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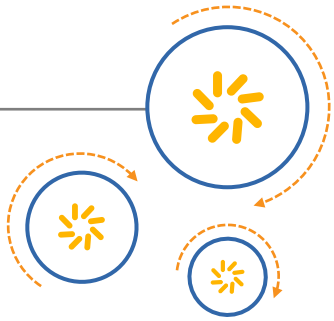

SAW Components

SAW RF filter for base stations

Trunked Radio

Series/type:	B4232
Ordering code:	B39861B4232H410
Date:	Apr 05, 2016
Version:	2.1

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SAW Components

SAW RF filter for base stations

Trunked Radio

Series/type:	**B4232**
Ordering code:	**B39861B4232H410**
Date:	Apr 05, 2016
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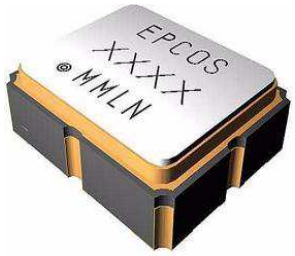
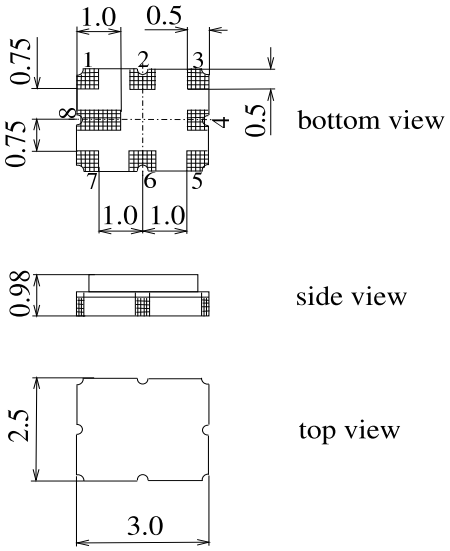
Application

- 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 required for operation at 50 Ω



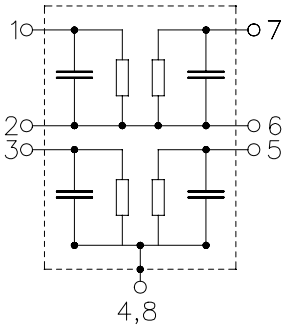
Features

- Package size 3.0 x 2.5x 0.98 mm³
- Package code QCC8E
- RoHS compatible
- Approximate weight 0.027g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- **M**oisture **S**ensitivity **L**evel 1
- Filter surface passivated



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



Characteristics filter 1

Temperature range for specification: T = 25 +/– 2 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	860.5	—	MHz
Maximum insertion attenuation	α_{max}				
851.0 ... 870.0 MHz		—	2.1	2.5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
851.0 ... 870.0 MHz		—	0.7	1.1	dB
Group delay ripple (p-p)	$\Delta\tau$				
851.0 ... 870.0 MHz		—	20.0	50.0	ns
Input return loss					
851.0 ... 870.0 MHz		10.0	11.5	—	dB
Output return loss					
851.0 ... 870.0 MHz		10.0	11.5	—	dB
Absolute attenuation	α_{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
Temperature coefficient of frequency	TC_f	—	–36	—	ppm/K

Characteristics filter 1

Temperature range for specification: T = –30 to + 70 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

