



# SAW Components

Data Sheet B4232





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**B4232**

**Low-Loss '2 in 1' Filter for Mobile Communication**

**769,0/860,5 MHz**

**Data Sheet**

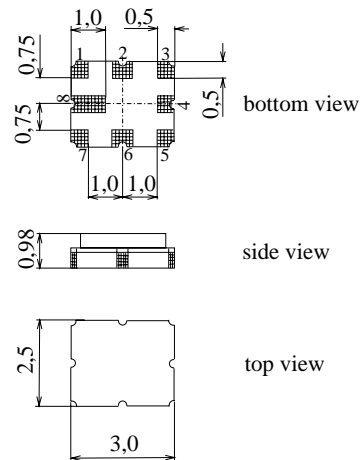
**Features**

- Low-loss '2 in 1' RF filter for Trunked Radio
- Device with two integrated Rx filters
- Low amplitude ripple
- Usable passband filter 1: 19,0 MHz
- Usable passband filter 2: 14,0 MHz
- No matching network required for operation at 50 Ω
- Package for **Surface Mounted Technology (SMT)**

**Terminals**

- Ni, gold-plated

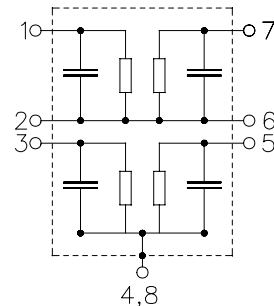
**Ceramic package QCC8E**



Dimensions in mm, approx. weight 0,027g

**Pin configuration**

- |     |                   |
|-----|-------------------|
| 1   | Input (filter 1)  |
| 7   | Output (filter 1) |
| 3   | Input (filter 2)  |
| 5   | Output (filter 2) |
| 2,6 | Ground            |
| 4,8 | Case ground       |



Type	Ordering code	Marking and Package according to	Packing according to
B4232	B39861-B4232-H410	C61157-A7-A92	F61074-V8174-Z000

**Electrostatic Sensitive Device (ESD)**

**Maximum ratings**

Operable temperature range	$T$	- 40 / + 85	°C	Machine Model, 10 pulses source and load impedance 50 Ω
Storage temperature range	$T_{stg}$	- 40 / + 85	°C	
DC voltage	$V_{DC}$	5	V	
ESD voltage	$V^{*}_{ESD}$	100	V	
Source power (cw)	$P_S$	15	dBm	

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



Data Sheet

Characteristics filter 1

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

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	860,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$				
851,0 ... 870,0 MHz		—	2,1	2,5	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
851,0 ... 870,0 MHz		—	0,7	1,1	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
851,0 ... 870,0 MHz		—	20,0	50,0	ns
<b>Return loss (Input and Output)</b>					
851,0 ... 870,0 MHz		10,0	11,5	—	dB
<b>Absolute attenuation</b>	$\alpha_{abs}$				
0,1 ... 483,0 MHz		57	60	—	dB
483,0 ... 676,0 MHz		50	60	—	dB
676,0 ... 724,0 MHz		40	64	—	dB
741,4 ... 773,0 MHz		30	59	—	dB
804,0 ... 822,0 MHz		20	42	—	dB
880,0 MHz		7	11	—	dB
898,0 ... 918,0 MHz		20	40	—	dB
946,0 ... 967,0 MHz		30	59	—	dB
1040,0 ... 1070,0 MHz		46	54	—	dB
1070,0 ... 1256,0 MHz		43	50	—	dB
1256,0 ... 2000,0 MHz		30	40	—	dB
<b>Temperature coefficient of frequency</b>	$TC_f$	—	- 36	—	ppm/K



