



SAW Components

Data Sheet B3663

Data Sheet

EPCCOS



SAW Components	B3663
Low-Loss Filter	140,01 MHz

Data Sheet

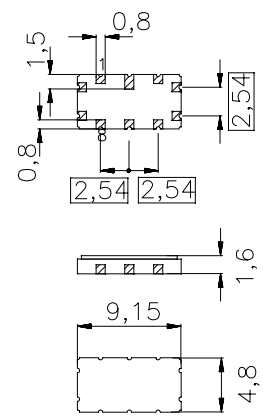
Ceramic SMD package QCC10B

Features

- Low-loss IF filter
- Ceramic SMD package
- Balanced or unbalanced operation possible
- Low insertion attenuation, high selectivity

Terminals

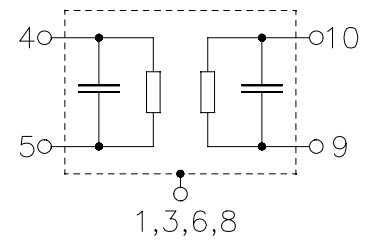
- Gold-plated



Dimensions in mm, approx. weight 0,23 g

Pin configuration

- | | |
|---------|----------------|
| 4, 5 | Input |
| 9,10 | Output |
| 1,3,6,8 | Case ground |
| 2,7 | To be grounded |



Type	Ordering code	Marking and Package according to	Packing according to
B3663	B39141-B3663-Z710	C61157-A7-A49	F61064-V8035-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	- 30/+ 80	°C
Storage temperature range	T_{stg}	- 40/+ 85	°C
DC voltage	V_{DC}	0	V
Source power	P_s	10	dBm



SAW Components	B3663
Low-Loss Filter	140,01 MHz

Data Sheet

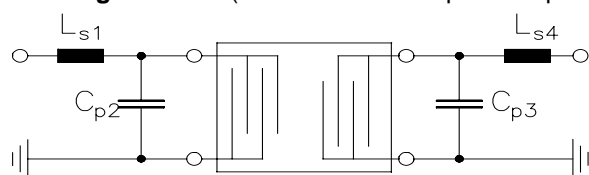
Characteristics

Operating temperature range:	$T = -10 \dots +80 \text{ }^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 50 \text{ } \Omega$ unbalanced and matching network
Terminating load impedance:	$Z_L = 50 \text{ } \Omega$ unbalanced and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	140,010	—	MHz
Minimum insertion loss	α_{\min}	—	3,7	5,5	dB
3dB bandwidth		30	73	—	kHz
Amplitude variation (p-p) $f_N - 15 \text{ kHz} \dots f_N + 15 \text{ kHz}$	$\Delta\alpha$	—	0,3	3,0	dB
Amplitude ripple (peak to adjacent valley) $f_N - 15 \text{ kHz} \dots f_N + 15 \text{ kHz}$	$\Delta\alpha$	—	0,0	0,5	dB
Absolute group delay (at f_N)	τ	—	11	15	μs
Group delay ripple (p-p) $f_N - 15 \text{ kHz} \dots f_N + 15 \text{ kHz}$	$\Delta\tau$	—	2	6	μs
Relative attenuation (relative to α_{\min}) $f_N \pm 60 \text{ kHz}$	α_{rel}	4	20	—	dB
$f_N \pm 120 \text{ kHz}$		25	45	—	dB
$f_N \pm 210 \text{ kHz}$		45	67	—	dB
$f_N - 1 \text{ MHz}$		68	73	—	dB
$f_N + 1 \text{ MHz}$		48	68	—	dB
Temperature coefficient of frequency ¹⁾	TC_f	—	-0,036	—	ppm/K ²
Turnover temperature	T_0	—	35	—	$^{\circ}\text{C}$

¹⁾ Temperature dependance of f_c : $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2)$

Matching network (element values depend on pcb layout, optimized for test board)



$$L_{s1} = 180 \text{ nH} \quad C_{p2} = 3,3 \text{ pF} \quad C_{p3} = 2,7 \text{ pF} \quad L_{s4} = 180 \text{ nH}$$