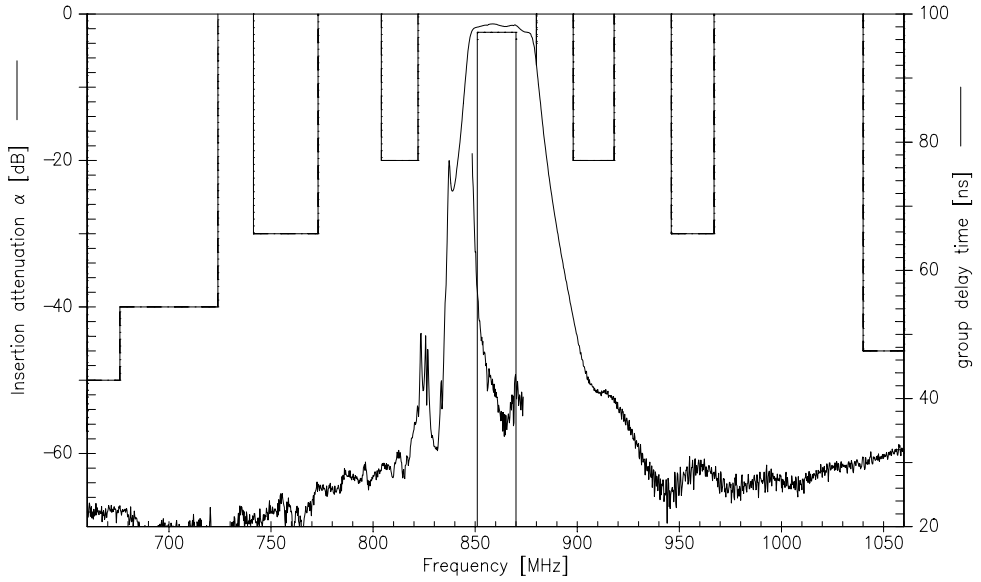
		min.	typ. @ 25 ˚C	max.	
Nominal frequency	f_N	—	860.5	—	MHz
Maximum insertion attenuation	α_{max}				
851.0 ... 870.0 MHz		—	2.4	2.7	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
851.0 ... 870.0 MHz		—	1.0	1.3	dB
Group delay ripple (p-p)	$\Delta\tau$				
851.0 ... 870.0 MHz		—	30.0	50.0	ns
Input return loss					
851.0 ... 870.0 MHz		10.0	11.0	—	dB
Output return loss					
851.0 ... 870.0 MHz		10.0	11.0	—	dB
Absolute attenuation	α_{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
Temperature coefficient of frequency	TC_f	—	–36	—	ppm/K

Maximum ratings

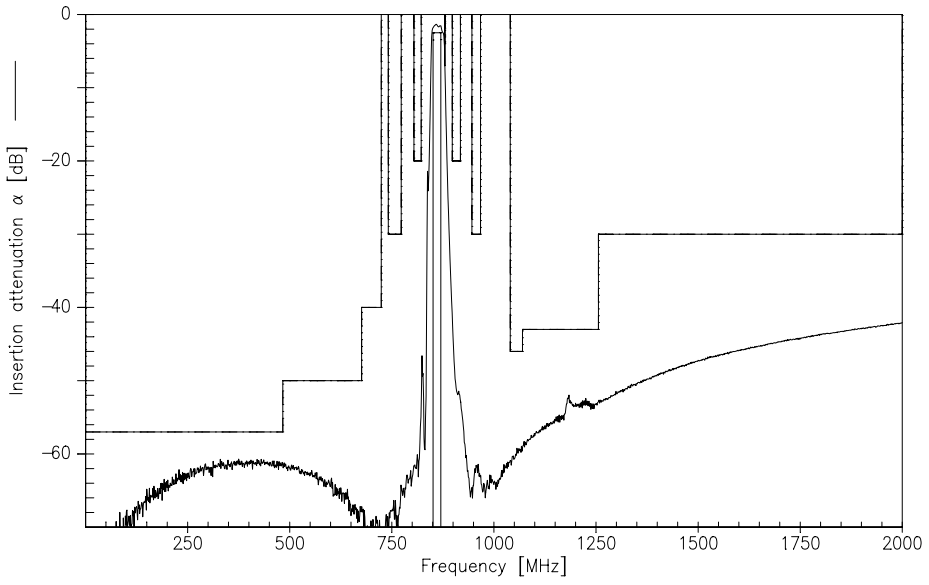
Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	100[1)]	V	Machine Model ,10 pluses
Input power	P_{IN}			
851.0 ... 870.0 MHz		15	dBm	cw,source and load impedance 50 Ω
762.0 ... 776.0 MHz		15	dBm	cw,source and load impedance 50 Ω

1) acc. to JESD22-A115B (MM - Machine Model), 10 negative & 10 positive pulses

Transfer function filter 1 (S21, narrowband)

