



## **SAW Components**

### **SAW filter**

Short range devices

|                       |                          |
|-----------------------|--------------------------|
| <b>Series/type:</b>   | <b>B3715</b>             |
| <b>Ordering code:</b> | <b>B39871B3715U410</b>   |
| <b>Date:</b>          | <b>February 06, 2008</b> |
| <b>Version:</b>       | <b>2.1</b>               |



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B3715

SAW filter

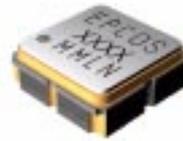
869.00 MHz

Data sheet

**SMD**

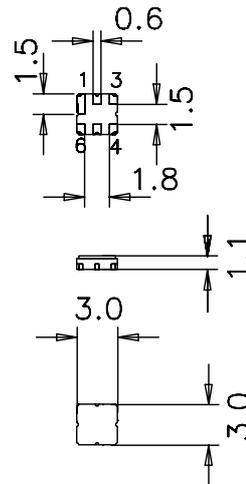
### Application

- Low-loss RF filter for remote control receivers
- No matching network required for operation at 50  $\Omega$



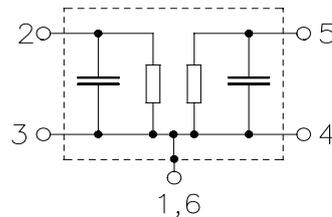
### Features

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- Lead free soldering compatible with J - STD20C
- Passivation layer Elpas
- AEC-Q200 qualified component family
- **Electrostatic Sensitive Device (ESD)**



### Pin configuration

- 2 Input
- 5 Output
- 1,3,4,6 Ground



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



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Data sheet



**Characteristics**

Reference temperature:  $T = 25\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

|   |                 | min. | typ.   | max. |       |
|---|-----------------|------|--------|------|-------|
| <b>Center frequency</b>                     | $f_C$           | —    | 869.00 | —    | MHz   |
| <b>Maximum insertion attenuation</b>        | $\alpha_{\max}$ | —    | 2.4    | 3.1  | dB    |
| 868.00 ... 870.00 MHz                       |                 |      |        |      |       |
| <b>Amplitude ripple (p-p)</b>               | $\Delta\alpha$  | —    | 0.6    | 1.2  | dB    |
| 868.00 ... 870.00 MHz                       |                 |      |        |      |       |
| <b>Attenuation</b>                          | $\alpha$        |      |        |      | dB    |
| 10.00 ... 845.00 MHz                        |                 | 37   | 41     | —    |       |
| 845.00 ... 851.00 MHz                       |                 | 32   | 36     | —    |       |
| 851.00 ... 858.00 MHz                       |                 | 20   | 24     | —    |       |
| 883.00 ... 892.00 MHz                       |                 | 35   | 40     | —    |       |
| 892.00 ... 1000.00 MHz                      |                 | 42   | 47     | —    |       |
| <b>Temperature coefficient of frequency</b> | $TC_f$          | —    | -30    | —    | ppm/K |



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869.00 MHz

Data sheet



**Characteristics**

Temperature range for specification:  $T = -40\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

|   |                | min. | typ.   | max. |       |
|---|----------------|------|--------|------|-------|
| <b>Center frequency</b>                     | $f_C$          | —    | 869.00 | —    | MHz   |
| <b>Maximum insertion attenuation</b>        | $\alpha_{max}$ | —    | 2.6    | 3.3  | dB    |
| 868.00 ... 870.00 MHz                       |                |      |        |      |       |
| <b>Amplitude ripple (p-p)</b>               | $\Delta\alpha$ | —    | 0.6    | 1.2  | dB    |
| 868.00 ... 870.00 MHz                       |                |      |        |      |       |
| <b>Attenuation</b>                          | $\alpha$       |      |        |      | dB    |
| 10.00 ... 845.00 MHz                        |                | 37   | 41     | —    |       |
| 845.00 ... 851.00 MHz                       |                | 32   | 36     | —    |       |
| 851.00 ... 856.80 MHz                       |                | 20   | 24     | —    |       |
| 883.00 ... 892.00 MHz                       |                | 20   | 35     | —    |       |
| 892.00 ... 1000.00 MHz                      |                | 42   | 47     | —    |       |
| <b>Temperature coefficient of frequency</b> | $TC_f$         | —    | -30    | —    | ppm/K |