SAW Components

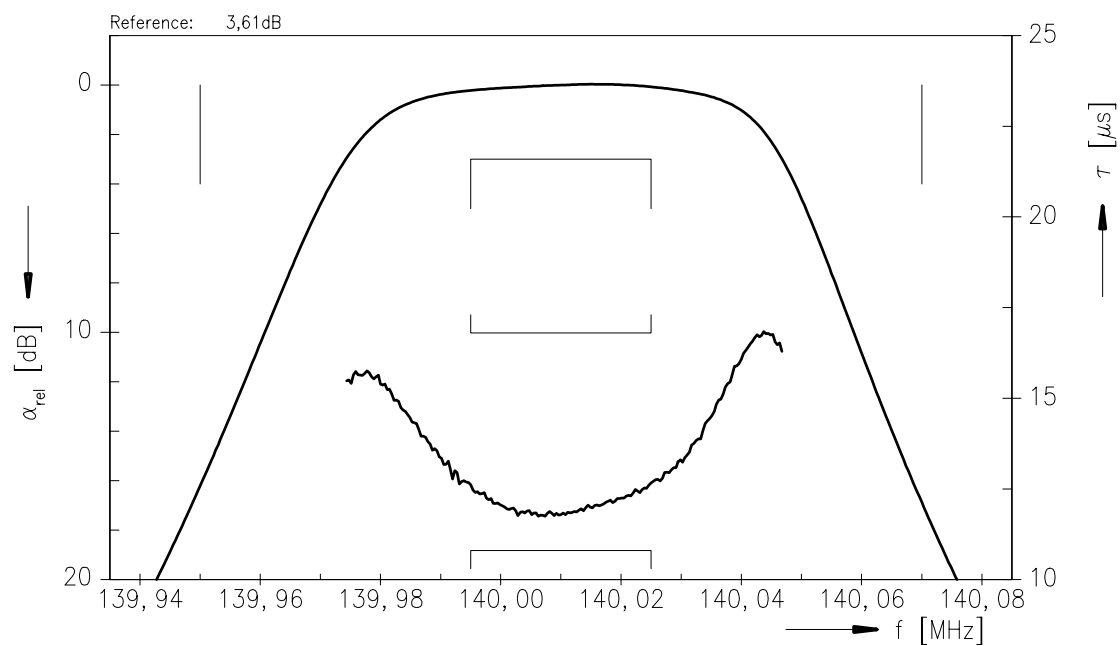
B3663

Low-Loss Filter

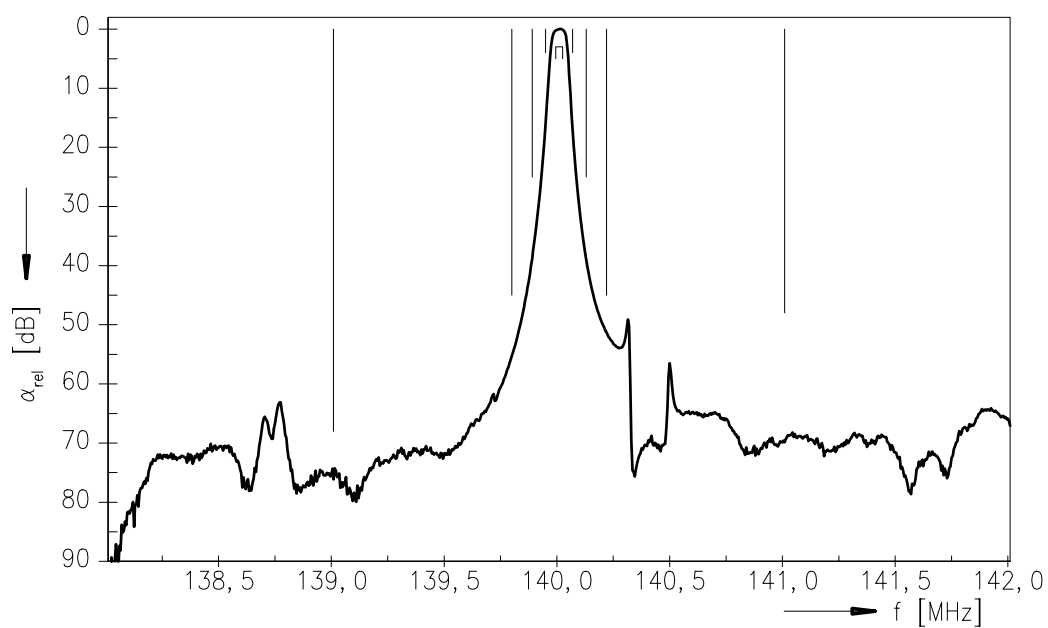
140,01 MHz

Data Sheet

Frequency response



Frequency response





SAW Components	B3663
Low-Loss Filter	140,01 MHz

Data Sheet

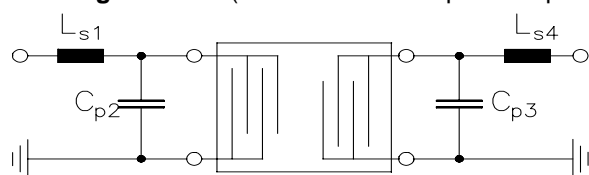
Characteristics

Operating temperature range:	$T = -10 \dots +80 \text{ }^{\circ}\text{C}$
Terminating source impedance:	$Z_S = 50 \text{ } \Omega$ unbalanced and matching network
Terminating load impedance:	$Z_L = 50 \text{ } \Omega$ unbalanced and matching network

		min.	typ.	max.	
Nominal frequency	f_N	—	140,010	—	MHz
Minimum insertion loss	α_{\min}	—	3,7	5,5	dB
3dB bandwidth		30	78	—	kHz
Amplitude variation (p-p) $f_N - 15 \text{ kHz} \dots f_N + 15 \text{ kHz}$	$\Delta\alpha$	—	0,3	3,0	dB
