EPCOS

SAW Components

Data Sheet B7301

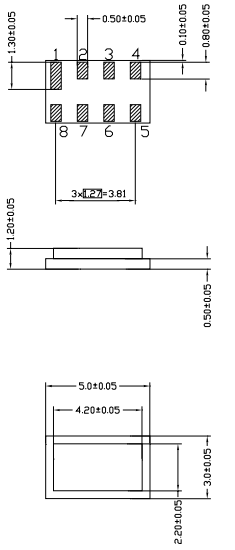
Chip **S**ized **S**AW **P**ackage **DCS8A**

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

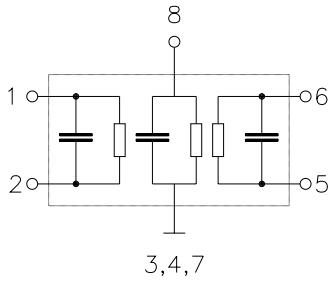
- Gold-plated Ni



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

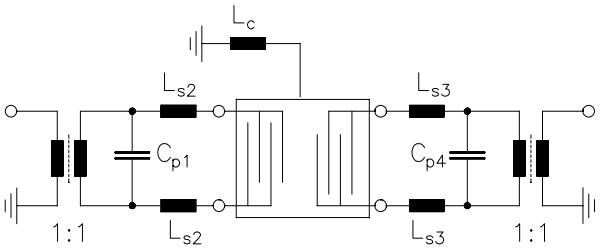
Characteristics

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

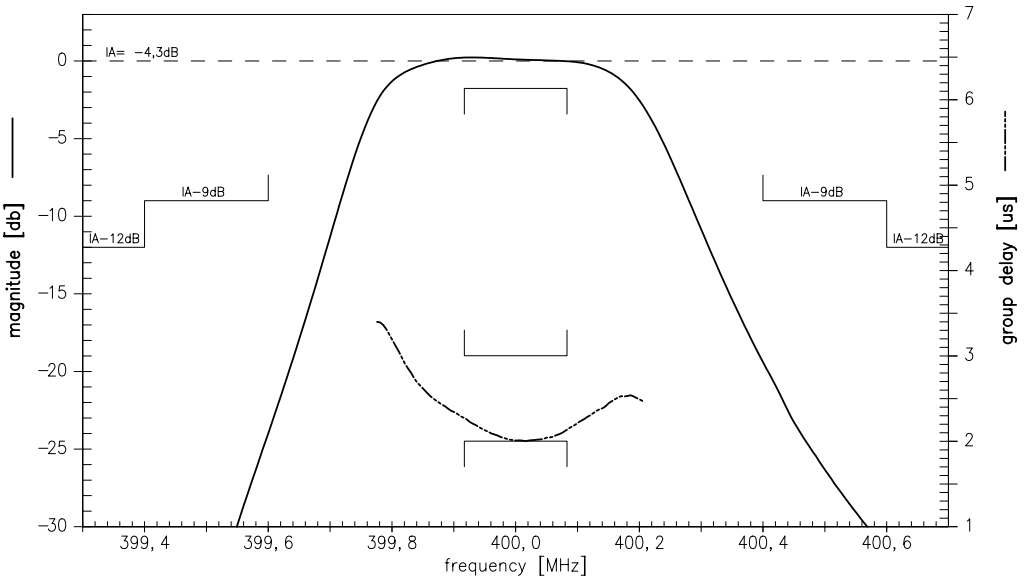
1) Temperature dependence of f_c: $f_c(T) = f_c(T_0)(1 + TC_f(T - T_0)^2$

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

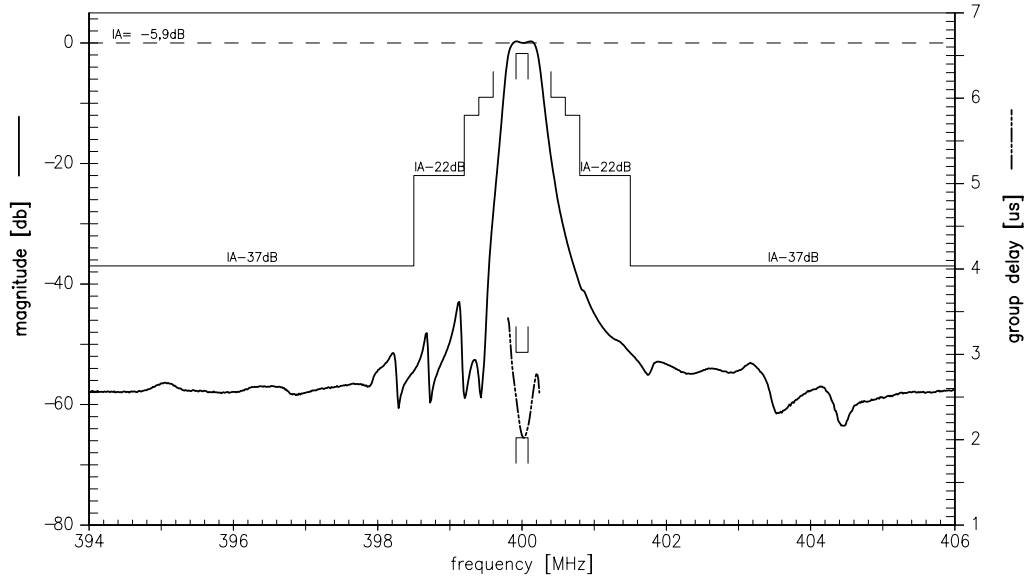


L_c = 39 nH
C_{p1} = C_{p4} = 6,8 pF
L_{s2} = L_{s3} = 33 nH

Transfer function (pass band**):**



Transfer function (wide band**):**



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