHz ... 2050,0 MHz		15	30	—	dB
2215,0 MHz ... 2255,0 MHz		15	23	—	dB
2255,0 MHz ... 2285,0 MHz		20	21	—	dB
2285,0 MHz ... 2400,0 MHz		22	25	—	dB
2400,0 MHz ... 3910,0 MHz		30	35	—	dB
3910,0 MHz ... 5645,0 MHz		40	45	—	dB

*) T_A= +25 °C

**) or a 0,6 nH serial inductance in each branch of the balanced output, which might be integrated into PCB.

Transfer function (no matching, T_A= -30 ... +85 °C)





Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW MC PD
P.O. Box 80 17 09, D-81617 München

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