

1.Scope

This specification shall cover the characteristics of the ceramic filter with 455KHz.

2.Part No. : LTC455DU

3.Electrical Specification

	Item	Specifications
3-1	Center Frequency (Fo)	455KHz \pm 1.5KHz
3-2	Insertion Loss(dB)	4.0dB max.
3-3	Ripple (dB)	2.0dB max.(\pm 5KHz)
3-4	Band Width (6dB)	\pm 10.0KHz min.
3-5	Selectivity (40dB)	\pm 20.0KHz max.
3-6	Stop Band Attenuation	27dB min.(Fo \pm 100KHz)
3-7	Input / Output Impedance	1.5K Ω
3-8	Temperature Coefficient of Center Frequency	\pm 50ppm/ $^{\circ}$ C max. (-20 $^{\circ}$ C to +80 $^{\circ}$ C)

Note.: A). Center Frequency shall be defined as the central value of the band width at 6dB.

B). Temperature coefficient of center frequency shall be defined as the average of the central frequency shift throughout the specified temperature range.

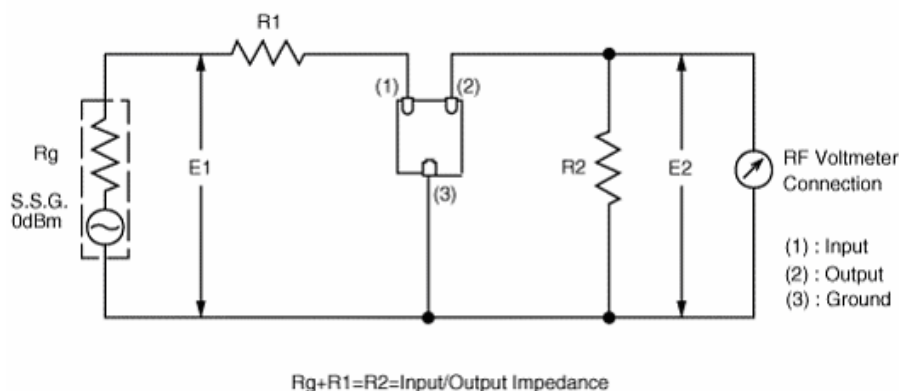
4.Measurement

4-1 Environmental Condition

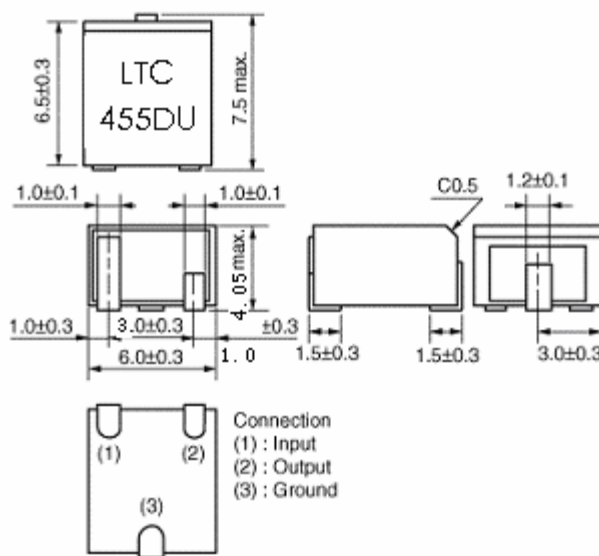
Measurement shall be carried out at the reference temperature of 25 $^{\circ}$ C \pm 2

$^{\circ}$ C. It shall be possibly done at 5 $^{\circ}$ C to 35 $^{\circ}$ C unless it is questionable.

4-2 Measuring Circuit



5. Dimensions (Unit : mm)



6. ENVIRONMENTAL CHARACTERISTICS

6-1 Humidity

Keep the filter at $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and 90 to 95% RH for minimum 8 hours. Then, release the filter into the room conditions for 1 hour prior to the measurement. It shall fulfill the electrical specifications in section 3.

6-2 Vibration

Subject the filter to the vibration for 1 hour each in X, Y and Z axes with the amplitude of 1.0mm at 10 to 55Hz. It shall fulfill the electrical specifications in section 3.

6-3 Mechanical Shock

Drop the filter randomly onto a concrete floor from the height of 30cm 3 times. It shall fulfill the electrical specifications in section 3.

6-4 Solder Heat – Resistance

The filters shall be assembled to the 1mm “through-hole” P.C. board and placed in a solder solution (SU 63% & PB 37%) at $250 \pm 10^{\circ}\text{C}$ twice for duration of 3 seconds. After removal from the solder solution chamber, the filters may be cleaned with chloroform and left for more that 24 hours at the room temperature. It shall fulfill the electrical specifications in section 3.

6-5 High Temperature Exposure

Put subject filter to chamber at $80 \pm 5^{\circ}\text{C}$ for 96 ± 4 hours. Then, release the filter into the room condition for 1 hour prior to the measurement. It shall meet the electrical specifications in section 3.

6-6 Low Temperature Exposure

Put subject filter to $-20 \pm 5^{\circ}\text{C}$ for 96 ± 4 hours. Then, release the filter into the room conditions for 1 hour prior to the measurement. It shall fulfill the electrical specifications in section 3.

6-7 Temperature Cycling

Subject filter is put into low temperature of -20°C for 30 minutes, followed by a high temperature of $+85^{\circ}\text{C}$ for 30 minutes. Cycling shall be repeated 5 times with a time interval of 15 minutes under room conditions. Then, release the filter into the room conditions for 1 hour prior to the measurement. It shall fulfill the electrical specifications in section 3.

6-8 Lead Fatigue

6-8-1 Pulling Test

Weight 3Kg along to the direction of lead without a sudden shock. The filter shall show no evidence of damage and shall satisfy all the initial characteristics.

6-8-2 Bending Test

Lead shall be subject to withstand against 90° bending in the direction of thickness. This operation shall be done towards both directions. The filter shall show no evidence of damage and shall satisfy all the initial electrical characteristics.

7. PACKAGE FORM