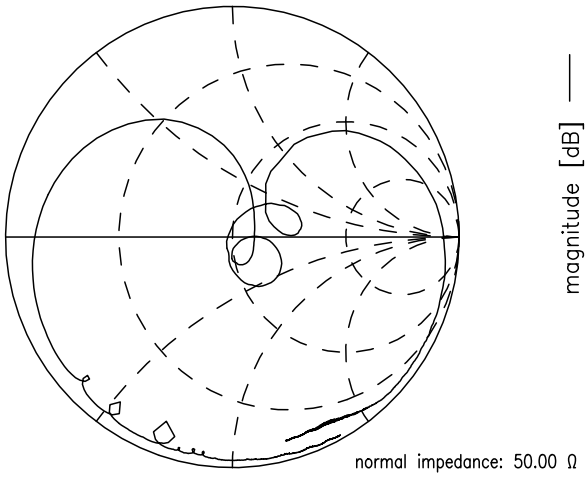


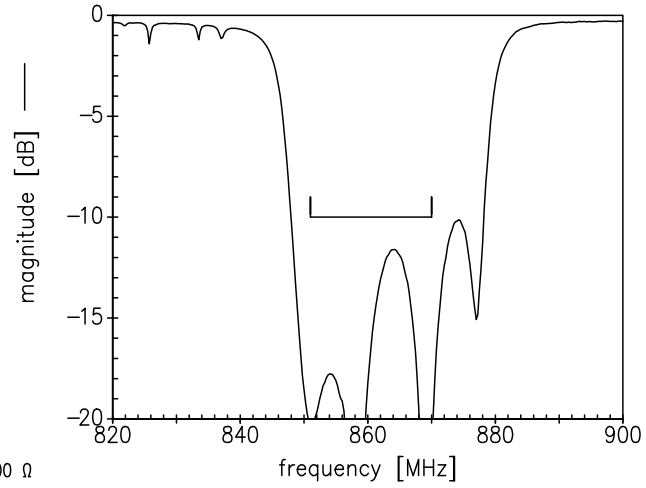
Transfer function filter 1 (S21, wideband)



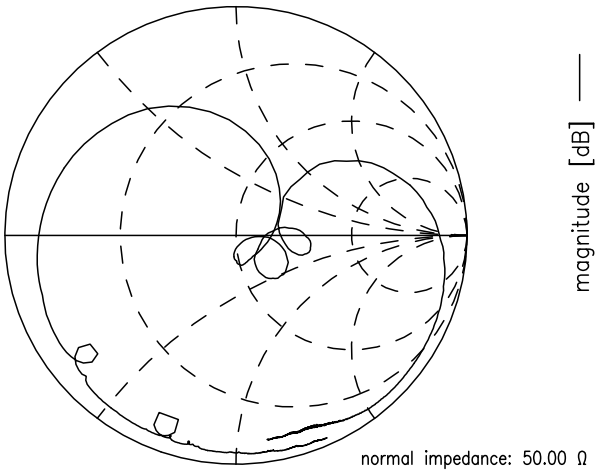
Smith charts

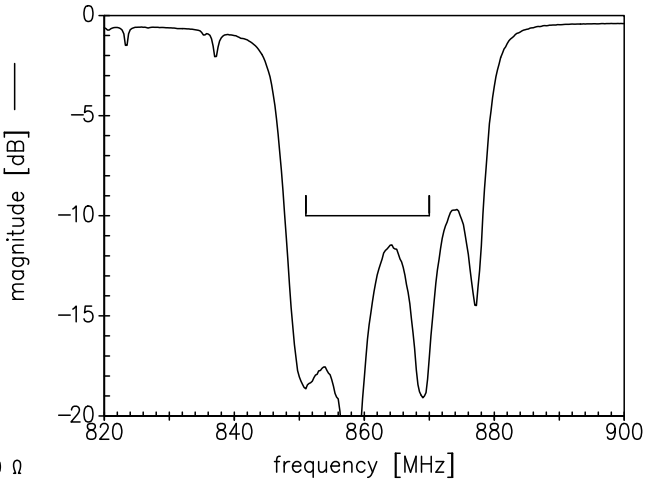
S_{11} function filter 1





S_{22} function filter 1





Characteristics filter 2

Temperature range for specification: T = 25 +/– 2 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

