SAW Components

SAW band–stop filter

ISDB–T

Series/type:	**B8743**
Ordering code:	**B39901B8743P810**
Date:	July 16, 2013
Version:	2.0

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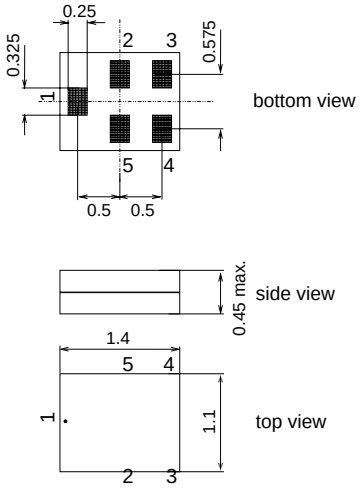
Application

- Low-loss RF band-stop filter for ISDB-T
- Low insertion loss
- Low amplitude ripple and group delay ripple
- Usable pass band width 336 MHz
- Impedance at input and output 50 Ω
- Unbalanced to unbalanced operation



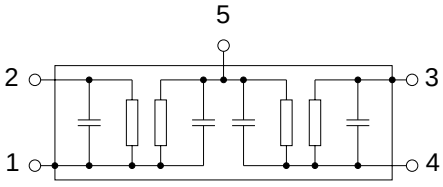
Features

- Package size 1.4 × 1.1 mm²
- Maximum package height of 0.45 mm
- RoHS compatible
- Approximate weight 0.003 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- Ni, gold-plated terminals
- **M**oisture **S**ensitivity **L**evel 3



Pin configuration

■	1	Input
■	2	Coupling pin
■	3	Coupling pin
■	4	Output
■	5	Case ground

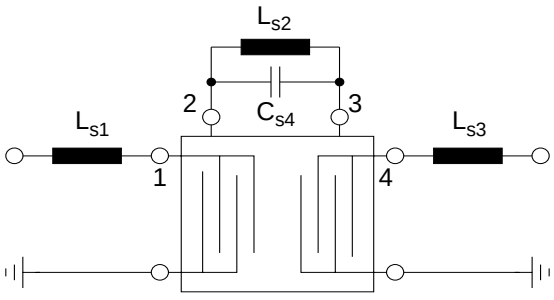


Characteristics (including losses in the matching network)

Temperature range for specification: T = –30 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω and matching network
Terminating load impedance: Z_L = 50 Ω and matching network

		min.	typ. @ 25 ˚C	max.	
Nominal center frequency	f_N	—	836.5 897.5	—	MHz
Minimum insertion attenuation	α_{min}				
470.00 ... 752.00 MHz		—	0.8	1.3	dB
Maximum insertion attenuation	α_{max}				
470.00 ... 752.00 MHz		—	1.6	2.8	dB
752.00 ... 806.00 MHz		—	4.5	7.7	dB
Attenuation	α				
824.00 ... 849.00 MHz		25.0	30.0	—	dB
880.00 ... 915.00 MHz		30.0	42.0	—	dB
1710.00 ... 1785.00 MHz		33.0	39.0	—	dB
1850.00 ... 1910.00 MHz		34.0	40.0	—	dB
1920.00 ... 1980.00 MHz		35.0	42.0	—	dB
2500.00 ... 2570.00 MHz		40.0	50.0	—	dB

Matching network (element values depend on PCB layout)