Data Sheet

Characteristics filter 1

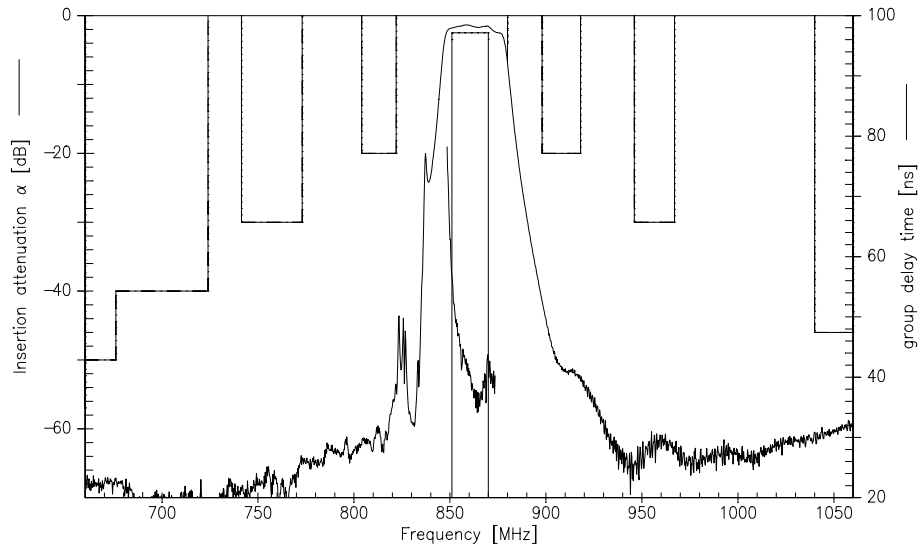
Operating temperature range:  $T = -30 \dots +70 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ } \Omega$   
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	860,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$				
851,0 ... 870,0 MHz		—	2,4	2,7	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
851,0 ... 870,0 MHz		—	1,0	1,3	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
851,0 ... 870,0 MHz		—	30,0	50,0	ns
<b>Return loss (Input and Output)</b>					
851,0 ... 870,0 MHz		10,0	11,0	—	dB
<b>Absolute attenuation</b>	$\alpha_{abs}$				
0,1 ... 483,0 MHz		57	60	—	dB
483,0 ... 676,0 MHz		50	60	—	dB
676,0 ... 724,0 MHz		40	64	—	dB
741,4 ... 773,0 MHz		30	59	—	dB
804,0 ... 822,0 MHz		20	42	—	dB
880,0 MHz		4	7	—	dB
898,0 ... 918,0 MHz		20	38	—	dB
946,0 ... 967,0 MHz		30	59	—	dB
1040,0 ... 1070,0 MHz		46	54	—	dB
1070,0 ... 1256,0 MHz		43	50	—	dB
1256,0 ... 2000,0 MHz		30	40	—	dB
<b>Temperature coefficient of frequency</b>	$TC_f$	—	-36	—	ppm/K

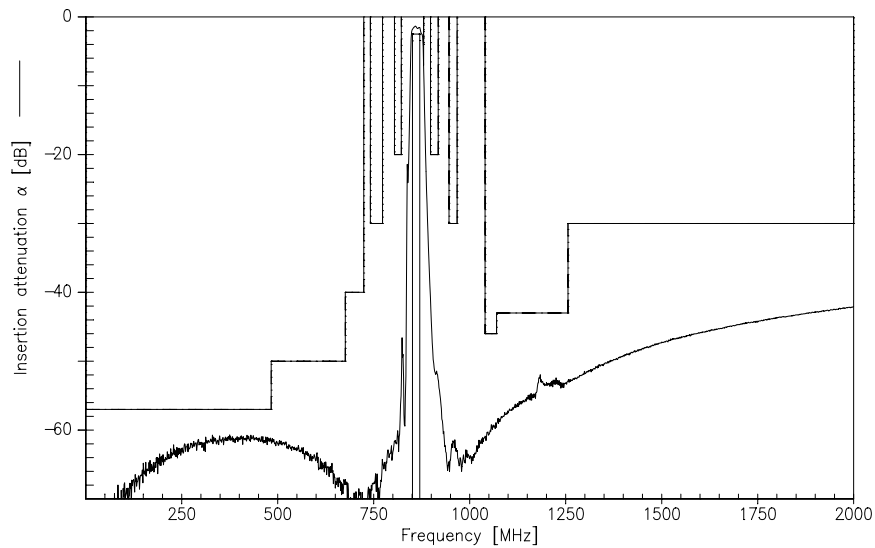


Data Sheet

Transfer function filter 1 (narrow band)



Transfer function filter 1 (wide band)





Data Sheet

Characteristics filter 2

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

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	769,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$				
	762,0 ... 776,0 MHz	—	1,7	2,4	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	762,0 ... 776,0 MHz	—	0,4	1,0	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
	762,0 ... 776,0 MHz	—	22,0	50,0	ns
<b>Return loss (Input and Output)</b>					
	762,0 ... 776,0 MHz	12,0	13,0	—	dB
<b>Absolute attenuation</b>	$\alpha_{abs}$				
	0,0 ... 431,0 MHz	57	60	—	dB
	431,0 ... 604,0 MHz	50	60	—	dB
	604,0 ... 690,0 MHz	30	62	—	dB
	690,0 ... 733,0 MHz	20	56	—	dB
	733,0 ... 752,0 MHz	9	18	—	dB
	804,0 ... 847,0 MHz	25	36	—	dB
	847,0 ... 892,7 MHz	30	54	—	dB
	892,7 ... 910,7 MHz	50	56	—	dB
	910,7 ... 995,3 MHz	47	54	—	dB
	995,3 ... 1121,0 MHz	42	52	—	dB
<b>Temperature coefficient of frequency</b>	$TC_f$	—	- 36	—	ppm/K