Amplitude ripple (peak to adjacent valley) $f_N - 15 \text{ kHz} \dots f_N + 15 \text{ kHz}$	$\Delta\alpha$	—	0,2	0,8	dB
Absolute group delay (at f_N)	τ	—	11	15	μs
Group delay ripple (p-p) $f_N - 15 \text{ kHz} \dots f_N + 15 \text{ kHz}$	$\Delta\tau$	—	2	8	μs
Relative attenuation (relative to α_{\min}) $f_N \pm 60 \text{ kHz}$	α_{rel}	2	20	—	dB
$f_N \pm 120 \text{ kHz}$		25	45	—	dB
$f_N \pm 210 \text{ kHz}$		45	67	—	dB
$f_N - 1 \text{ MHz}$		68	73	—	dB
$f_N + 1 \text{ MHz}$		48	68	—	dB
Temperature coefficient of frequency ¹⁾	TC_f	—	-0,036	—	ppm/K ²
Turnover temperature	T_0	—	35	—	$^{\circ}\text{C}$

¹⁾ Temperature dependance of f_c : $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2)$

Matching network (element values depend on pcb layout)



$$L_{s1} = 200 \text{ nH} \quad C_{p2} = 3,3 \text{ pF} \quad C_{p3} = 3,3 \text{ pF} \quad L_{s4} = 200 \text{ nH}$$