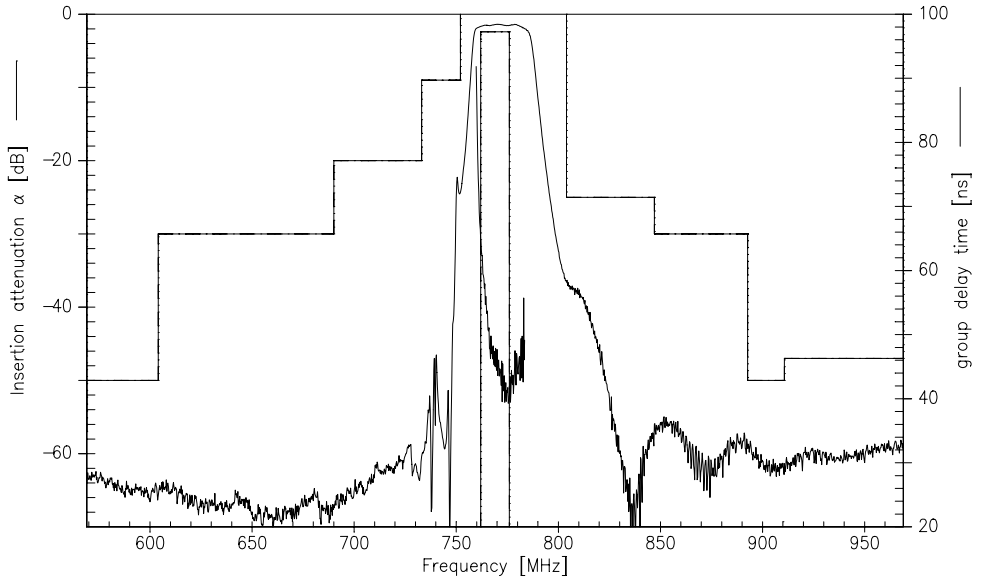
		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	769.0	—	MHz
Maximum insertion attenuation	α_{max}				
762.0 ... 776.0 MHz		—	1.7	2.4	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
762.0 ... 776.0 MHz		—	0.4	1.0	dB
Group delay ripple (p-p)	$\Delta\tau$				
762.0 ... 776.0 MHz		—	22.0	50.0	ns
Input return loss					
762.0 ... 776.0 MHz		12.0	13.0	—	dB
Output return loss					
762.0 ... 776.0 MHz		12.0	13.0	—	dB
Absolute attenuation	α_{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
Temperature coefficient of frequency	TC_f	—	–36	—	ppm/K

haracteristics filter 2

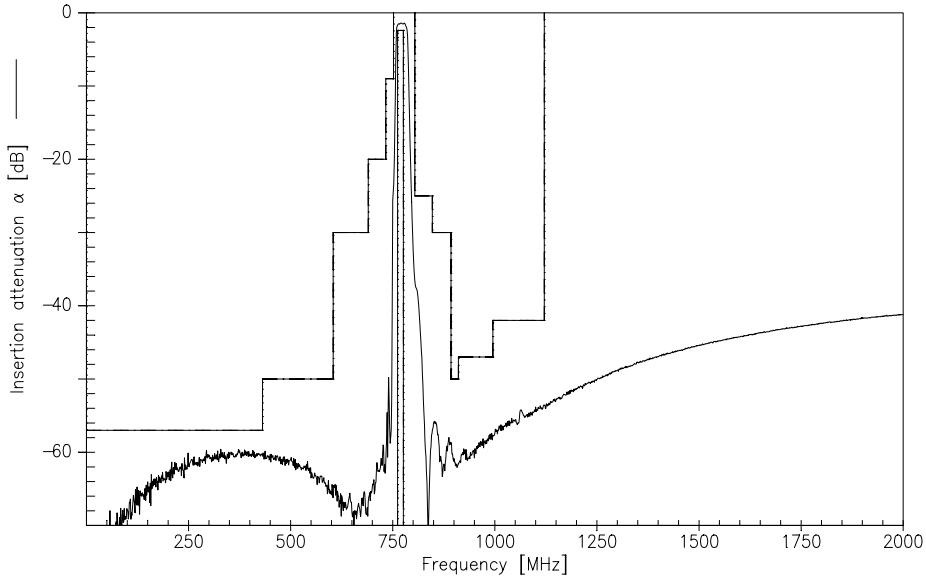
Temperature range for specification: T = –30 to + 70 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 ˚C	max.	
Nominal frequency	f_N	—	769.0	—	MHz
Maximum insertion attenuation	α_{max}				
762.0 ... 776.0 MHz		—	1.8	2.6	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
762.0 ... 776.0 MHz		—	0.5	1.0	dB
Group delay ripple (p-p)	$\Delta\tau$				
762.0 ... 776.0 MHz		—	30.0	50.0	ns
Input return loss					
762.0 ... 776.0 MHz		12.0	13.0	—	dB
Output return loss					
762.0 ... 776.0 MHz		12.0	13.0	—	dB
Absolute attenuation	α_{abs}				
0.1 ... 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
Temperature coefficient of frequency	TC_f	—	–36	—	ppm/K

Transfer function filter 2 (S21, narrowband)

