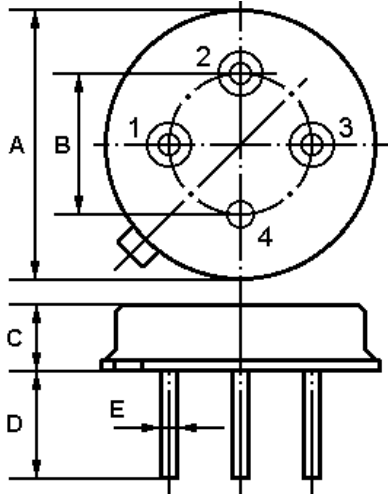


The **ACTF03/27/903.75-926.25/TO39** is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter in a low-profile metal **TO-39** case. It is designed as an RF duplexer for cordless telephones ( ISM ). Centre frequency is 903.75 / 926.25 MHz.

### 1. Package Dimension (TO-39)

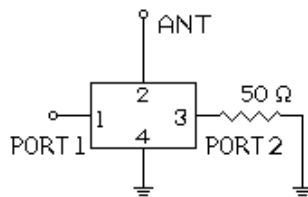


### 2.

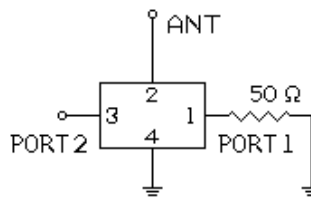
| Pin | Configuration   |
|-----|-----------------|
| 1   | Port 1 / Port 2 |
| 2   | Antenna         |
| 3   | Port 2 / Port 1 |
| 4   | Case Ground     |

| Dimensions | Data (Unit: mm) |
|------------|-----------------|
| A          | 9.35±0.10       |
| B          | 5.08±0.10       |
| C          | 3.40±0.10       |
| D          | 3.00±0.20       |
| E          | 0.45±0.20       |

### 3. Test Circuit



Between Port1 and Antenna



Between Port2 and Antenna

### 4. Features

- I High stability and reliability with good performance
- I No matching network required for operation at 50 Ω
- I Wide and sharp pass band characteristics
- I Low insertion loss and deep stop band attenuation for interference

In keeping with our ongoing policy of product evolution and improvement, the above specification is subject to change without notice.

**ISO9001: 2000 Registered - Registration number 6830/2**

**For quotations or further information please contact us at:**

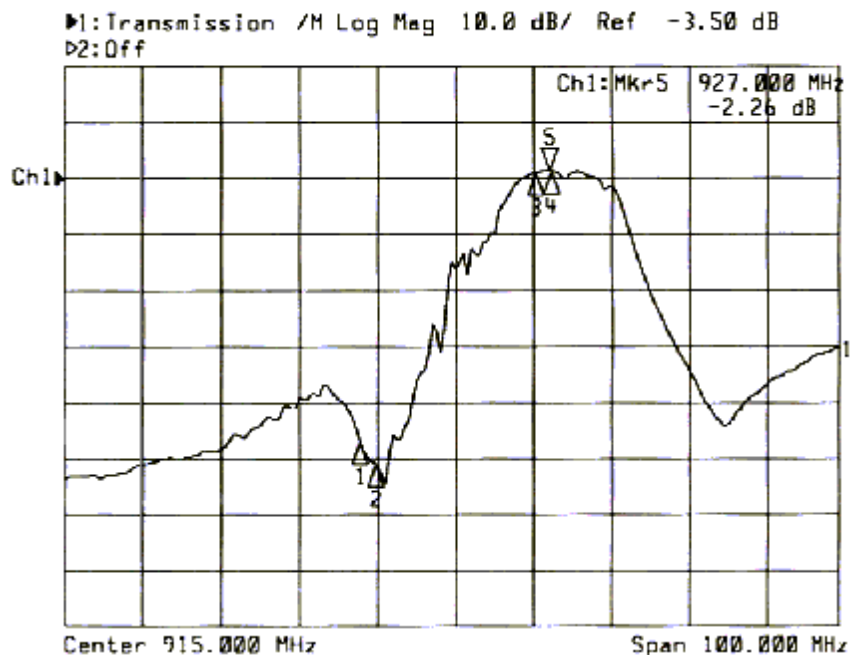
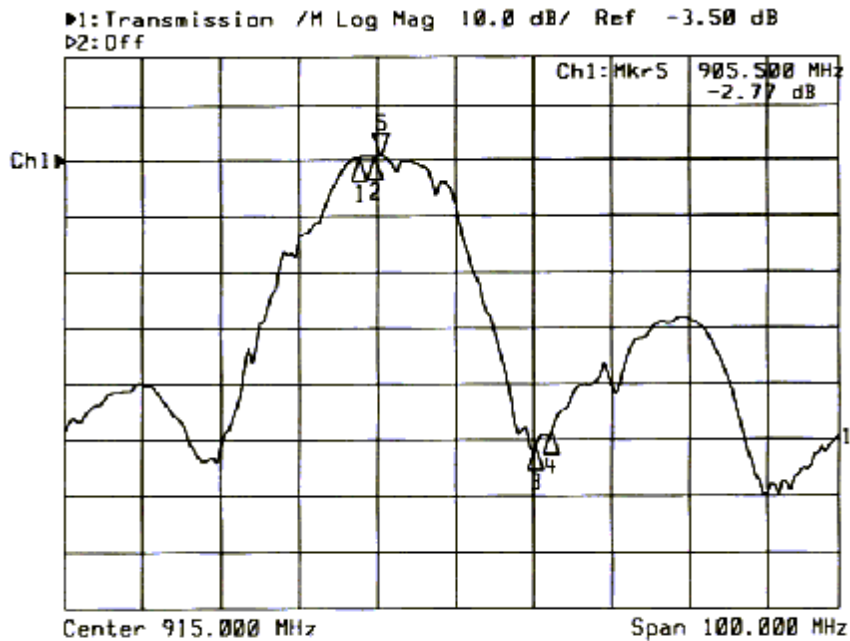
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## 5. Typical Frequency Response



