

### ▶ Product Introduction

#### Introduction (LTB)

(LTB) Ceramic Filter is perfect for Shrinking Mobile Communication Products. Token Ceramic Filter series conform to the RoHS directive and Lead-free.

Ceramic filters for communication (LTB) series can be customized designs and tighter tolerances available on request.

Application of ceramic filters specific designs also available including different piezo band-pass devices and Q specifications adjusted to frequency requirements.

Token ceramic filters for communication (LTB) series comprises small, high performance.

Their innovative construction is perfect for shrinking mobile communication products such as pocket pagers and cellular phones.

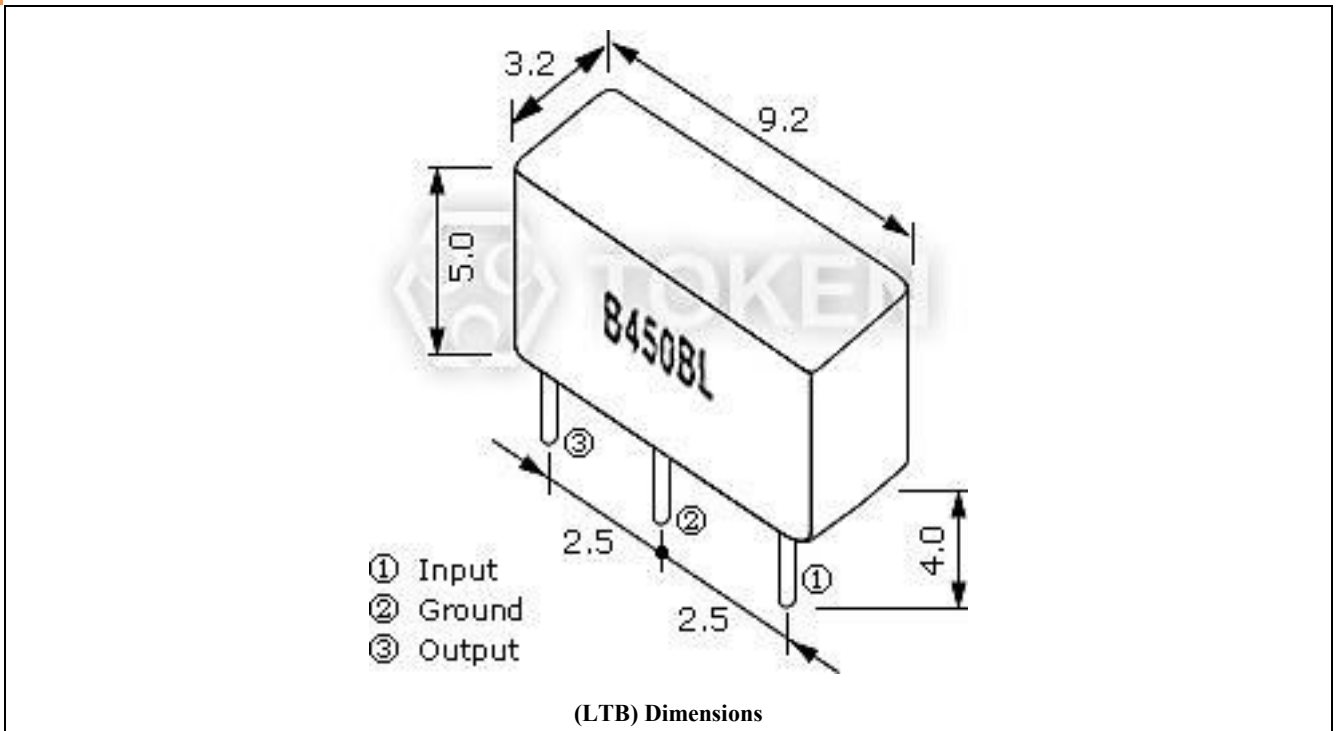
Operating temperature range:  $-20^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$ ; Storage temperature range:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .

Contact us with your specific needs. For more information, please link to Token official website "[Ceramic Filters](#)".



## ▶ Dimensions

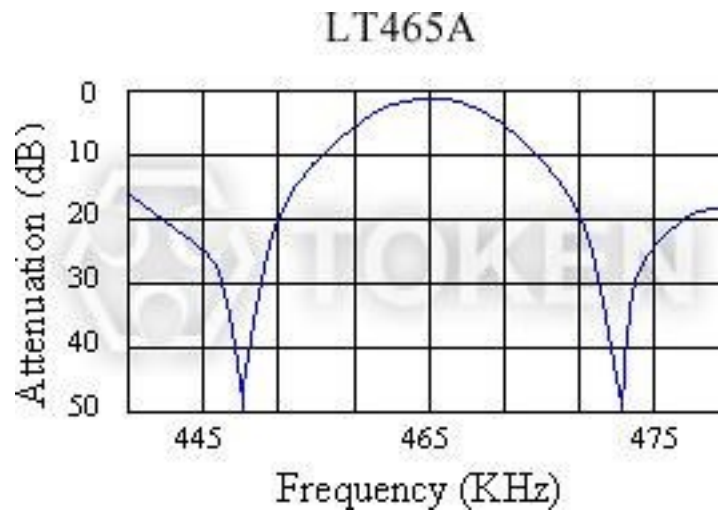
### Dimensions (Unit: mm) (LTB)



