EPCOS

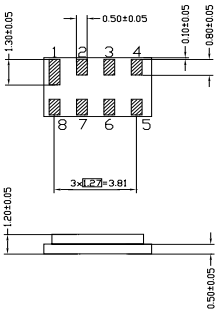
SAW Components

Data Sheet B7302

Chip **S**ized **S**AW **P**ackage **DCS8A**

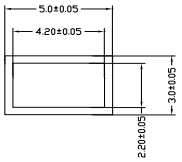
Features

- Low-loss IF filter for mobile telephone
- Channel selection in GSM, PCN systems
- **C**hip **S**ized **S**AW **P**ackage
- No expansion coil



Terminals

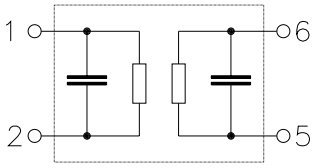
- Gold-plated Ni



Dimensions in mm, approx. weight 0,05 g

Pin configuration

1	Input or input ground
2	Input or balanced input
5	Output or output ground
6	Output or balanced output
3, 4, 7, 8	Ground



Type	Ordering code	Marking and Package according to	Packing according to
B7302	B39361-B7302-A910	C61157-A7-A65	F61074-V8102-Z000

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

Maximum ratings

Operating temperature range	T	– 20/+ 80	°C	
Storage temperature range	T_{stg}	– 35/+ 85	°C	
DC voltage	V_{DC}	3	V	
Source power	P_s	10	dBm	

Characteristics

Operating temperature range: T = -20 to +80 °C
Terminating source impedance: Z_S = 800 Ω || 160 nH
Terminating load impedance: Z_S = 800 Ω || 160 nH

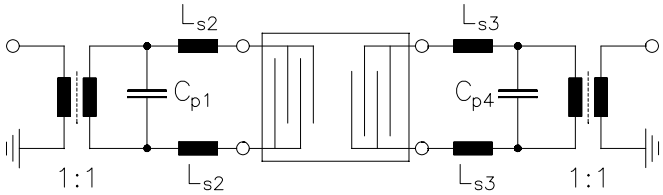
		min.	typ.	max.	
Nominal frequency	f_N	—	360,0	—	MHz
Minimum insertion attenuation					
(including losses in matching circuit)	α_{min}	—	5,4	6,1	dB
(excluding losses in matching circuit)		—	5,1	5,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
f_N - 67,5 kHz ... f_N + 67,5 kHz		—	0,3	2,0	dB
f_N - 80,0 kHz ... f_N + 80,0 kHz		—	0,4	3,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
f_N - 67,5 kHz ... f_N + 67,5 kHz		—	0,4	1,5	µs
f_N - 80,0 kHz ... f_N + 80,0 kHz		—	0,5	2,0	µs
Relative attenuation (relative to α_{min})	α_{rel}				
f_N – 15 MHz ... f_N + 3,0 MHz		50	60	—	dB
f_N – 3,0 MHz ... f_N – 1,6 MHz		48 *)	50	—	dB
f_N – 1,6 MHz ... f_N – 800 kHz		40 +)	56	—	dB
f_N – 800 kHz ... f_N – 600 kHz		35	46	—	dB
f_N – 600 kHz ... f_N – 400 kHz		21	41	—	dB
f_N – 400 kHz ... f_N – 300 kHz		8	24	—	dB
f_N + 300 kHz ... f_N + 400 kHz		8	17	—	dB
f_N + 400 kHz ... f_N + 600 kHz		21	26	—	dB
f_N + 600 kHz ... f_N + 800 kHz		35	38	—	dB
f_N + 800 kHz ... f_N + 1,6 MHz		40	47	—	dB
f_N + 1,6 MHz ... f_N + 3,0 MHz		48	59	—	dB
f_N + 3,0 MHz ... f_N + 15 MHz		50	57	—	dB
Impedance within the pass band					
Input: Z_{IN} = R_{IN} || C_{IN}		—	800 || 1,25	—	Ω || pF
Output: Z_{OUT} = R_{OUT} || C_{OUT}		—	800 || 1,25	—	Ω || pF
Temperature coefficient of frequency 1)	TC_f	—	-0,036	—	ppm/K²
Turnover temperature	T_0	—	40	—	°C

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

*) 358,0 MHz < f < 358,3 MHz: spurious response, B_{3dB} < 150kHz, α_{rel} > 45dB