Data Sheet

Characteristics filter 2

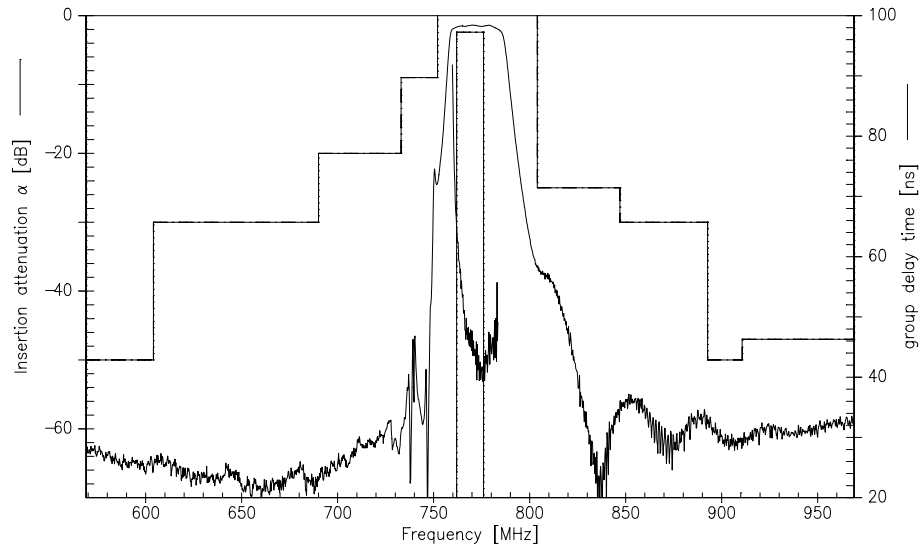
Operating temperature range:  $T = -30 \dots +70 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \text{ } \Omega$   
 Terminating load impedance:  $Z_L = 50 \text{ } \Omega$

		min.	typ.	max.	
<b>Nominal frequency</b>	$f_N$	—	769,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$				
	762,0 ... 776,0 MHz	—	1,8	2,6	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	762,0 ... 776,0 MHz	—	0,5	1,0	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
	762,0 ... 776,0 MHz	—	30,0	50,0	ns
<b>Return loss (Input and Output)</b>					
	762,0 ... 776,0 MHz	12,0	13,0	—	dB
<b>Absolute attenuation</b>	$\alpha_{abs}$				
	0,0 ... 431,0 MHz	57	60	—	dB
	431,0 ... 604,0 MHz	50	60	—	dB
	604,0 ... 690,0 MHz	30	62	—	dB
	690,0 ... 733,0 MHz	20	56	—	dB
	733,0 ... 752,0 MHz	9	16	—	dB
	804,0 ... 847,0 MHz	25	34	—	dB
	847,0 ... 892,7 MHz	30	54	—	dB
	892,7 ... 910,7 MHz	50	56	—	dB
	910,7 ... 995,3 MHz	47	54	—	dB
	995,3 ... 1121,0 MHz	42	52	—	dB
<b>Temperature coefficient of frequency</b>	$TC_f$	—	- 36	—	ppm/K

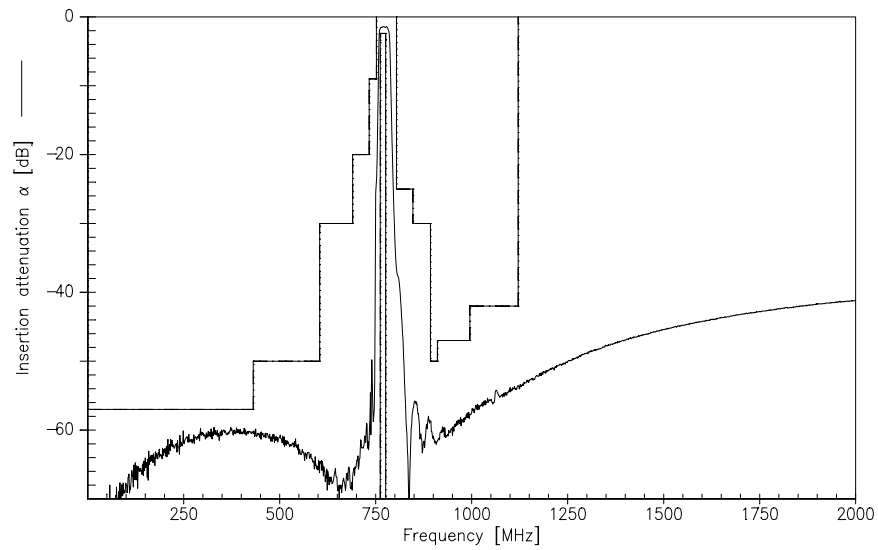


Data Sheet

Transfer function filter 2 (narrow band)



Transfer function filter 2 (wide band)







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