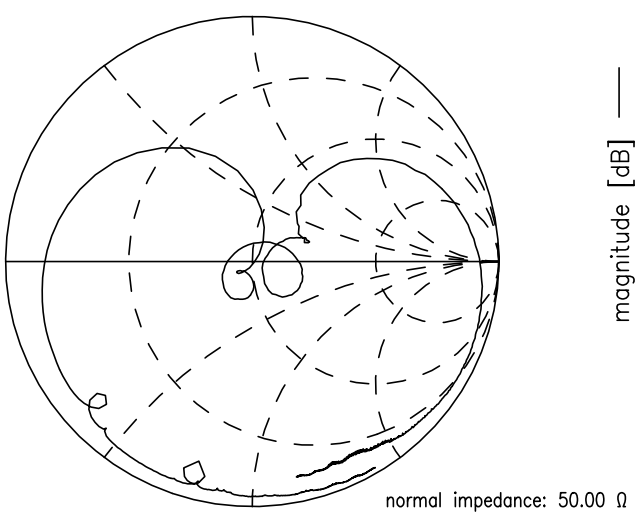


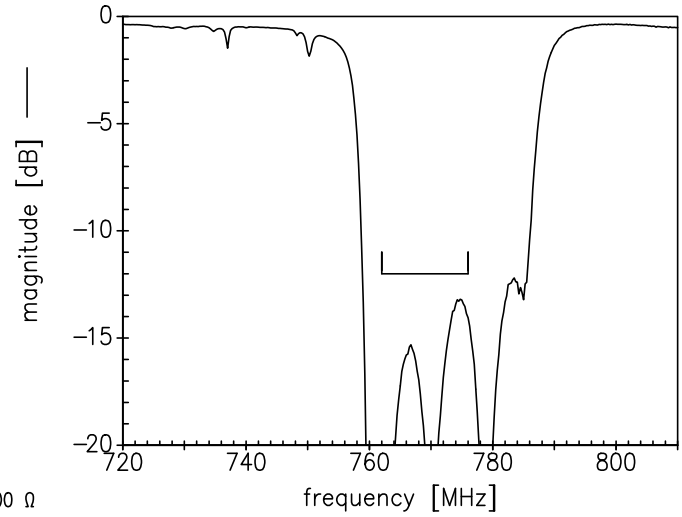
Transfer function filter 2 (S21, wideband)



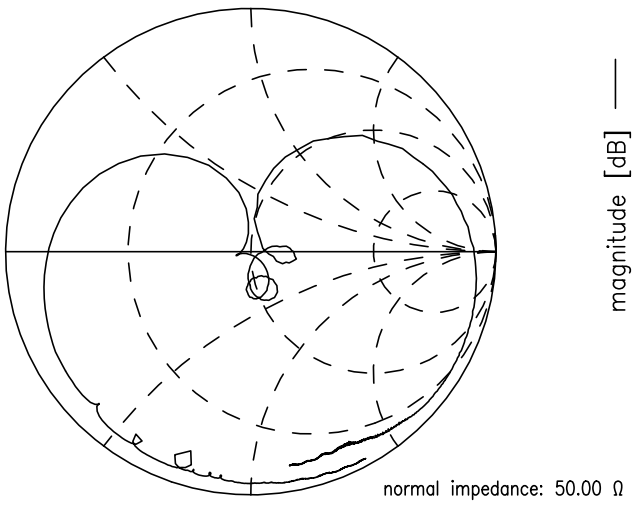
Smith charts

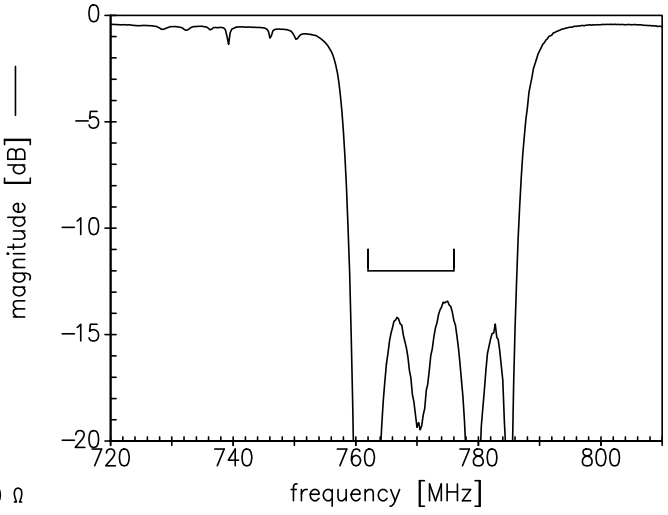
S_{11} function filter 2





S_{22} function filter 2





References

Type	B4232
Ordering code	B39861B4232H410
Marking and package	C61157-A7-A92
Packaging	F61074-V8174-Z000
Date codes	L_1126
S-parameters	B4232_LB_NB.s2p , B4232_LB_WB.s2p B4232_UB_NB.s2p , B4232_UB_WB.s2p see file header for port/pin assignment table
Soldering profile	S_6001
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