# SAW Components

## SAW filter

Short range devices

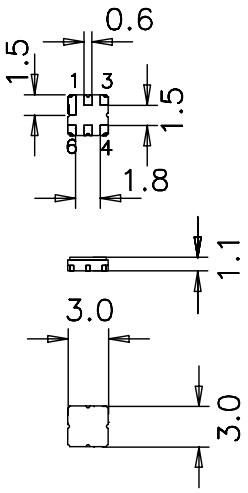
| | |
|---|---|
| **Series/type:** | **B3716** |
| **Ordering code:** | **B39871B3716U410** |
| Date: | September 21, 2009 |
| Version: | 2.2 |

## Application

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

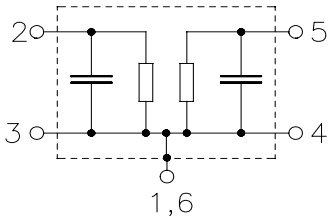

## Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- Lead free soldering compatible with J - STD20C
- Passivation layer Elpas
- AEC-Q200 qualified component family
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)




## Pin configuration

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



Data sheet SMD

## Characteristics

Reference temperature: T = 25 °C
Terminating source impedance: $Z_S$ = 50 Ω
Terminating load impedance: $Z_L$ = 50 Ω

| | | min. | typ. | max. | |
|---|---|---|---|---|---|
| **Center frequency** | $f_C$ | — | 869.00 | — | MHz |
| **Maximum insertion attenuation** | $\alpha_{max}$ | | | | |
| 868.00 ... 870.00 MHz | | — | 2.5 | 3.0 | dB |
| **Amplitude ripple** (p-p) | $\Delta\alpha$ | | | | |
| 868.00 ... 870.00 MHz | | — | 0.3 | 0.7 | dB |
| **Attenuation** | $\alpha$ | | | | |
| 10.00 ... 838.00 MHz | | 40 | 43 | — | dB |
| 838.00 ... 856.40 MHz | | 24 | 32 | — | dB |
| 856.40 ... 858.50 MHz | | 20 | 26 | — | dB |
| 880.00 ... 883.00 MHz | | 23 | 32 | — | dB |
| 883.00 ... 893.00 MHz | | 29 | 32 | — | dB |
| 893.00 ... 1200.00 MHz | | 45 | 48 | — | dB |
| 1200.00 ... 2000.00 MHz | | 31 | 35 | — | dB |
| **Temperature coefficient of frequency** | $TC_f$ | — | -30 | — | ppm/K |

## Characteristics

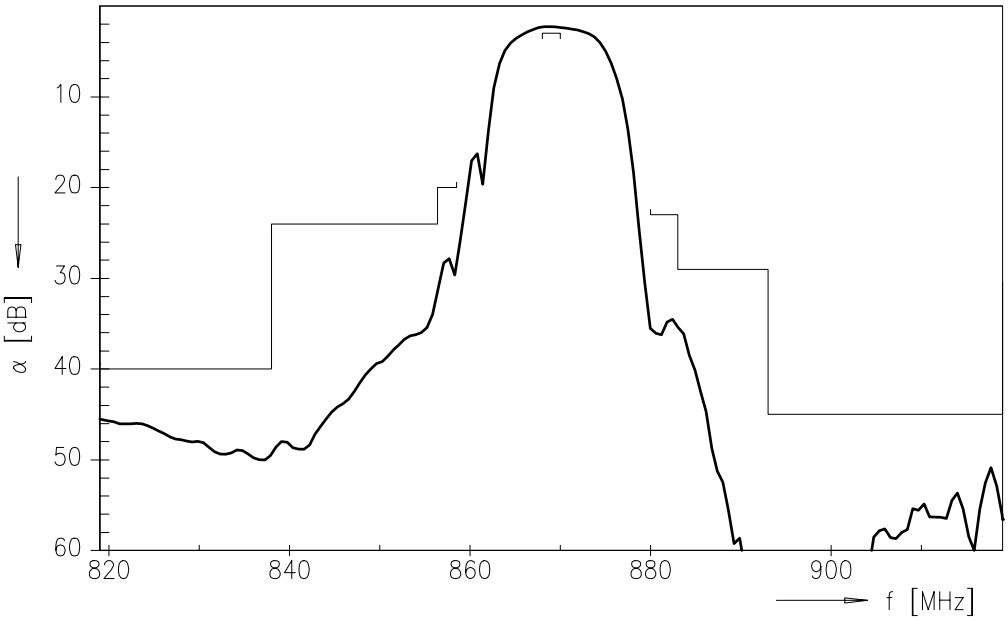
Temperature range for specification: T = –40 ˚C to +85 ˚C
Terminating source impedance: $Z_S$ = 50 Ω
Terminating load impedance: $Z_L$ = 50 Ω