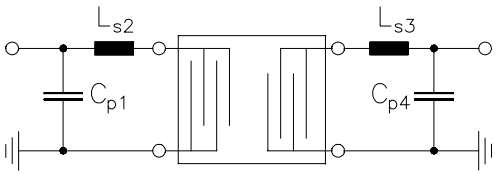
+) 358,9 MHz < f < 359,2 MHz: spurious response, B_{3dB} < 100kHz, α_{rel} > 37dB

Test matching network to 50Ω, balanced low pass matching circuit (actual element values depend on PCB layout. Serial inductance values by combination of 39nH / 47nH. S-parameters of transformers TOKO B5FL available on request):



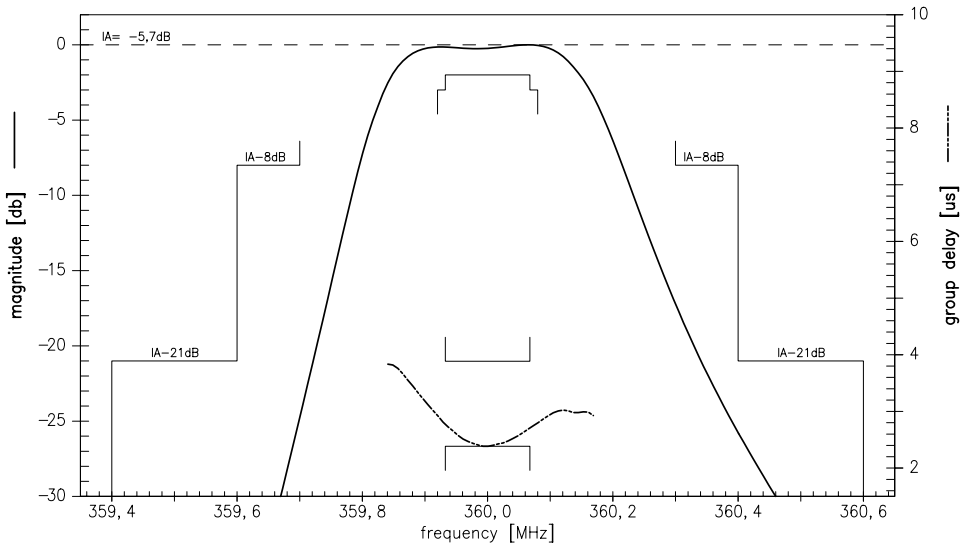
$C_{p1} = C_{p4} =$ 6,8 pF
$L_{s2} = L_{s3} =$ 43 nH

Test matching network to 50Ω, single-ended or pseudo-balanced (serial inductances splitted up into both signal paths, improved ultimate rejection) low pass matching circuit (actual element values depend on PCB layout):

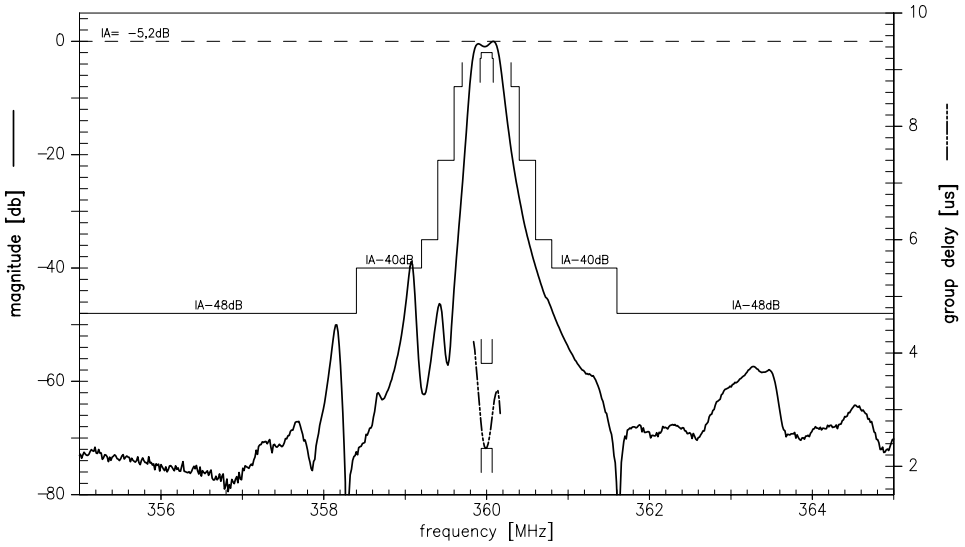


$C_{p1} = C_{p4} =$ 5,6 pF
$L_{s2} = L_{s3} =$ 2 x 39 nH

Transfer function (pass band**):**



Transfer function (wide band**):**



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