Qualcomm

RF360
Europe GmbH

# SAW Components

## SAW band–stop filter

ISDB–T

| | |
|---|---|
| Series/type: | B8733 |
| Ordering code: | B39731B8733P810 |
| Date: | September 28, 2015 |
| Version: | 2.0 |



RF360 Europe GmbH, Anzinger Str. 13, München, Germany

# SAW Components

## SAW band–stop filter

ISDB–T

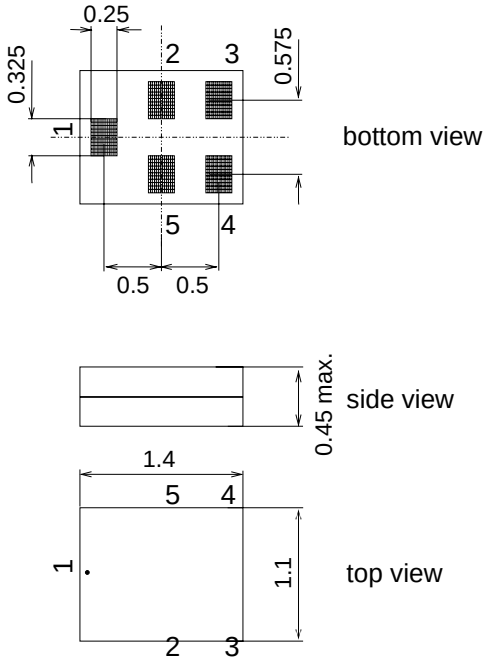
| | |
|---|---|
| **Series/type:** | **B8733** |
| **Ordering code:** | **B39731B8733P810** |
| Date: | September 28, 2015 |
| Version: | 2.0 |

## Application

- Low-loss RF band-stop filter for ISDB-T standard
- LTE700 Tx, band 18 and 19 suppression
- Low insertion loss
- Low amplitude ripple and group delay ripple
- Usable pass band width 620 MHz
- Impedance at input and output 50 Ω
- Unbalanced to unbalanced operation

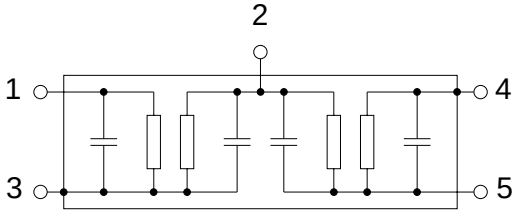

## Features

- 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 | Ground |
| ■ | 3 | Ground |
| ■ | 4 | Output |
| ■ | 5 | Case ground |

