

RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

SAW Components

SAW band–stop filter

ISDB–T

Series/type:	B8740
Ordering code:	B39911-B8740-P810
Date:	December 04, 2012
Version:	2.1

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SAW Components

SAW band-stop filter ISDB-T

Series/type:	B8740
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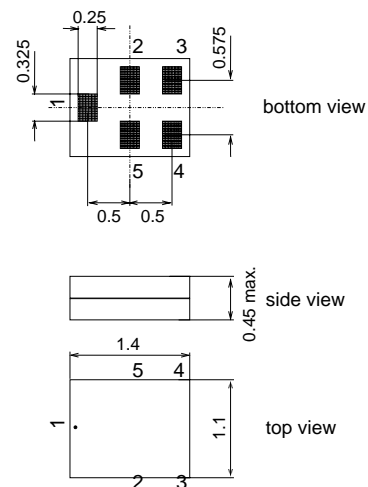
Data sheet

Application

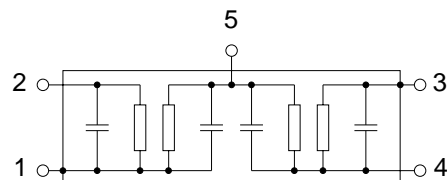
- Low-loss RF band-stop filter for ISDB-T
- Low insertion loss
- Low amplitude ripple and group delay ripple
- Usable pass band width 300 MHz
- Impedance at input and output 50 Ω
- Unbalanced to unbalanced operation


Features

- Package size 1.4 × 1.1 mm²
- Maximum package height of 0.45 mm
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- **Electrostatic Sensitive Device (ESD)**
- Ni, gold-plated terminals
- **Moisture Sensitivity Level 3**


Pin configuration

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

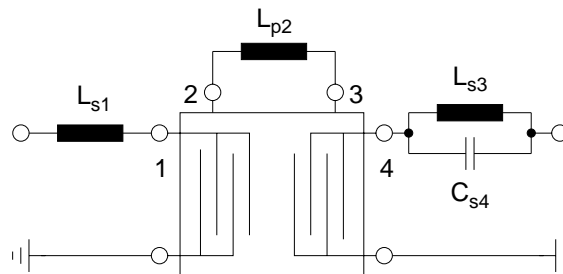


Data sheet


Characteristics (including losses in the matching network)

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	—	832.0 911.5	—	MHz
Minimum insertion attenuation	α_{\min}	—	1.1	1.3	dB
470.00 ... 770.00 MHz					
Maximum insertion attenuation	α_{\max}	—	1.7	1.9	dB
470.00 ... 710.00 MHz					
710.00 ... 770.00 MHz		—	2.7	3.3	dB
Attenuation	α				
90.00 ... 222.00 MHz		15.0	17.0	—	dB
824.00 ... 840.00 MHz		41.0	43.0	—	dB
898.00 ... 925.00 MHz		44.0	46.0	—	dB
1427.90 ... 1452.90 MHz		48.0	53.0	—	dB
1749.90 ... 1784.90 MHz		45.0	50.0	—	dB
1920.00 ... 1980.00 MHz		46.0	51.0	—	dB
Group delay ripple (p-p)	$\Delta\tau$	—	6	—	ns
470.00 ... 770.00 MHz					

Matching network (element values depend on PCB layout)


$L_{s1} = 22\text{ nH}$
 $L_{p2} = 36\text{ nH}$
 $L_{s3} = 16\text{ nH}$
 $C_{s4} = 0.7\text{ pF}$

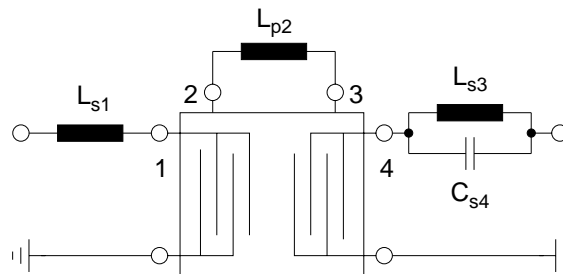
Q factor of inductors:
40 @ 770 MHz

Data sheet


Characteristics (including losses in the matching network)

