



SAW Components

SAW band-stop filter

DVB-H

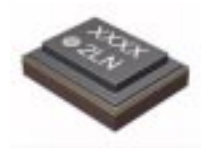
| | |
|-----------------------|--------------------------|
| Series/type: | B8764 |
| Ordering code: | B39901-B8764-P810 |
| Date: | August 03, 2010 |
| Version: | 2.0 |

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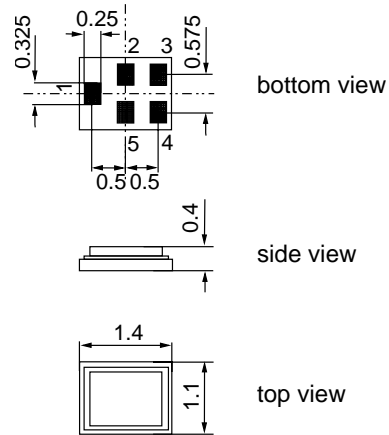
Application

- Low-loss GSM 850 and GSM 900 reject filter for DVB-H
- Low amplitude ripple
- Low group delay ripple
- Very low insertion attenuation
- Usable passband 280 MHz



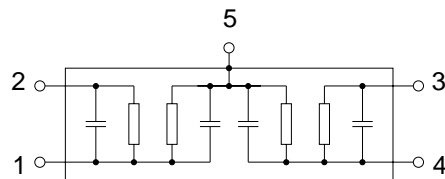
Features

- Package size $1.4 \times 1.1 \times 0.4 \text{ mm}^3$
- Maximum height of 0.45 mm
- Package code QCS5W
- 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
- 2 Coupling pin out
- 3 Coupling pin input
- 4 Output
- 5 Case ground





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836.5 / 897.5 MHz

Data Sheet

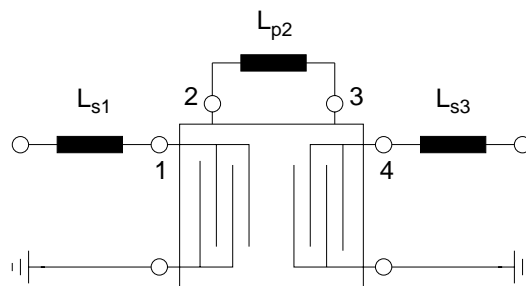


Characteristics

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 | — | 836.5 897.5 | — | MHz |
| Minimum insertion attenuation | α_{\min} | — | 1.1 | 1.3 | dB |
| | 470.00 ... 750.00 MHz | | | | |
| Maximum insertion attenuation | α_{\max} | — | 1.7 | 2.0 | dB |
| | 470.00 ... 726.00 MHz | | | | |
| | 726.00 ... 750.00 MHz | — | 2.4 | 2.6 | dB |
| Attenuation | α | | | | |
| | 47.00 ... 68.00 MHz | 28.0 | 31.0 | — | dB |
| | 174.00 ... 230.00 MHz | 15.0 | 17.0 | — | dB |
| | 824.00 ... 849.00 MHz | 35.0 | 37.0 | — | dB |
| | 880.00 ... 915.00 MHz | 38.0 | 41.0 | — | dB |
| | 1400.00 ... 1710.00 MHz | 23.0 | 27.0 | — | dB |
| | 1710.00 ... 1785.00 MHz | 36.0 | 41.0 | — | dB |
| | 1920.00 ... 1980.00 MHz | 44.0 | 49.0 | — | dB |
| Group delay ripple (p-p) | $\Delta\tau$ | — | 4 | — | ns |
| | 470.00 ... 750.00 MHz | | | | |

Matching network (element values depend on PCB layout)