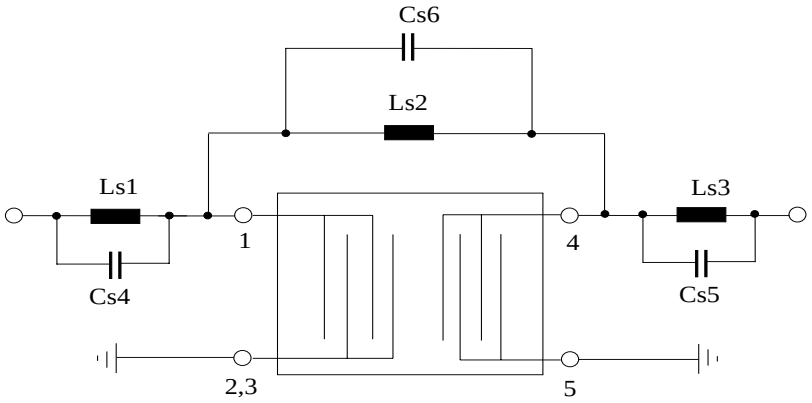


**Characteristics (including losses in the matching network)**

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** | $f_N$ | — | 733.00 | — | MHz |
| **Minimum insertion attenuation** | $\alpha_{min}$ | | | | |
| 470.00 ... 710.00 MHz | | — | 0.5 | 1.0 | dB |
| **Maximum insertion attenuation** | $\alpha_{max}$ | | | | |
| 90.00 ... 222.00 MHz | | — | 0.2 | 1.0 | dB |
| 470.00 ... 692.00 MHz | | — | 2.5 | 3.5 | dB |
| 692.00 ... 710.00 MHz | | — | 5.3 | 7.5 | dB |
| **Attenuation** | $\alpha$ | | | | |
| 718.00 ... 748.00 MHz | | 9.0 | 24.0 | — | dB |
| 815.00 ... 845.00 MHz | | 15.0 | 21.0 | — | dB |
| 900.00 ... 915.00 MHz | | 40.0 | 46.0 | — | dB |
| 1574.40 ... 1576.44 MHz | | 10.0 | 15.0 | — | dB |
| 1920.00 ... 1980.00 MHz | | 12.0 | 17.0 | — | dB |

**Matching network** (element values depend on PCB layout)



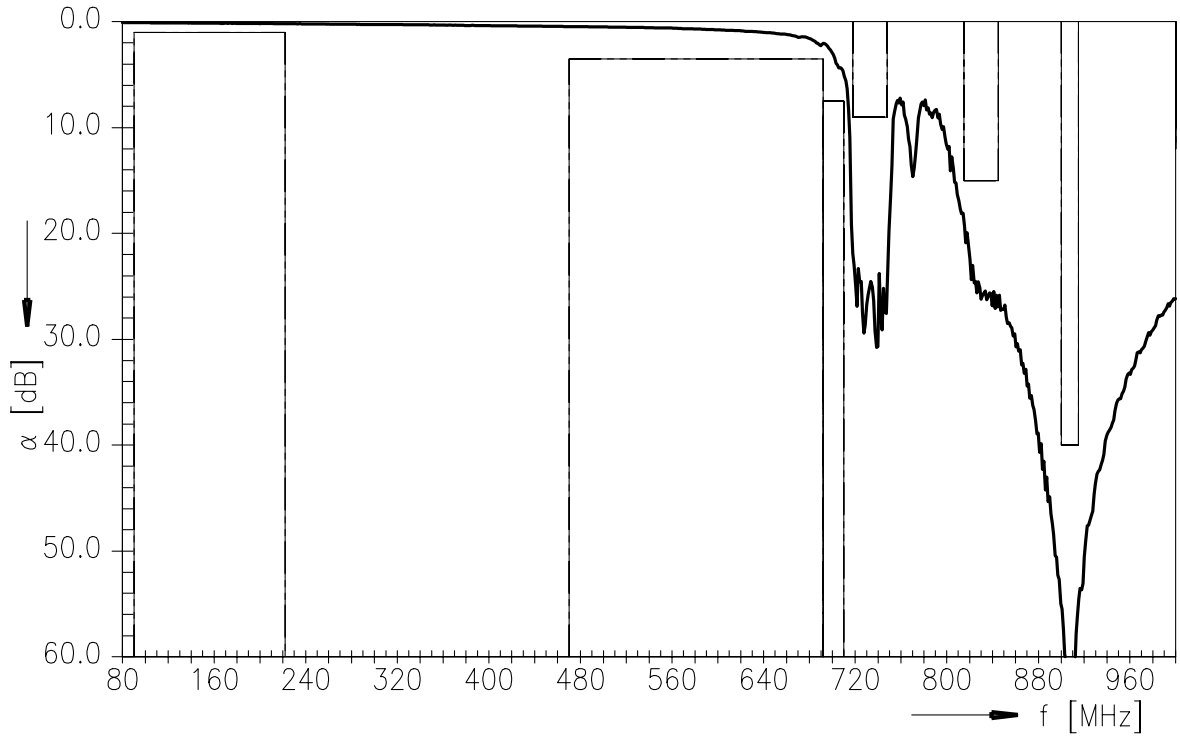

$L_{s1}$ = 3.6 nH
$L_{s2}$ = 8.2 nH
$L_{s3}$ = 3.6 nH
$C_{s4}$ = 9.0 pF
$C_{s5}$ = 11.0 pF
$C_{s6}$ = 3.9 pF