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	—	832.0 911.5	—	MHz
Minimum insertion attenuation	α_{\min}	—	1.1	1.3	dB
470.00 ... 770.00 MHz					
Maximum insertion attenuation	α_{\max}	—	1.7	2.2	dB
470.00 ... 710.00 MHz					
710.00 ... 770.00 MHz		—	2.7	4.2	dB
Attenuation	α				
90.00 ... 222.00 MHz		14.0	17.0	—	dB
824.00 ... 840.00 MHz		36.0	43.0	—	dB
898.00 ... 925.00 MHz		40.0	46.0	—	dB
1427.90 ... 1452.90 MHz		48.0	53.0	—	dB
1749.90 ... 1784.90 MHz		45.0	50.0	—	dB
1920.00 ... 1980.00 MHz		46.0	51.0	—	dB
Group delay ripple (p-p)	$\Delta\tau$	—	6	—	ns
470.00 ... 770.00 MHz					

Matching network (element values depend on PCB layout)


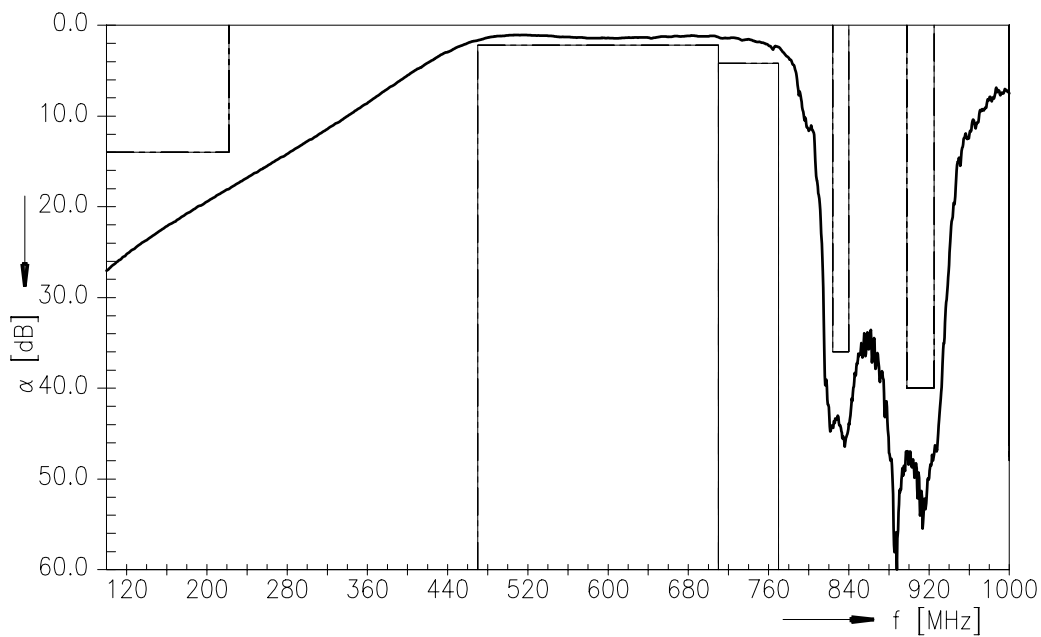
$L_{s1} = 22\text{ nH}$
 $L_{p2} = 36\text{ nH}$
 $L_{s3} = 16\text{ nH}$
 $C_{s4} = 0.7\text{ pF}$