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## 6. Electronic Specification

### 6-1.Maximum Ratings

| Item                        | Symbol        | Rating    | Unit |
|-----------------------------|---------------|-----------|------|
| Input Signal Level          | $I_{S_{max}}$ | 5         | dBm  |
| DC Permissive Voltage       | $V_{DC}$      | 0         | V    |
| Operating Temperature Range | $T_A$         | -10 ~ +60 | °C   |
| Storage Temperature Range   | $T_{stg}$     | -40 ~ +85 | °C   |

### 6-2.Electronic Characteristics

Ant term. impedance  $Z_{Ant} = 50 \Omega$   
 Port 1 term. impedance  $Z_{Port1} = 50 \Omega$   
 Port 2 term. impedance  $Z_{Port2} = 50 \Omega$

| Items                               | Symbol                       | Port 1                  |           |        |              | Port 2                  |           |      |      | Unit     |
|-------------------------------------|------------------------------|-------------------------|-----------|--------|--------------|-------------------------|-----------|------|------|----------|
|                                     |                              | Test condition          | Min.      | Typ.   | Max.         | Test condition          | Min.      | Typ. | Max. |          |
| Centre Frequency                    | $f_c$                        | -                       | -         | 903.75 | -            | -                       | 926.25    | -    | -    | MHz      |
| Bandwidth                           | $BW_{3dB}$                   | -                       | $\pm 1.0$ | -      | -            | -                       | $\pm 1.0$ | -    | -    | MHz      |
| Insertion Loss                      | $IL_{PASS}$                  | $f_c \pm 1.0\text{MHz}$ | -         | -      | 4.5          | $f_c \pm 1.0\text{MHz}$ | -         | -    | 4.5  | dB       |
| Ripple Level                        | $A_{RIP}$                    | $f_c \pm 1.0\text{MHz}$ | -         | -      | 2.0          | $f_c \pm 1.0\text{MHz}$ | -         | -    | 2.0  | dB       |
| Rejection Level                     | $IL_{STOP}$                  | 450.0~861.95MHz         | 47        | -      | -            | 450.0~870.0MHz          | 52        | -    | -    | dB       |
|                                     |                              | 861.95~883.35MHz        | 30        | -      | -            | 870.0~882.45MHz         | 44        | -    | -    | dB       |
|                                     |                              | 883.35~894.05MHz        | 5         | -      | --           | 882.45~904.75MHz        | 30        | --   | -    | dB       |
|                                     |                              | 913.45~924.15MHz        | 5         | -      | -            | 904.75~905.85MHz        | 36        | -    | -    | dB       |
|                                     |                              | 924.15~927.25MHz        | 38        | -      | -            | 905.85~916.55MHz        | 8         | -    | -    | dB       |
|                                     |                              | 945.55~970.0MHz         | 23        | -      | -            | 935.95~946.65MHz        | 5         | -    | -    | dB       |
|                                     |                              | 970.0~1050MHz           | 45        | -      | -            | 946.65~948.65MHz        | 30        | -    | -    | dB       |
|                                     |                              | 1050~1350MHz            | 42        | -      | -            | 968.05~1000MHz          | 26        | -    | -    | dB       |
|                                     |                              |                         |           |        | 1000~1350MHz | 42                      | -         | -    | dB   |          |
|                                     |                              |                         |           |        | 1350~1800MHz | 22                      | -         | -    | dB   |          |
| Isolation (between port1 and port2) | $IL_{RX \leftrightarrow TX}$ | 925.25~927.25MHz        | 36        | -      | -            | 902.75~904.75MHz        | 36        | -    | -    | dB       |
| Input / Output Impedance            | $Z_I / Z_O$                  | -                       | -         | 50     | -            | -                       | -         | 50   | -    | $\Omega$ |

#### ⓘ CAUTION: Electrostatic Sensitive Device. Observe precautions for handling!

1. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture that is connected to a 50  $\Omega$  test system with VSWR  $\leq 1.2:1$ . The test fixture L and C are adjusted for minimum insertion loss at the filter centre frequency,  $f_c$ . Note that insertion loss, bandwidth, and passband shape are dependent on the impedance matching component values and quality.
2. Unless noted otherwise, specifications apply over the entire specified operating temperature range.
3. The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
4. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
5. Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) per se, not for applications, processes and circuits implemented within components or assemblies.

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