

Ceramic Filter Specification

Part No.: LTW33-455HT

Specification No.: 2.832.640

1. Scope

This specification shall cover the characteristics of the ceramic filter with 450kHz.

2. Specification no.: 2.832.640

3. Part no.: LTW33-455HT

4. Electrical specification

4-1	Center frequency	455kHz \pm 1.0kHz
4-2	Bandwidth (6dB)	\pm 3.0kHz Min.
4-3	Selectivity (50dB)	\pm 9.0kHz Max.
4-4	Stop band attenuation	60dB Min.
4-5	Ripple	2dB Max.
4-6	Insertion loss	6dB Max.
4-7	Temperature coefficient of center frequency	\pm 50ppm / $^{\circ}$ C Max.
4-8	Input / output impedance	2.0k Ω

Note: (1) Center frequency shall be defined as the central value of the bandwidth at 6dB
(2) Temperature coefficient of center frequency shall be defined as the average of the central frequency shift throughout the specified temperature range.

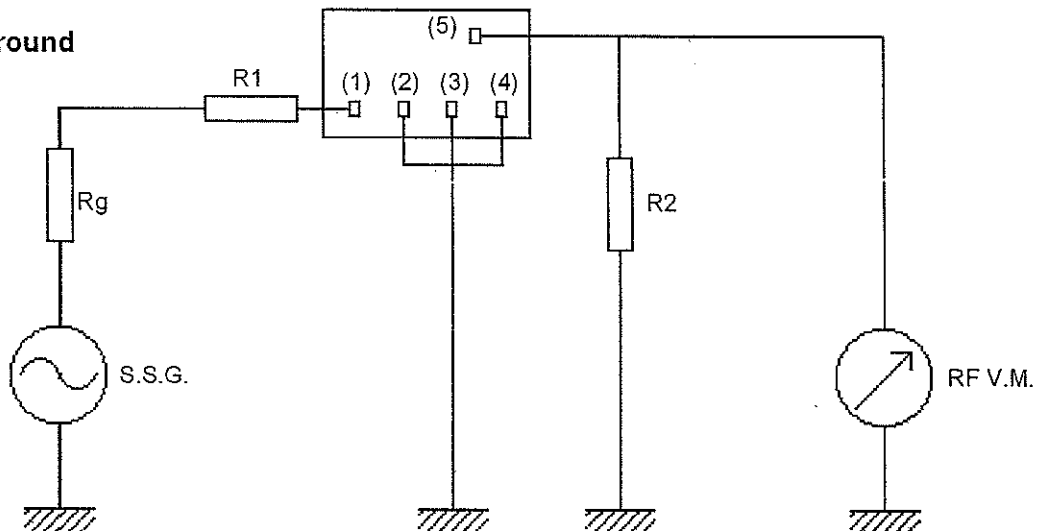
5. Measurement

5-1. Environmental condition

Measurement shall be carried out at the reference temperature of $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and humidity $55\% \pm 5\%$. No abnormal phenomena arise when test is carried out under temperature 5°C to 30°C , humidity 45% to 65%.

5-2. Measuring Circuit

- (1) Input
(5) Output
(2) (3) (4) Ground



$$R_g + R_1 = R_2 = \text{Input / output impedance}$$

6. Environmental characteristics

6-1. High temperature exposure

Subject the filter to +80°C for 100 hours. Then release the filter into room conditions for one to two hours prior to measurement. It shall meet the specifications in Table 1.

6-2. Moisture

Keep the filter at 40°C and 95% RH for 100 hours. Then release the filter into room conditions for one to two hours prior to measurement. It shall meet the specifications in Table 1.

6-3. Low temperature exposure

Subject the filter to a low temperature of -20°C for 100 hours. Then release the filter into room conditions for one to two hours prior to measurement. It shall meet the specifications in Table 1.

6-4. Temperature cycling

Subject the filter to a low temperature of -55°C for 30 minutes, followed by a high temperature of +85°C for 30 minutes. Cycling shall be repeated five times with a transfer time of 15 minutes. Then release the filter into room conditions for one to two hours prior to measurement. It shall meet the specifications in Table 1.

6-5. Resistance to solder heat

Dip the filter terminals no closer than 1.5mm into a 270°C ± 10°C solder bath for 10 seconds ± 1 second. Then release the filter into room conditions for one to two hours prior to measurement. It shall meet the specifications in Table 1.

6-6. Mechanical shock

Drop the filter randomly onto a concrete floor from the height of 70cm on each of the following axes: X, Y, and Z. This is one cycle. Such cycle shall be repeated 3 times. The filter shall meet the specifications in Table 1.

6-7. Vibration

Subject the filter to a vibration for one hour in each of the following axes: X, Y, and Z. The amplitude of the vibration shall be 1.5mm at 10Hz to 55Hz. The filter shall meet the specifications in Table 1.

6-8. Lead fatigue

6-8-1. Pulling test

Weight along with the direction of lead without an shock 3 kg. 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. The operation shall be done toward both directions. The filter shall show no evidence of damage and shall satisfy all the initial electric characteristics.

Table 1

Item	Characteristics
Center frequency	455kHz \pm 1.0kHz
Bandwidth (6dB)	\pm 3.0kHz Min.
Bandwidth (50dB)	\pm 9.0kHz Max.
Stop band attenuation	60dB Min.
Ripple	2dB Max.
Insertion loss	6dB Max.

7. Dimension of LTW33-455HT