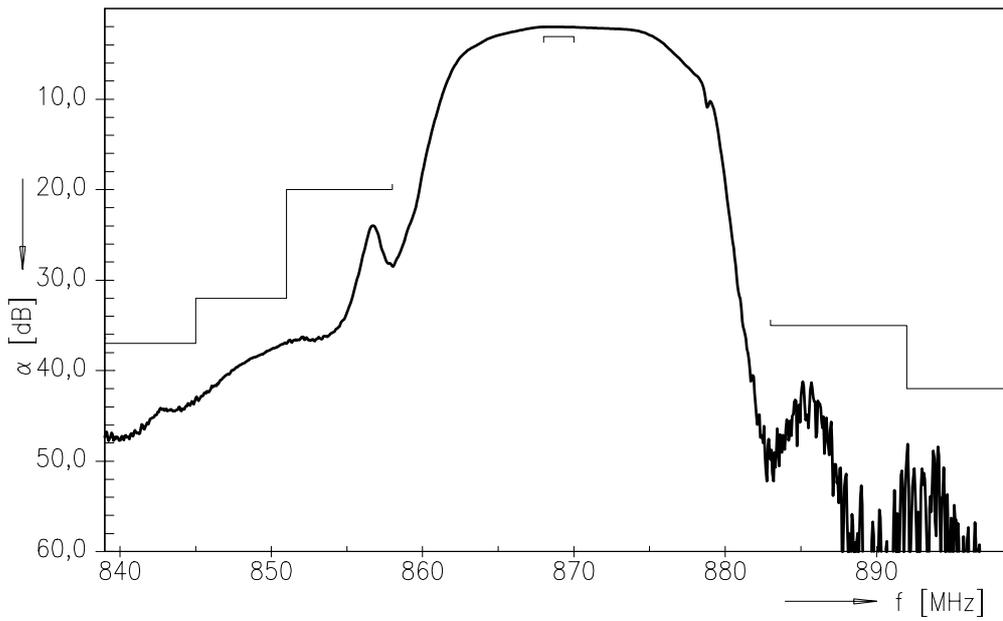
**Maximum ratings**

|                                    |           |          |     |                                      |
|------------------------------------|-----------|----------|-----|--------------------------------------|
| Operable temperature range         | T         | -45/+125 | °C  |                                      |
| Storage temperature range          | $T_{stg}$ | -45/+125 | °C  |                                      |
| DC voltage                         | $V_{DC}$  | 5        | V   |                                      |
| Source power                       | $P_S$     | 13       | dBm | source impedance 50 $\Omega$         |
| Source power<br>868 MHz to 870 MHz | $P_S$     | 18       | dBm | duty cycle 1:10,<br>-40 °C to +85 °C |

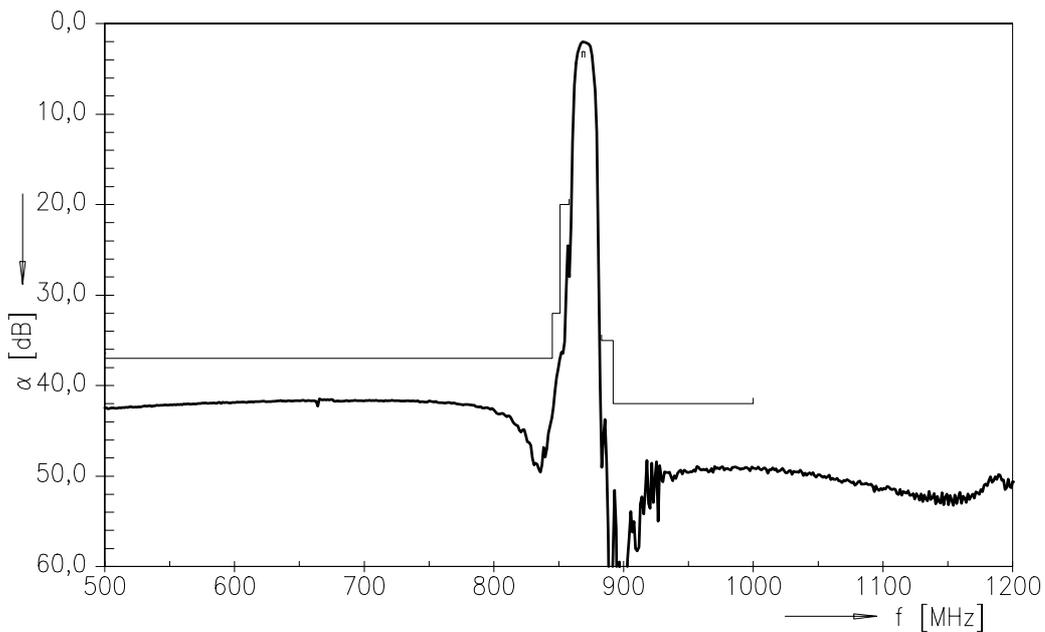
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Transfer function



Transfer function (wideband)





|                       |                   |
|-----------------------|-------------------|
| <b>SAW Components</b> | <b>B3715</b>      |
| <b>SAW filter</b>     | <b>869.00 MHz</b> |
| Data sheet            |                   |

## References

|                            |  |
|----------------------------|--|
| <b>Type</b>                | B3715  |
| <b>Ordering code</b>       | B39871B3715U410  |
| <b>Marking and package</b> | C61157-A7-A67  |
| <b>Packaging</b>           | F61074-V8168-Z000  |
| <b>Date codes</b>          | L_1126   |
| <b>S-parameters</b>        | B3715_SB.s2p<br>B3715_WB.s2p   |
| <b>Soldering profile</b>   | S_6001   |
| <b>RoHS compatible</b>     | defined as compatible with the following documents:<br>"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." |

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**Published by EPCOS AG**  
**Surface Acoustic Wave Components Division**  
**P.O. Box 80 17 09, 81617 Munich, GERMANY**

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