



SAW Components

Data Sheet B7728, Pb-Free





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B7728

Low-Loss Filter

2140,0 MHz

Data Sheet

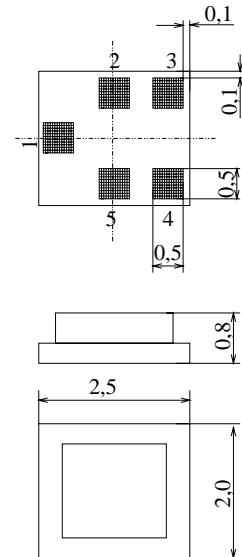
Features

- 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 **Surface Mounted Technology (SMT)**

Terminals

- Ni, gold-plated

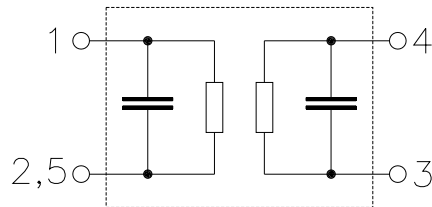
Chip Sized SAW Package QCS5H



Dimensions in mm, approx. weight 0,015 g

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 Sensitive Device (ESD)

Maximum ratings

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

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


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Operating temperature range: $T_A = -30 \dots +85 \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \text{ } \Omega \text{ unbal.}$
 Terminating load impedance: $Z_L = 100 \text{ } \Omega \text{ bal.}$

		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 ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)					
2110,0 MHz ... 2170,0 MHz		-8	-3/+3	+8	$^\circ$
Output amplitude balance (S_{31}/S_{21})					
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
849,0 MHz ... 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

 *) $T_A = +25 \text{ }^\circ\text{C}$



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 Terminating load impedance: $Z_L = 100 \text{ } \Omega \text{ bal. } || 33 \text{ nH }^{**}$

		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 ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)					
2110,0 MHz... 2170,0 MHz		-8	-3/+3	+8	°
Output amplitude balance (S_{31}/S_{21})					
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

*) $T_A = +25 \text{ }^\circ\text{C}$

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



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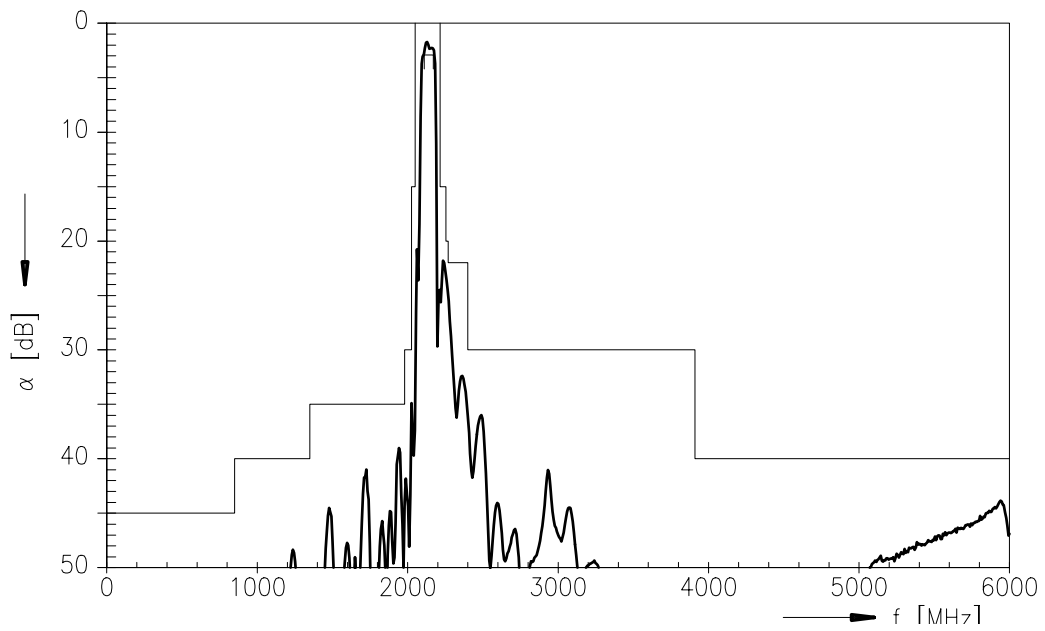
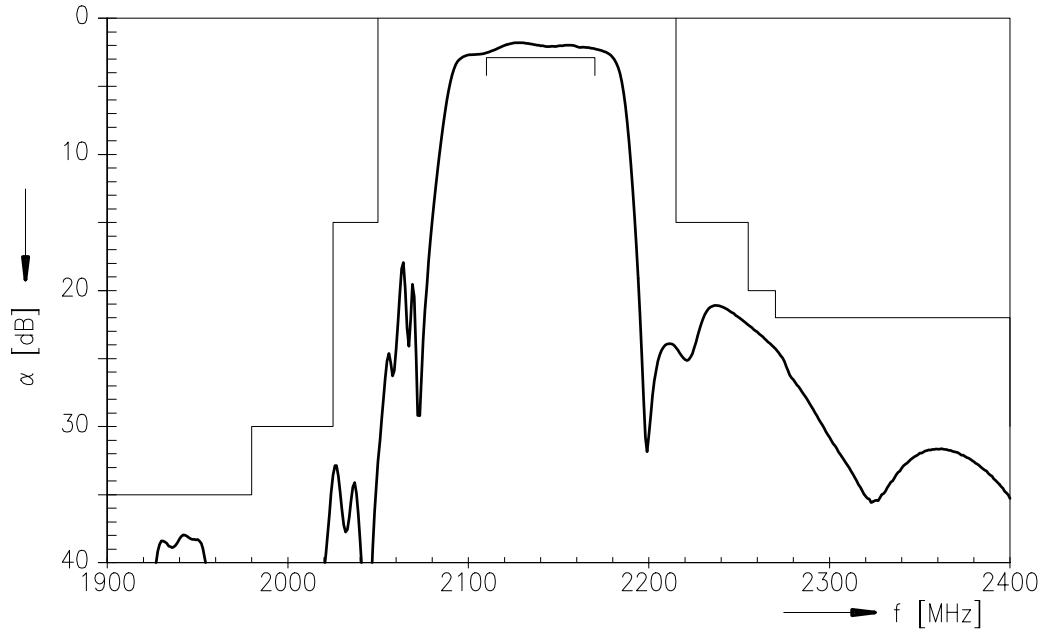
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Transfer function (no matching, $T_A = -30 \dots +85 \text{ }^\circ\text{C}$)





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