## Maximum ratings

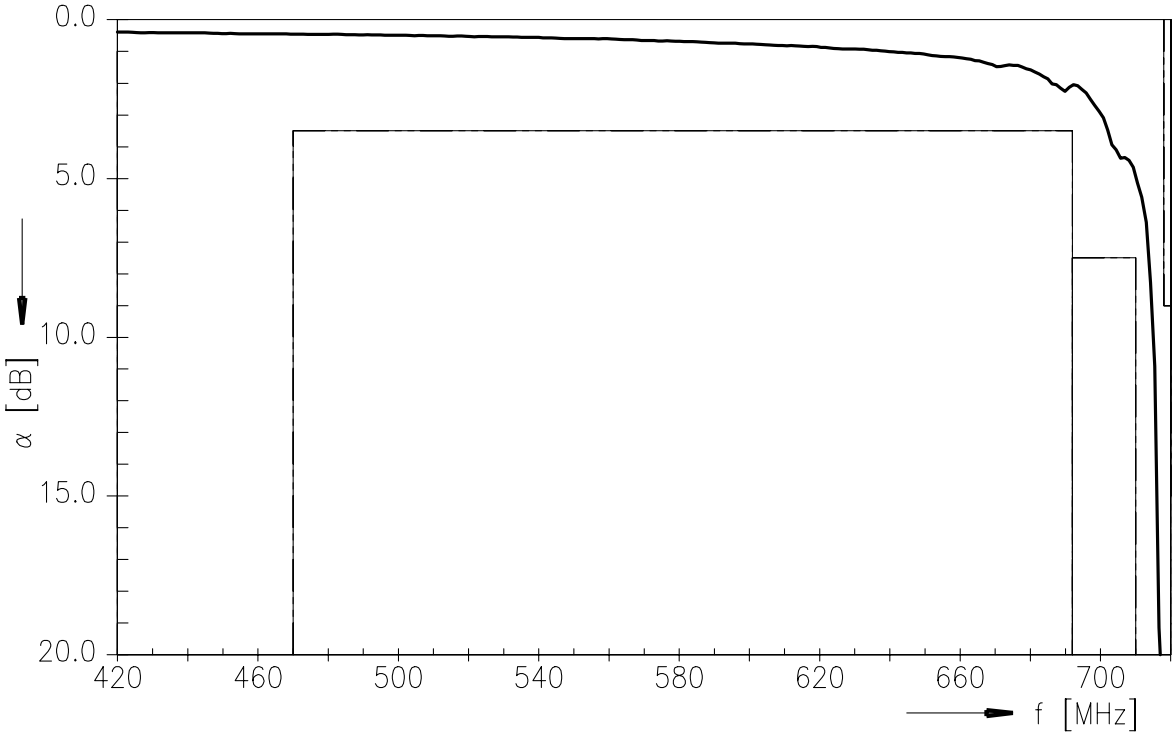
| | | | | |
|---|---|---|---|---|
| Operable temperature range | T | –40/+85 | ˚C | |
| Storage temperature range | $T_{stg}$ | –40/+85 | ˚C | |
| DC voltage | $V_{DC}$ | 0 | V | |
| ESD voltage | $V_{ESD}$ | 100[1)] | V | machine model, 10 pulses |
| | | 325[2)] | V | human body model, 1 pulse |
| | | 600[3)] | V | charged device model, 3 pulses |
| Source power at | | | | |
| 718 ... 748 MHz | $P_{IN}$ | 24 | dBm | CW, 10000hrs @ 85 ˚C |

1) acc. to JESD22-A115B (machine model), 10 negative & 10 positive pulses.
2) acc. to JESD22-A114F (human body model), +/- 1 pulse.
3) acc. to JESD22-C101C (charged device model), +/- 3 pulse.