L_{s1} = 22nH
L_{s2} = 27nH
L_{s3} = 18nH
C_{s4} = 0.4pF

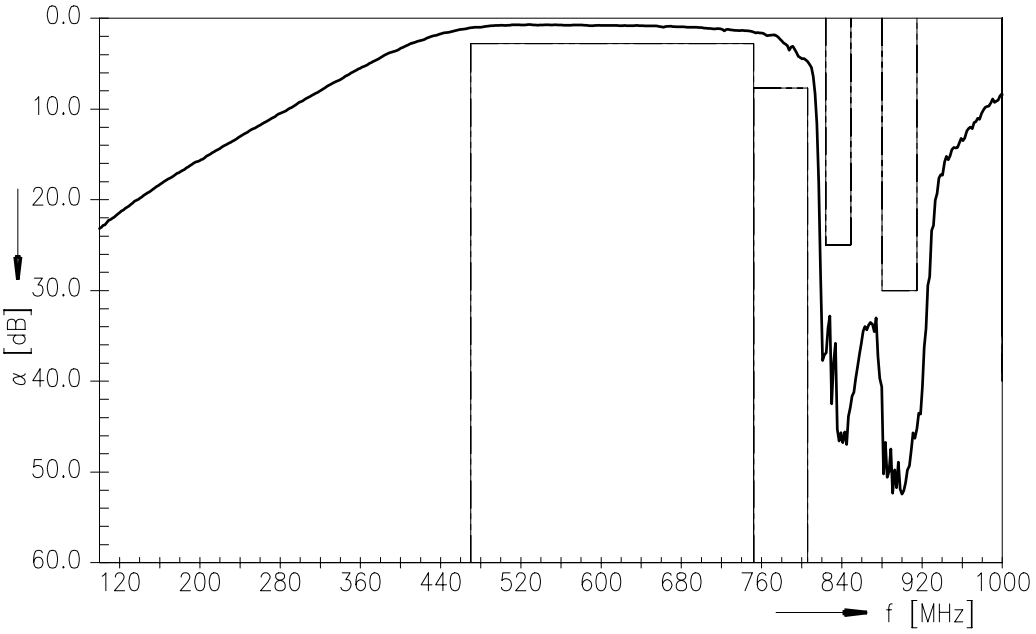
Q factor of inductors:
40 @ 770 MHz

Maximum ratings

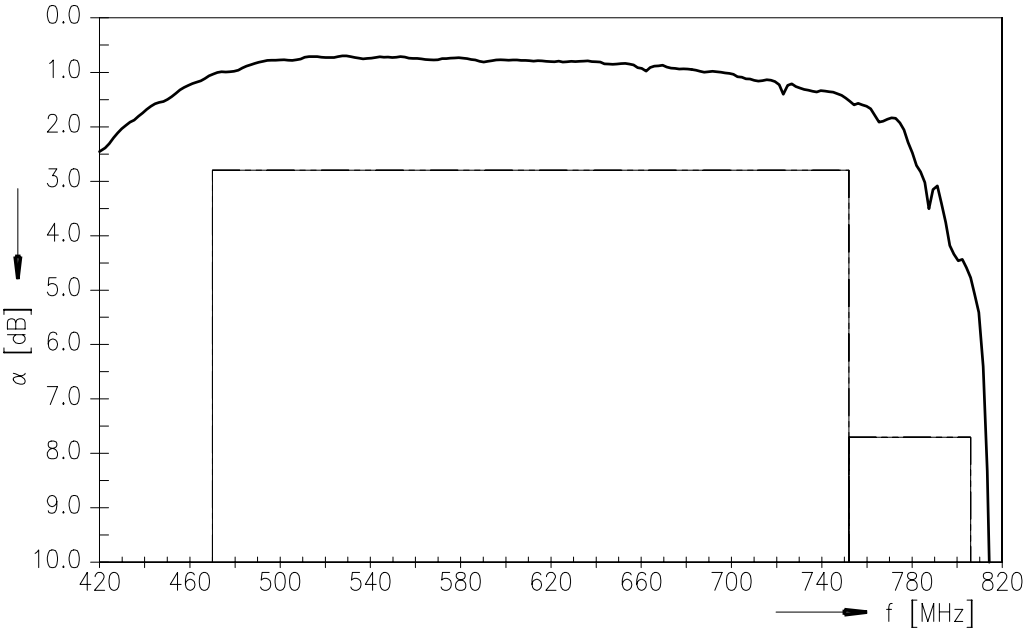
Operable temperature range	T	–30/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	100[1)]	V	machine model, 10 pulses
Source power at				
824 ... 849 MHz	P_{IN}	21	dBm	CW, 10000hrs @ 85 ˚C
880 ... 915 MHz				

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

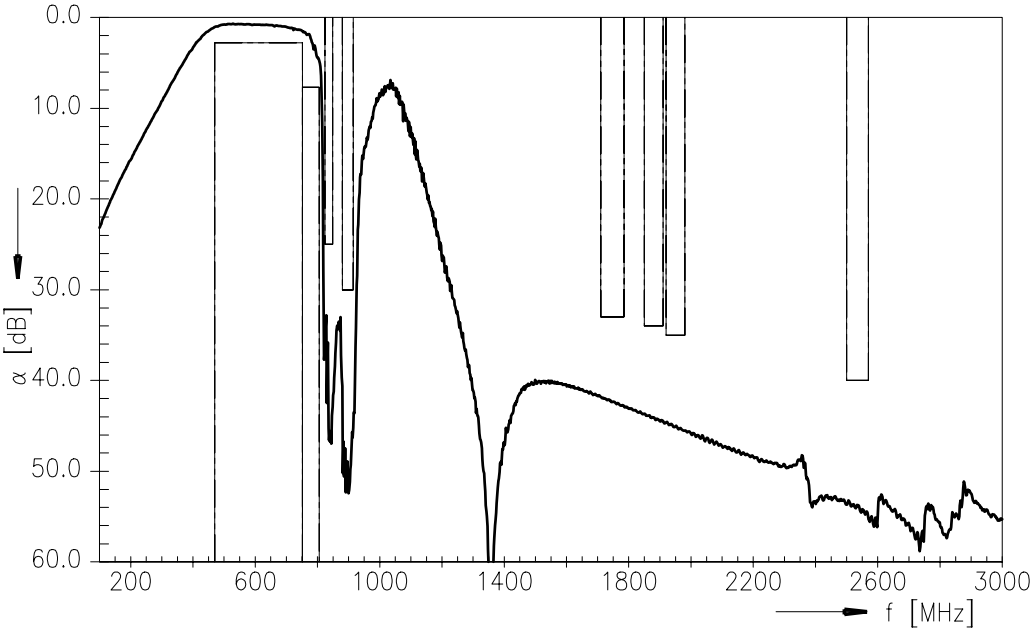
Transfer function



Transfer function (pass band)



Transfer function (wide band)



References

Type	B8743
Ordering code	B39901B8743P810
Marking and package	C61157-A8-A33
Packaging	F61074-V8237-Z000
Date codes	L_1126
S-parameters	B8743_WB_UN.s4p (unmatched) B8743_WB.s2p (matched) see file header for port/pin assignment table
Soldering profile	S_6001
RoHS compatible	RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8th, 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases.
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
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