## ▶ Technical Characteristics

### Technical Characteristics (LTB)

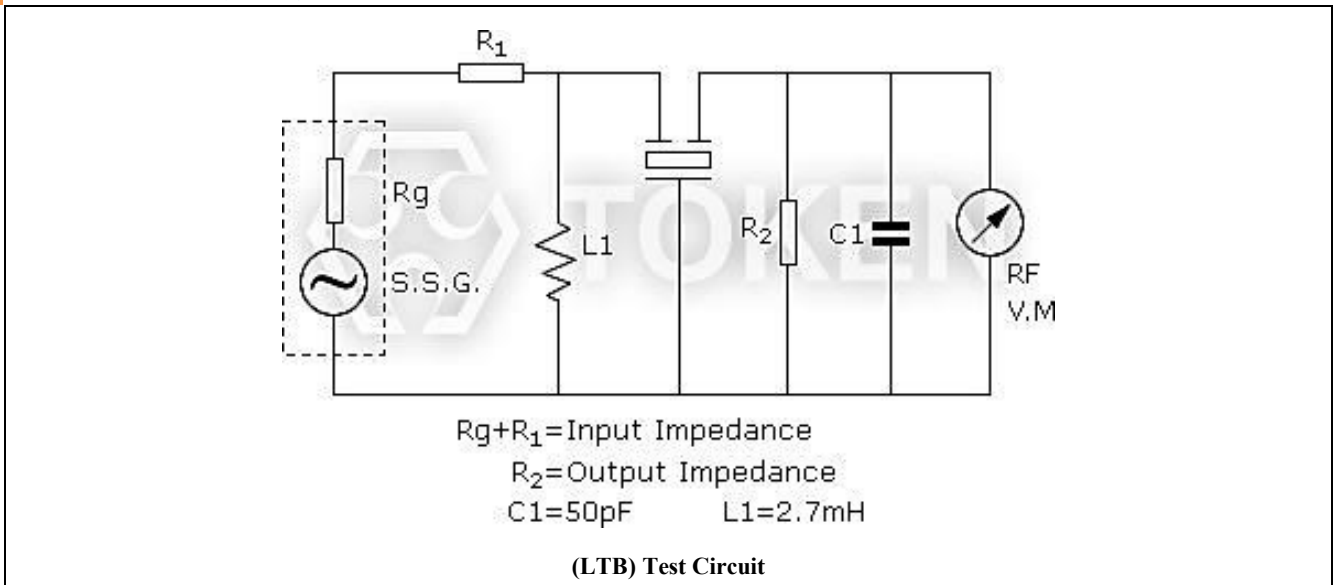
| Part Number | Center Frequency (fo) (kHz) | 6dB Band Width (kHz) min | Selectivity $\pm 9$ kHz off (dB) min | Pass Band Ripple (dB) max | Insertion Loss (dB) max | Input / Output Impedance ( $\Omega$ ) |
|-------------|-----------------------------|--------------------------|--------------------------------------|---------------------------|-------------------------|---------------------------------------|
| LTB450AL2   | 450 $\pm$ 2                 | 4                        | 18                                   | 1.0                       | 6.8                     | 1.0/1.5                               |
| LTB455AL2   | 455 $\pm$ 2                 |                          |                                      |                           |                         |                                       |
| LTB465AL2   | 465 $\pm$ 2                 |                          |                                      |                           |                         |                                       |
| LTB450BL2   | 450 $\pm$ 2                 | 6                        | 16                                   | 1.0                       | 5.8                     | 1.5/2.0                               |
| LTB455BL2   | 455 $\pm$ 2                 |                          |                                      |                           |                         |                                       |
| LTB465BL2   | 465 $\pm$ 2                 |                          |                                      |                           |                         |                                       |



(LTB) Technical Characteristics

## ▶ Test Circuit

### Test Circuit (LTB)



## ▶ Order Codes

### Order Codes (LTB)

|                  |          |
|------------------|----------|
| <b>LTB450AL2</b> | <b>P</b> |
| Part Number      | Package  |

### ▶ General Information

#### Introduction of Filters

For more than two decades, piezo technology has been instrumental in the proliferation of solid state electronics. A view of the future reveals that even greater expectations will be placed on piezoelectric material in the area of new applications and for more stringent performance criteria in modern products.

Token sophisticated ceramics technology has greatly increased selectivity and wide-band characteristics, and has stabilized the characteristics of ceramic filters. The series covers a wide range of attenuation and bandwidths to allow selection of the most optimum filter characteristics for each application.

Token filters are band pass filters consisting of one or more ceramic resonators connected in a ladder network configuration. Pass band characteristics are determined by the relative resonant and anti-resonant frequencies of the resonators. Both narrow and wide pass band configurations are manufactured by adjusting the resonator frequency characteristics.

The IC (Integrated Circuit) has found wide use in the field of commercial equipment, such as automotive radios, stereo systems, 2-way communications, TV sets, etc. Thus, new miniature integrated filters, with high performance, are extremely desirable for use in IF circuits.

Furthermore, radio wave disturbance due to rapid progress of data transmitting rate and remarkable sophistication of communication network have become significant traffic conflicts. Accordingly, the demand for filters with high selectivity and wide pass band width has boosted.

The IC application of the active elements will continue its progress, and there will be a growing demand for highly selective, non-adjustable, miniature and wide pass band width IF circuit.

#### Advantage of Token Piezoelectric Filters

Token Electronics had been able to develop specialized piezo materials which when combined with an advance design have resulted in a complete line of practical, inexpensive piezo devices for entertainment and communications applications.

Token reliably deliver high-quality components according to the each customer special needs with respect to performance, costs, and technology modifications.

For marketing discontinuations or sourcing activities concerning Piezoelectric Filter products, you are encouraged to contact our Sales Department so the request can be properly directed within Token.

