EPCOS

SAW Components

Data Sheet B7301

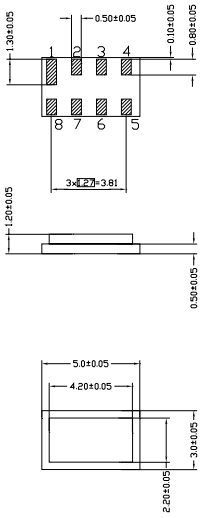
Chip **S**ized **S**AW **P**ackage **DCS8A**

Features

- Low-loss IF filter for mobile telephone
- Channel selection in GSM, PCN, PCS systems
- **C**hip **S**ized **S**AW **P**ackage
- Balanced and unbalanced operation possible
- expansion coil for minimum insertion attenuation and optimum bandwidth adjustment

Terminals

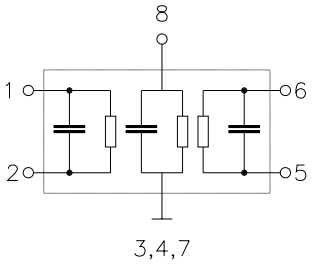
- Gold-plated Ni



Dimensions in mm, approx. weight 0,05 g

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B7301	B39401-B7301-A910	C61157-A7-A65	F61074-V8102-Z000

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

Maximum ratings

Operable temperature range	T_A	– 30/+ 85	˚C	
Storage temperature range	T_{stg}	– 40/+ 85	˚C	
DC voltage	V_{DC}	0	V	
Source power	P_s	10	dBm	

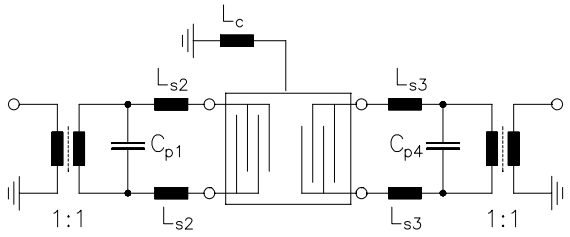
Characteristics

Operating temperature range: T = -25 ˚C ... +80 ˚C
Terminating source impedance: Z_S = 640Ω || 100 nH
Terminating load impedance: Z_L = 640Ω || 120 nH

		min.	typ.	max.	
Nominal frequency	f_N	—	400,00	—	MHz
Maximum insertion attenuation (Including losses in matching circuit)	α_{max}	—	4,3	6,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
f_N - 83.0 kHz ... f_N + 83.0 kHz		—	0,2	2,0	dB
Group delay ripple (p-p)	$\Delta\tau$				
f_N - 83.0 kHz ... f_N + 83.0 kHz		—	0,4	1,0	µs
Relative attenuation (relative to α_{max})	α_{rel}				
f_N - 30,00 MHz ... f_N - 1,50 MHz		37	53	—	dB
f_N - 1,50 MHz ... f_N - 0,80 MHz		22	46	—	dB
f_N - 0,80 MHz ... f_N - 0,60 MHz		12	48	—	dB
f_N - 0,60 MHz ... f_N - 0,40 MHz		9	25	—	dB
f_N + 0,40 MHz ... f_N + 0,60 MHz		9	18	—	dB
f_N + 0,60 MHz ... f_N + 0,80 MHz		12	31	—	dB
f_N + 0,80 MHz ... f_N + 1,50 MHz		22	39	—	dB
f_N + 1,50 MHz ... f_N + 30,00 MHz		37	50	—	dB
Impedance within pass band					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	640 ‖ 1,6	—	Ω ‖ pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	640 ‖ 1,4	—	Ω ‖ pF
Temperature coefficient of frequency [1]	TC_f	—	-0,038	—	ppm/K²
Frequency inversion point	T_0	—	36	—	˚C

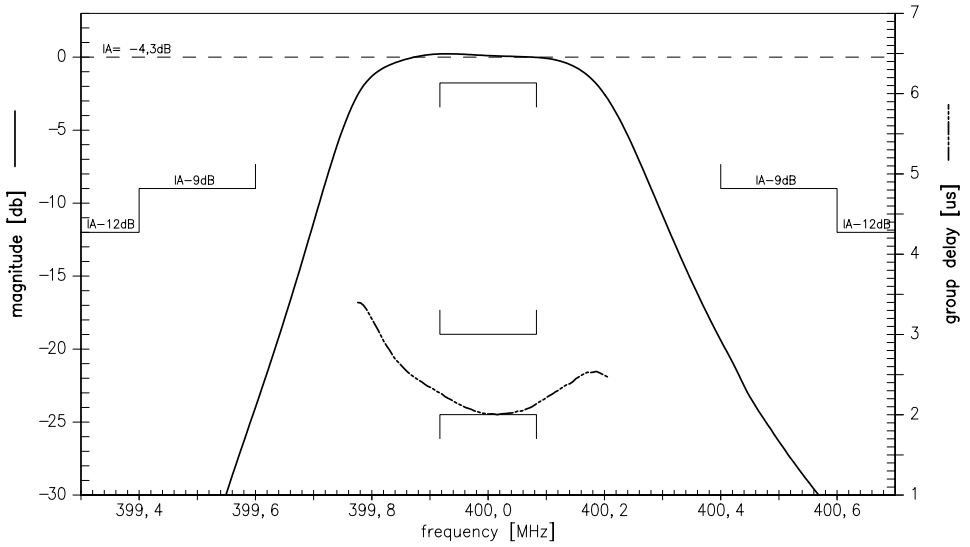
[1] Temperature dependence of f_c: $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2$

Test matching network to 50Ω, low pass example (actual element values depend on PCB layout. S-parameters of transformers TOKO B5FL available on request):

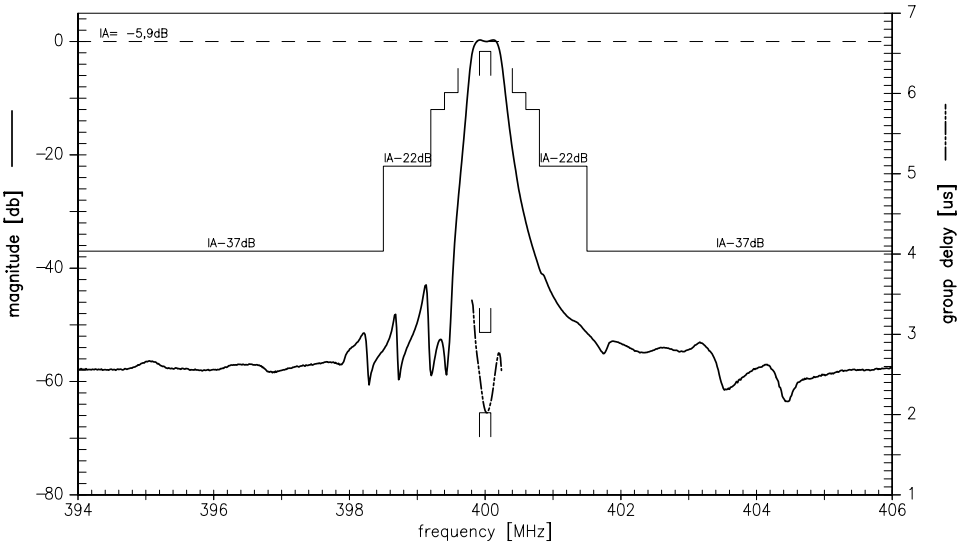


L_c = 39 nH
C_{p1} = C_{p4} = 6,8 pF
L_{s2} = L_{s3} = 33 nH

Transfer function (pass band**):**



Transfer function (wide band**):**



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

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.