Siemens Matsushita Components

SAW Components
Low Loss Filter for Mobile Communication

B4543
255,00MHz

Data Sheet

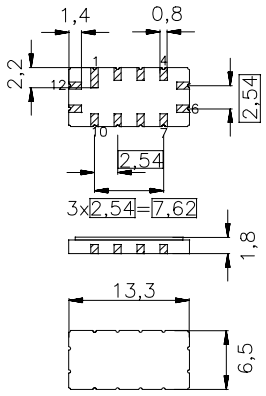
SMD ceramic package **QCC12**

Features

- IF low loss filter for mobile telephone
- Channel selection in PWT system
- Ceramic SMD package
- Balanced and unbalanced operation possible

Terminals

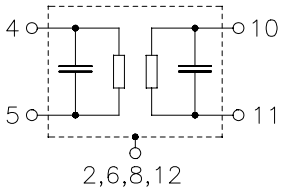
- Ni, gold-plated



Dimensions in mm, approx. weight 0,44 g

Pin configuration

5	Input
4	Input ground or balanced input
11	Output
10	Output ground or balanced output
2,6,8,12	Case - Ground
1,3,7,9	Not connected



Type	Ordering code	Marking and Package according to	Packing according to
B4543	B39261-B4543-Z510	C61157-A7-A38	F61074-V8026-Z000

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

Maximum ratings

Operable temperature range	T	– 25/+ 55	˚C	
Storage temperature range	T_{stg}	– 40/+ 85	˚C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	source impedance 50 Ω

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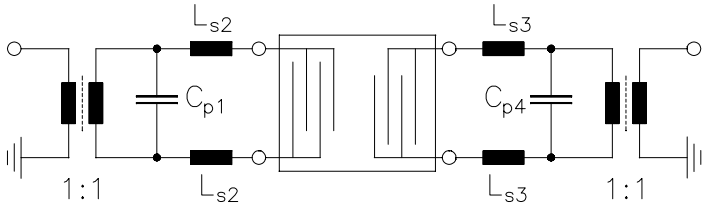
Characteristics

Operating temperature: T = 25 °C
Terminating source impedance: Z_S = 150 Ω || 29 nH
Terminating load impedance: Z_L = 300 Ω || 47 nH

		min.	typ.	max.	
Nominal frequency	f_N	254,96	255,00	255,04	MHz
Minimum insertion attenuation (including losses in the matching network)	α_{min}	—	8,5	9,5	dB
Pass bandwidth (α_{rel}<3dB)	B_{3dB}	536	590	616	kHz
Group delay ripple (p-p)	$\Delta\tau$				
f_N - 288 kHz ... f_N + 288 kHz		—	220	250	ns
Relative attenuation (relative to α_{max})	α_{rel}				
$f_N \pm 0{,}75$ MHz ... $f_N \pm 1{,}00$ MHz		20	27	—	dB
$f_N \pm 1{,}00$ MHz ... $f_N \pm 2{,}00$ MHz		35	39	—	dB
$f_N \pm 2{,}00$ MHz ... $f_N \pm 8{,}00$ MHz		45	49	—	dB
Impedance in passband					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	175 || 11	—	Ω || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	430 || 8	—	Ω || pF
Temperature coefficient of frequency [1]	TC_f	—	– 0,036	—	ppm/K²
Frequency inversion point	T_0	—	20	—	°C

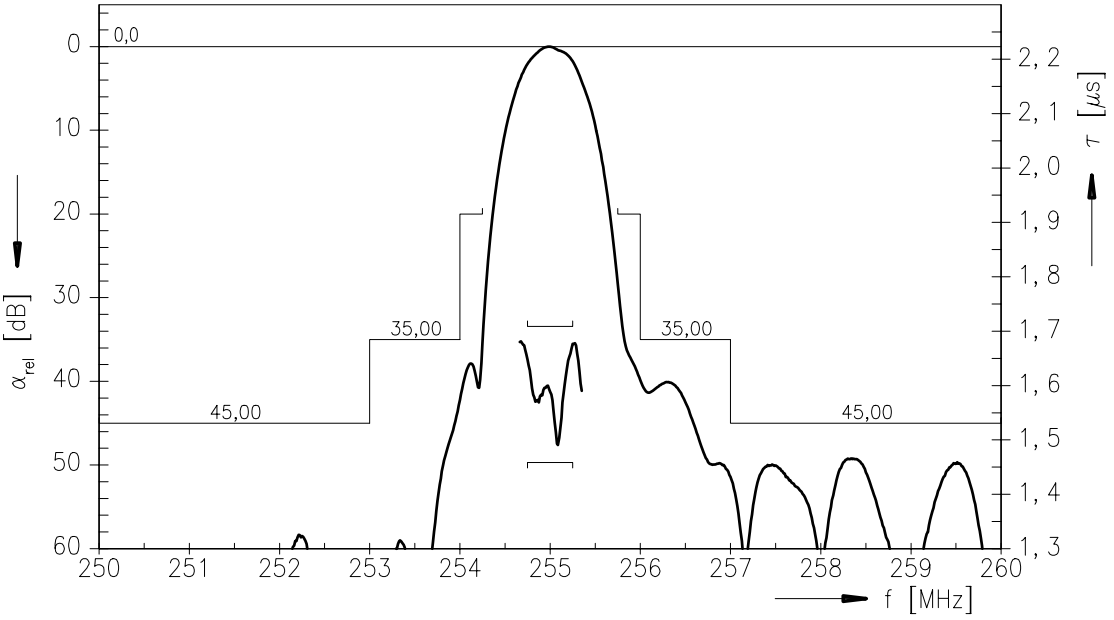
[1] Temperature dependence of f_c: $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2)$

Test matching network to 50 Ω (element values depend on PCB layout):



C_{p1} = 22 pF
L_{s2} = 18 nH
L_{s3} = 27 nH
C_{p4} = 18 pF

Transfer function:



Transfer function (pass band):