$L_{s1} = 20\text{ nH}$
 $L_{p2} = 36\text{ nH}$
 $L_{s3} = 20\text{ nH}$

Q factor of inductors:
40 @ 770 MHz

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



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836.5 / 897.5 MHz

Data Sheet

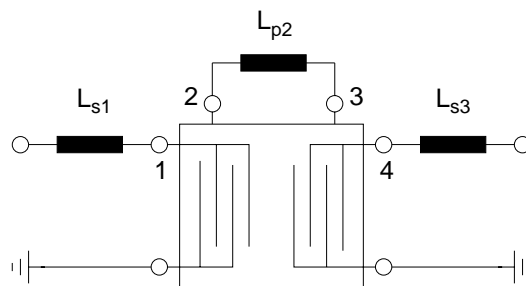


Characteristics

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 | — | 836.5 897.5 | — | MHz |
| Minimum insertion attenuation | α_{\min} | — | 1.1 | 1.3 | dB |
| 470.00 ... 750.00 MHz | | | | | |
| Maximum insertion attenuation | α_{\max} | — | 1.7 | 2.2 | dB |
| 470.00 ... 726.00 MHz | | | | | |
| 726.00 ... 750.00 MHz | | — | 2.4 | 2.6 | dB |
| Attenuation | α | | | | |
| 47.00 ... 68.00 MHz | | 28.0 | 31.0 | — | dB |
| 174.00 ... 230.00 MHz | | 14.0 | 17.0 | — | dB |
| 824.00 ... 849.00 MHz | | 35.0 | 37.0 | — | dB |
| 880.00 ... 915.00 MHz | | 37.0 | 41.0 | — | dB |
| 1400.00 ... 1710.00 MHz | | 23.0 | 27.0 | — | dB |
| 1710.00 ... 1785.00 MHz | | 36.0 | 41.0 | — | dB |
| 1920.00 ... 1980.00 MHz | | 44.0 | 49.0 | — | dB |
| Group delay ripple (p-p) | $\Delta\tau$ | — | 4 | — | ns |
| 470.00 ... 750.00 MHz | | | | | |

Matching network (element values depend on PCB layout),



$L_{s1} = 20\text{ nH}$
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Data Sheet

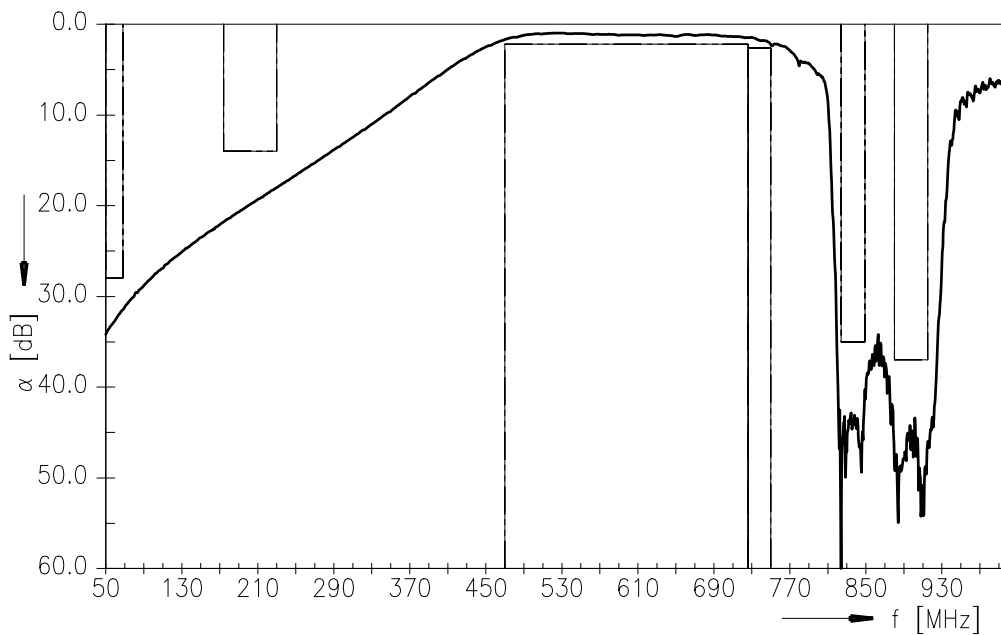


Maximum ratings

| | | | | |
|---|------------------|-------------------|-----|---|
| Operable temperature range | T | -40/+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 GSM 850, GSM 900 Tx bands | P _{IN} | 24 | dBm | effective power in the on-state duty cycle 2:8 |