| | | min. | typ. @ 25 ˚C | max. | |
|---|---|---|---|---|---|
| **Center frequency** | $f_C$ | — | 869.00 | — | MHz |
| **Maximum insertion attenuation** | $\alpha_{max}$ | | | | |
| 868.00 ... 870.00 MHz | | — | 2.5 | 3.9 | dB |
| **Amplitude ripple** (p-p) | $\Delta\alpha$ | | | | |
| 868.00 ... 870.00 MHz | | — | 0.6 | 1.6 | dB |
| **Attenuation** | $\alpha$ | | | | |
| 10.00 ... 838.00 MHz | | 40 | 43 | — | dB |
| 838.00 ... 856.40 MHz | | 24 | 32 | — | dB |
| 856.40 ... 858.50 MHz | | 14 | 26 | — | dB |
| 880.00 ... 883.00 MHz | | 10 | 32 | — | dB |
| 883.00 ... 893.00 MHz | | 29 | 32 | — | dB |
| 893.00 ... 1200.00 MHz | | 45 | 48 | — | dB |
| 1200.00 ... 2000.00 MHz | | 31 | 35 | — | dB |
| **Temperature coefficient of frequency** | $TC_f$ | — | -30 | — | ppm/K |

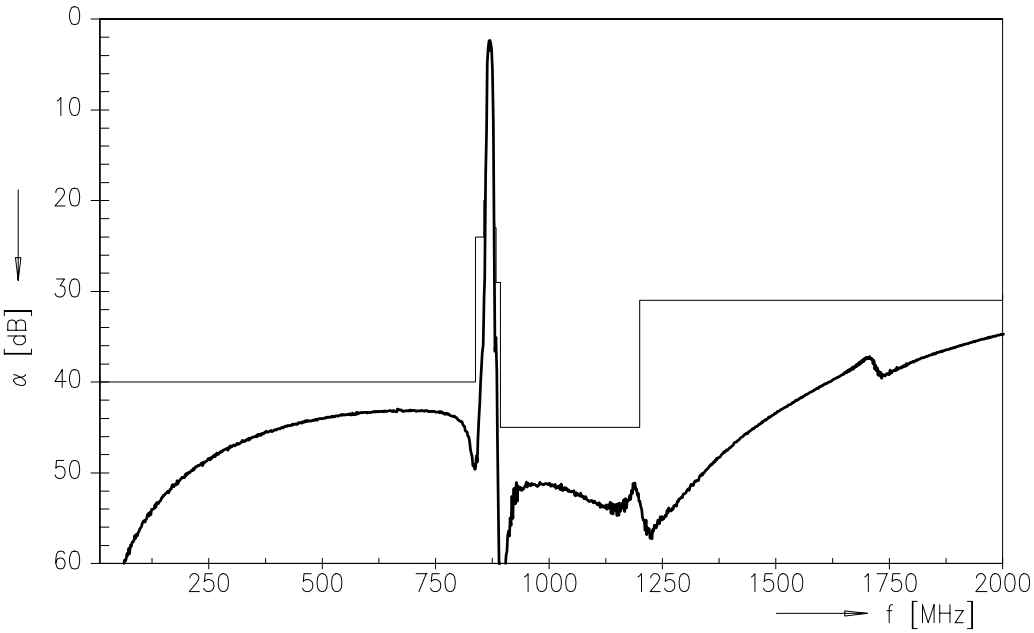
## Maximum ratings

| | | | | |
|---|---|---|---|---|
| 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 Ω |
| Source power 868 MHz to 870 MHz | $P_S$ | 18 | dBm | duty cycle 1:10, –40 ˚C to +85 ˚C |

**Transfer function**




**Transfer function** (wideband)



**References**

| | |
|---|---|
| **Type** | B3716 |
| **Ordering code** | B39871B3716U410 |
| **Marking and package** | C61157-A7-A67 |
| **Packaging** | F61074-V8168-Z000 |
| **Date codes** | L_1126 |
| **S-parameters** | B3716_SB.s2p<br>B3716_WB.s2p |
| **Soldering profile** | S_6001 |
| **RoHS compatible** | 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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