SAW Components

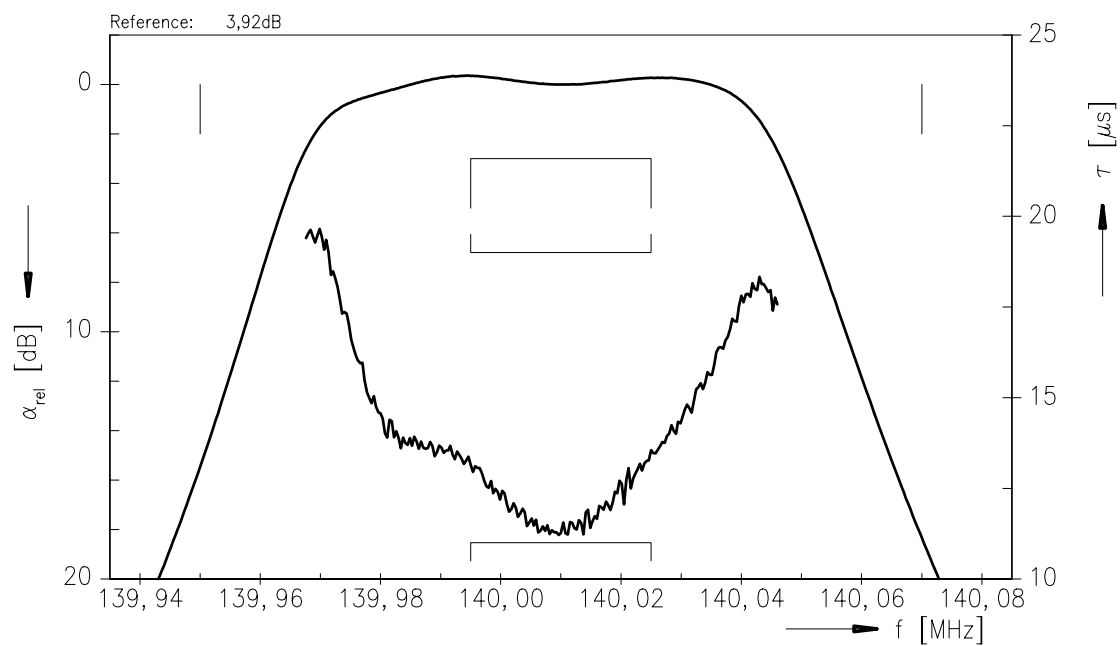
B3663

Low-Loss Filter

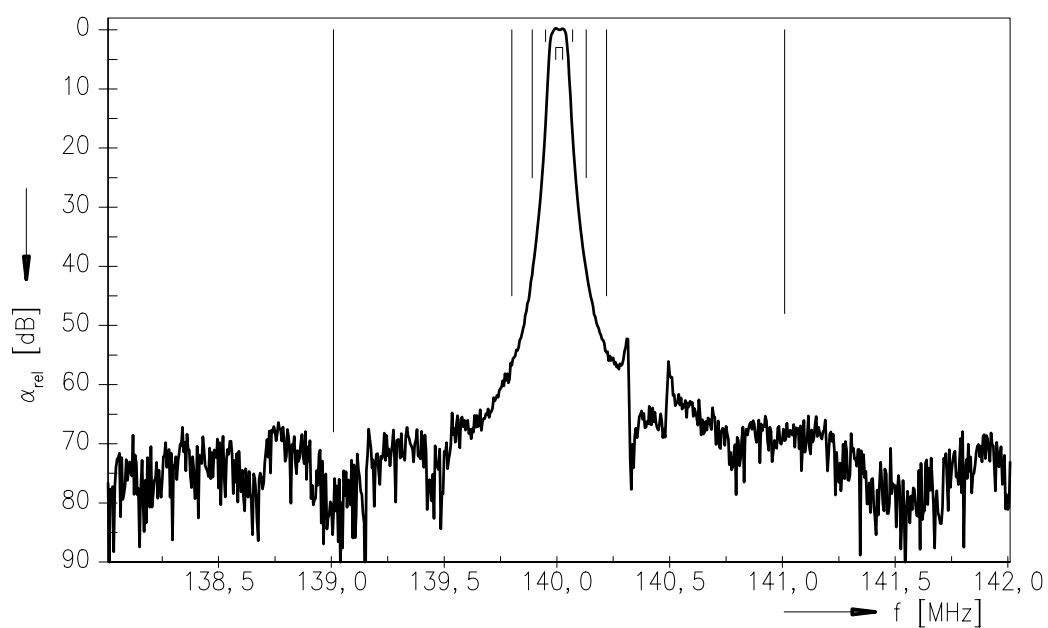
140,01 MHz

Data Sheet

Frequency response



Frequency response





SAW Components	B3663
Low-Loss Filter	140,01 MHz
Data Sheet	

Published by EPCOS AG
Surface Acoustic Wave Components Division, OFW E NK
P.O. Box 80 17 09, D-81617 München

© EPCOS AG 1999. All Rights Reserved.

As far as patents or other rights of third parties are concerned, liability is only assumed for components per se, not for applications, processes and circuits implemented within components or assemblies.

The information describes the type of component and shall not be considered as assured characteristics.

Terms of delivery and rights to change design reserved.

For questions on technology, prices and delivery please contact the sales offices of EPCOS AG or the international representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our sales offices.