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SAW Components

SAW band-stop filter

DVB-H, ISDB-TB

Series/type:	B8763
Ordering code:	B39901-B8763-P810
Date:	June 30, 2010
Version:	2.0



SAW Components

B8763

SAW band-stop filter

897.50 MHz

Data Sheet

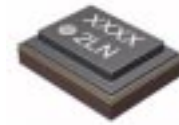


Revision history: changes compared to previous iteration issue

ISSUE	ORIGINATOR	DETAILED SPECIFICATION CHANGES	DATE
LP92H_v1.0	M. Jungkunz	initial release	Oct 17, 2008
B8763_v1.0	M. Jungkunz	introduction of filter type name added reference to ISDB-TB added power durability value for GSM850 Tx	Feb 13, 2009
B8763_v2.0	TAY Wee Chuan	ordering code added	Jun 30, 2010

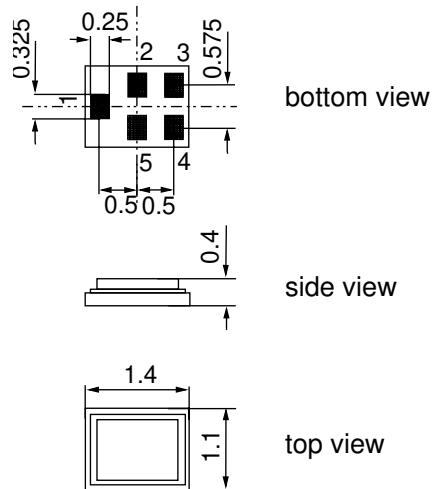
Application

- Low-loss RF band-stop filter for DVB-H and ISDB-TB
- GSM900 Tx suppression
- Very low insertion loss
- Very low amplitude ripple and group delay ripple
- Usable passband of 280 MHz up to 328 MHz
- Impedance at input and output 50 Ω
- Unbalanced to unbalanced operation



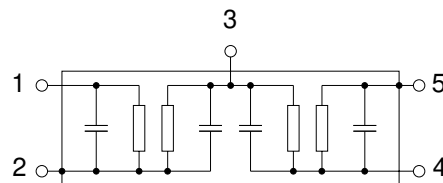
Features

- Package size 1.4 × 1.1 × 0.4 mm³
- Maximum height of 0.45 mm
- Package code QCS5P
- RoHS compatible
- Approximate weight 0.003 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Electrostatic Sensitive Device (ESD)



Pin configuration

- 1 Input unbalanced
- 4 Output unbalanced
- 3 External coupling coil
- 2,5 Case ground





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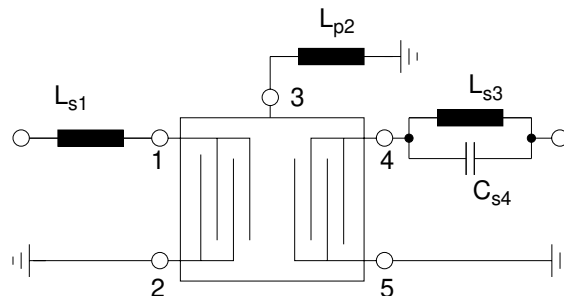


Characteristics

Temperature range for specification: $T = +25\text{ °C} \pm 2\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$ and matching network
 Terminating load impedance: $Z_L = 50\ \Omega$ and matching network

		min.	typ. @ 25 °C	max.	
Nominal center frequency	f_N	—	897.50	—	MHz
Minimum insertion attenuation	α_{max}	—	1.0	1.2	dB
470.00 ... 798.00 MHz					
Maximum insertion attenuation	α_{max}	—	1.6	1.9	dB
470.00 ... 750.00 MHz					
750.00 ... 798.00 MHz			2.1	2.4	dB
Attenuation	α				
47.00 ... 68.00 MHz		58.0	66.0		dB
174.00 ... 230.00 MHz		28.0	30.0	—	dB
880.00 ... 915.00 MHz		44.0	48.0	—	dB
1710.00 ... 1785.00 MHz		32.0	37.0	—	dB
1920.00 ... 1980.00 MHz		48.0	54.0	—	dB
Group delay ripple (p-p)	$\Delta\tau$	—	4	—	ns
470.00 ... 750.00 MHz					
470.00 ... 798.00 MHz			6	—	ns

Matching network



$L_{s1} = 18\text{ nH}$
 $L_{p2} = 20\text{ nH}$
 $L_{s3} = 13\text{ nH}$
 $C_{s4} = 0.50\text{ pF}$