Q factor of inductors:
40 @ 770 MHz


Maximum ratings

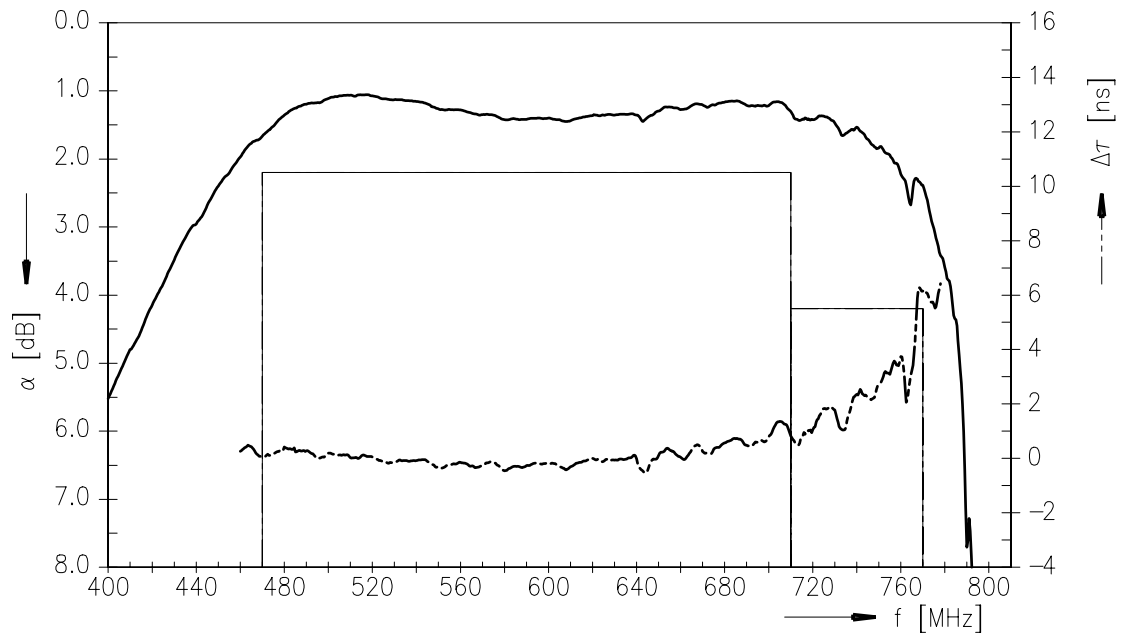
Operable temperature range	T	-30/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	5	V	
ESD voltage	V _{ESD}	100 ¹⁾	V	machine model, 10 pulses
Source power at 824 ... 840 MHz	P _{IN}	21	dBm	peak power of (W-)CDMA signal
898 ... 925 MHz				

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

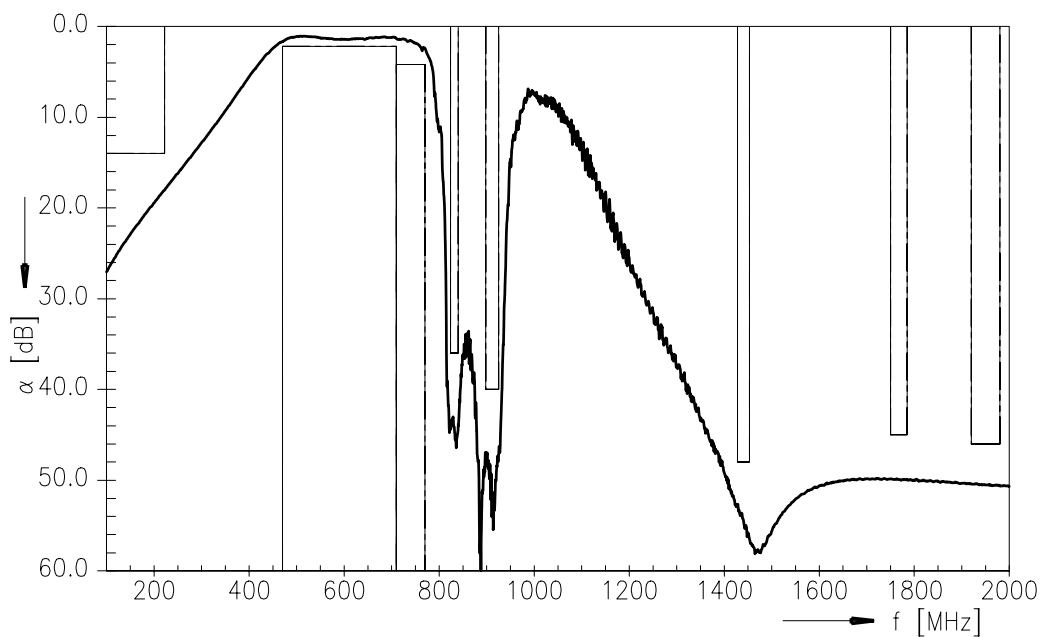
Transfer function




Transfer function (pass band)



Transfer function (wide band)



SAW Components	B8740
SAW band-stop filter	832.0 / 911.5 MHz

Data sheet



References

Type	B8740
Ordering code	B39911-B8740-P810
Marking and package	C61157-A8-A33
Packaging	F61074-V8237-Z000
Date codes	L_1126
S-parameters	B8740_WB_UN.s4p (unmatched) B8740_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 8 th , 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.
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