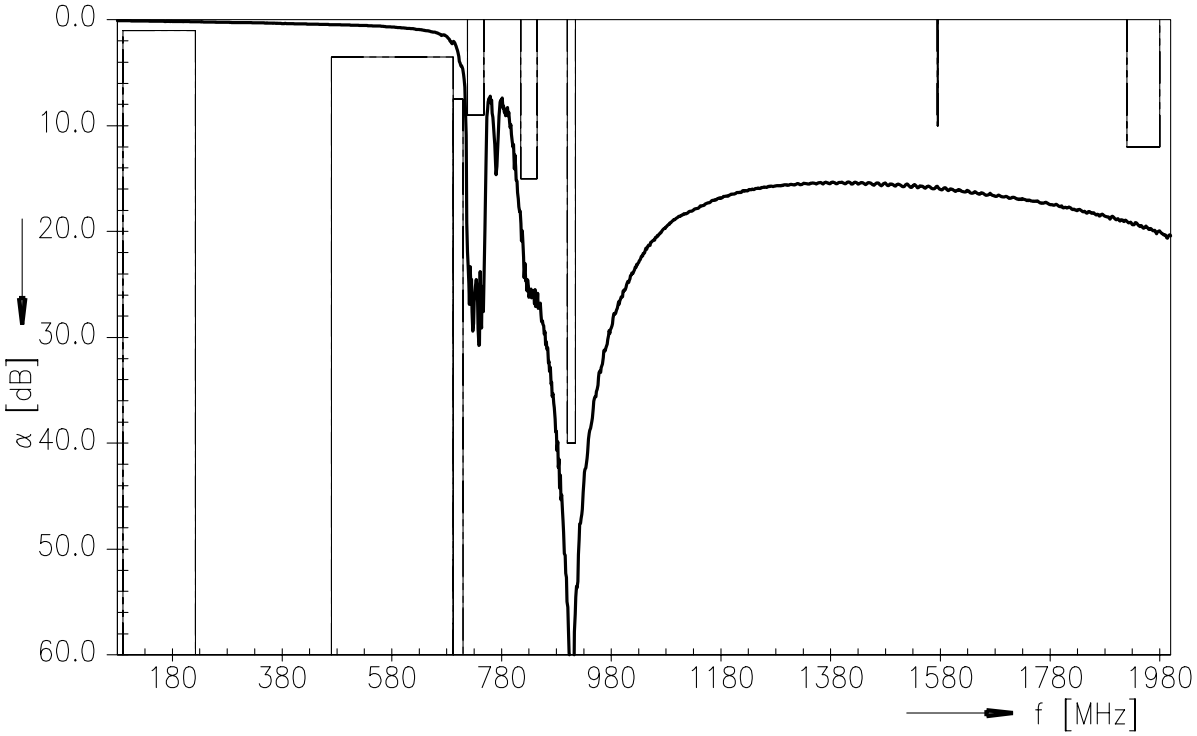
**Transfer function**



**Transfer function** (pass band)




**Transfer function** (wide band)



## References

| | |
|---|---|
| **Type** | B8733 |
| **Ordering code** | B39731B8733P810 |
| **Marking and package** | C61157-A8-A33 |
| **Packaging** | F61074-V8237-Z000 |
| **Date codes** | L_1126 |
| **S-parameters** | B8733_WB_UN.s4p (unmatched)<br>B8733_WB.s2p (matched)<br>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. |
| **Matching coils** | See Inductor pdf-catalog<br>http://www.tdk.co.jp/tefe02/coil.htm#aname1<br>and Data Library for circuit simulation<br>http://www.tdk.co.jp/etvcl/index.htm<br>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 .**

**Published by EPCOS AG**
**Systems, Acoustics, Waves Business Group**
**P.O. Box 80 17 09, 81617 Munich, GERMANY**



For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.

## Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application.** As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified.** In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet (www.epcos.com/material). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.
   We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.
6. Unless otherwise agreed in individual contracts, **all orders are subject to the current version of the "General Terms of Delivery for Products and Services in the Electrical Industry" published by the German Electrical and Electronics Industry Association (ZVEI)**.
7. The trade names EPCOS, Alu-X, CeraDiode, CeraLink, CeraPad, CeraPlas, CSMP, CSSP, CTVS, DeltaCap, DigiSiMic, DSSP, ExoCore, FilterCap, FormFit, LeaXield, MiniBlue, MiniCell, MKD, MKK, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, PQSine, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, SIP5D, SIP5K, TFAP, ThermoFuse, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at www.epcos.com/trademarks.