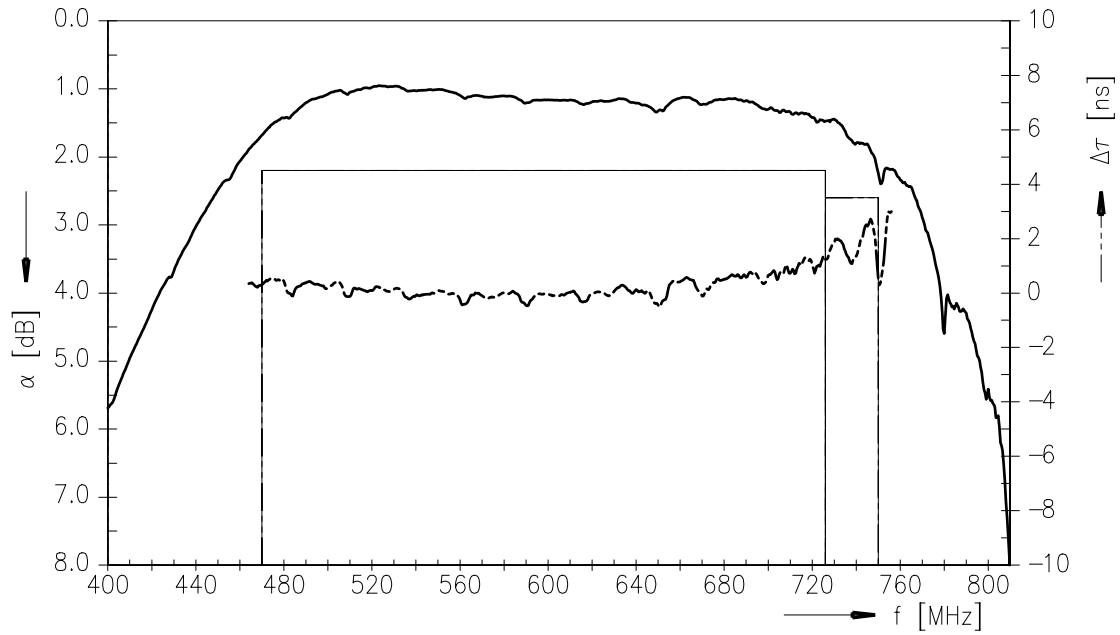
1) acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

Transfer function

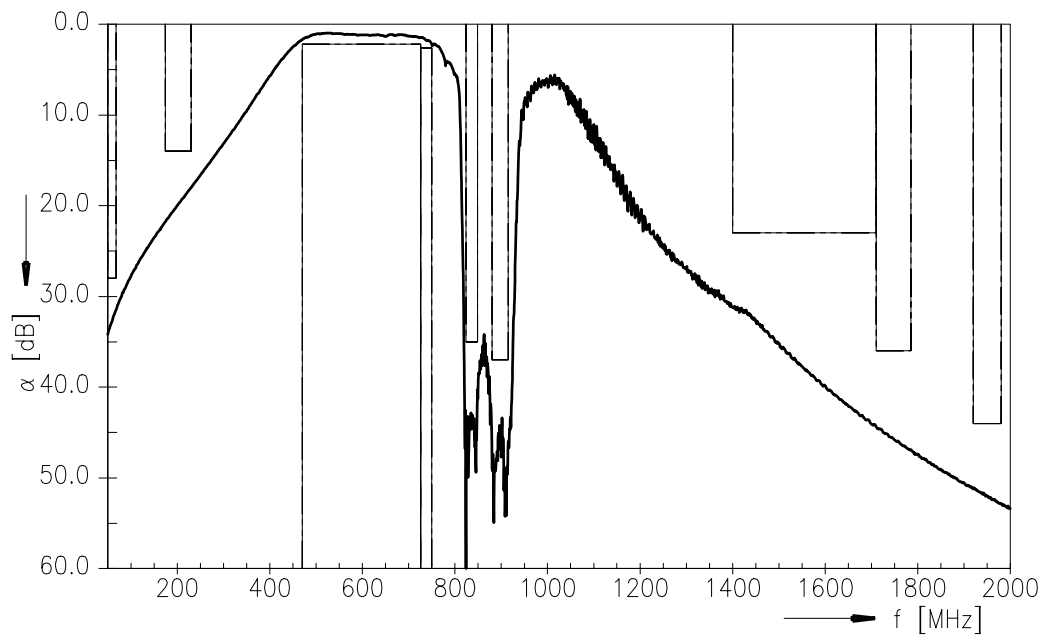


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Transfer function (pass band)



Transfer function (wide band)





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SAW band-stop filter **836.5 / 897.5 MHz**

Data Sheet



References

| | |
|----------------------------|--|
| Type | B8764 |
| Ordering code | B39901-B8764-P810 |
| Marking and package | C61157-A8-A17 |
| Packaging | F61074-V8212-Z000 |
| Date codes | L_1126 |
| S-parameters | B8764_NB_UN.s4p, B8764_WB_UN.s4p (unmatched) See file header for port/pin assignment table. |
| 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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