Q factor of inductors:
40 @ 770 MHz



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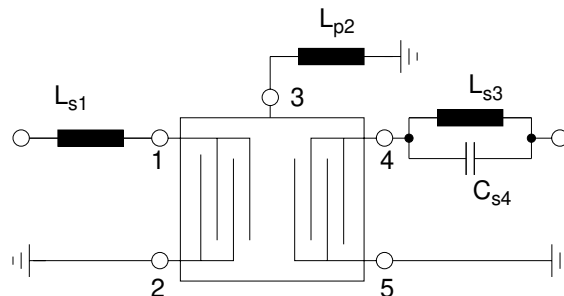


Characteristics

Temperature range for specification: $T = -30\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$ and matching network
 Terminating load impedance: $Z_L = 50\ \Omega$ and matching network

		min.	typ. @ 25 °C	max.	
Nominal center frequency	f_N	—	897.50	—	MHz
Minimum insertion attenuation	α_{max}	—	1.0	1.3	dB
470.00 ... 798.00 MHz					
Maximum insertion attenuation	α_{max}	—	1.6	2.0	dB
470.00 ... 750.00 MHz					
750.00 ... 798.00 MHz			2.1	2.6	dB
Attenuation	α				
47.00 ... 68.00 MHz		52.0	66.0		dB
174.00 ... 230.00 MHz		25.0	30.0	—	dB
880.00 ... 915.00 MHz		42.0	48.0	—	dB
1710.00 ... 1785.00 MHz		30.0	37.0	—	dB
1920.00 ... 1980.00 MHz		45.0	54.0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
470.00 ... 750.00 MHz		—	4	—	ns
470.00 ... 798.00 MHz		—	6	—	ns

Matching network



$L_{s1} = 18\text{ nH}$
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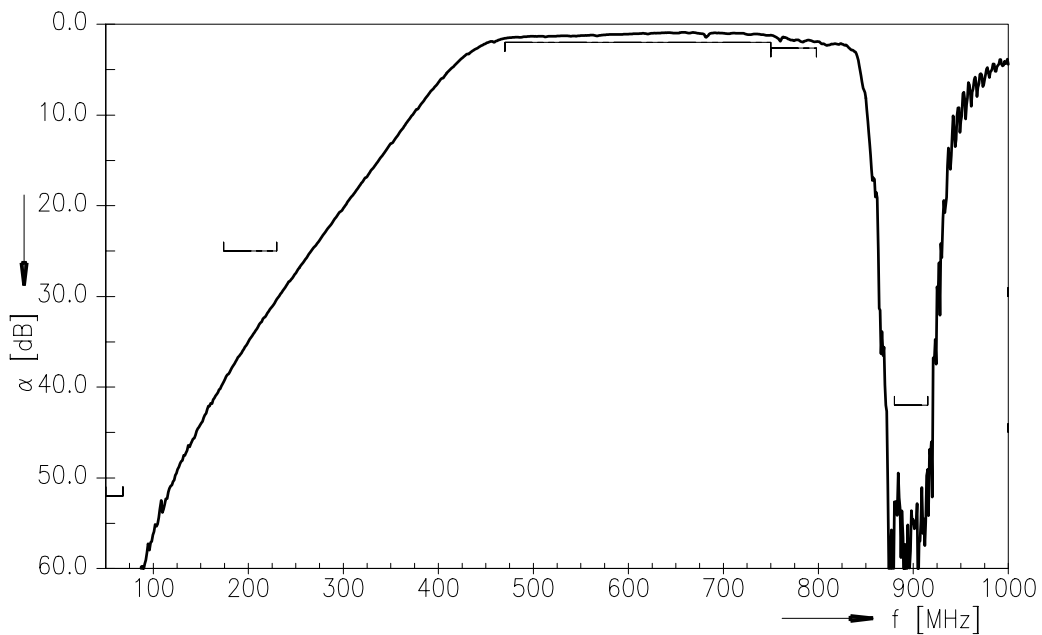


Maximum ratings

Operable temperature range	T	-30/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	5	V	
ESD voltage	V _{ESD}	100 ¹⁾	V	machine model, 10 pulses
Source power at				
824.00 ... 849.00 MHz	P _S	24	dBm	peak power of GSM signal, duty cycle 4:8
880.00 ... 915.00 MHz				

¹⁾ according to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

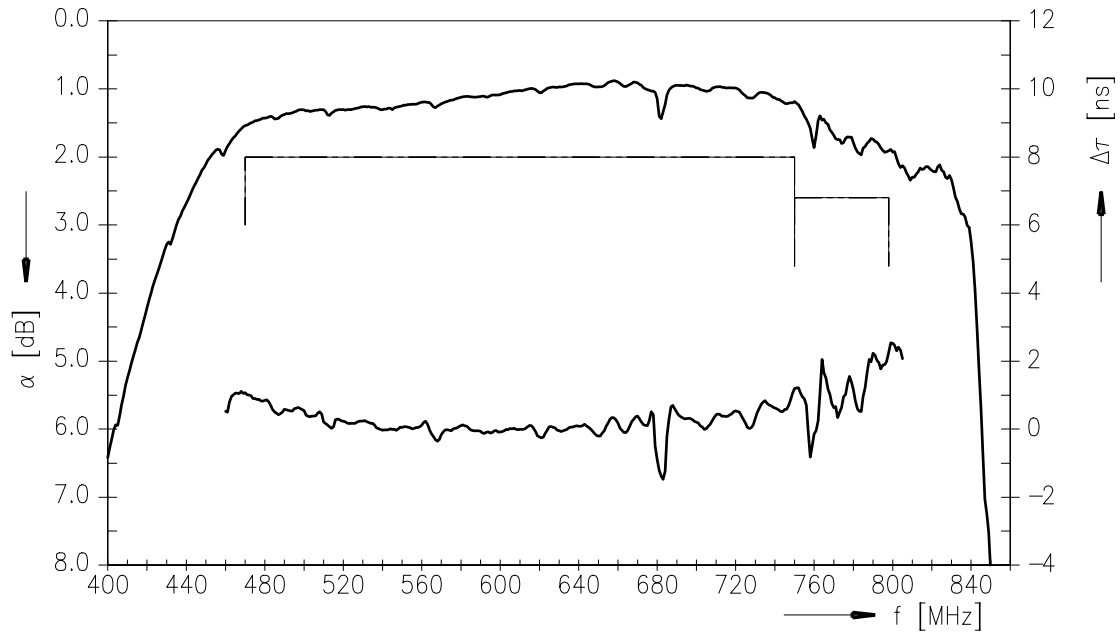
Transfer function



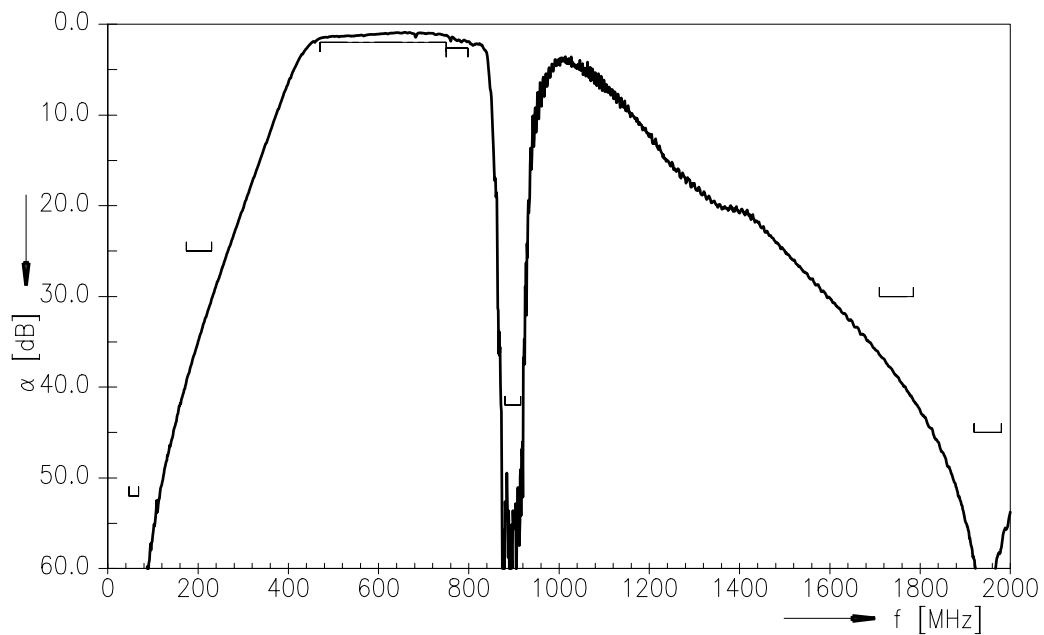
Please read *cautions and warnings* and *important notes* at the end of this document.



Transfer function (pass band)



Transfer function (wide band)





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SAW band-stop filter **897.50 MHz**

Data Sheet



References

Type	B8763
Ordering code	B39901-B8763-P810
Marking and package	C61157-A8-A9
Packaging	F61074-V8212-Z000
Date codes	L_1126
S-parameters	LP92H_WB_UN.s3p (unmatched) LP92H_WB.s2p (matched)
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
Matching coils	See http://www.tdk.co.jp/tefe02/coil.htm#aname1 http://www.tdk.co.jp/etvcl/index.htm for a large variety of matching coils.

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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