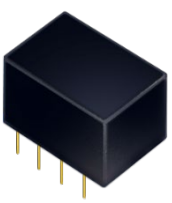
LTS455BW

Ceramic Filter | FM broadcast receiver

Part number: LTS455BW 2.832.665 | Revision: A1 | Date: 26 January 2023



1.0 About Maximum Rating[1]

N°	Characteristics	Min.	Max.	Unit
1.1	Withstanding Voltage		50	VDC
1.2	Ambient Operating Temperature Range	-20	80	°C
1.3	Lead Temperature for Soldering 1/16" from Body for 10sec		260	°C
1.4	Storage Temperature Range	-35	85	°C
1.5	Power Dissipation (Ta = 25°C)		100	mW
1.6	Isolation Resistance		100	MΩ

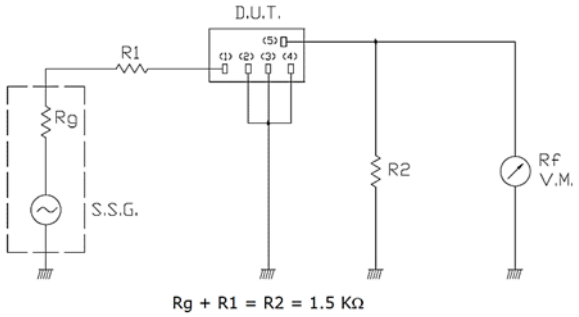
2.0 Electrical Characterstics (Ta = 25°C)

N°	Characteristics	Min.	Nom.	Max.	Unit
2.1	Center Frequency (fc)	NS	455	NS	kHz
2.2	Initial Tolerance			±1.0	kHz
2.3	6 dB bandwidth	±15			kHz
2.4	Selectivity (50 dB)			±30	kHz
2.5	Insertion Loss (IL)			6.0	dB
2.6	Ripple in Pass band			2.6	dB
2.7	Stop Band Attenuation (fc =100 kHz)	45			dB
2.8	Temperature Stability over -20 to 80°C			±0.3	%
2.9	I/O Impedance		1.5		kΩ

NS = Not Specified

3.0 Test Circuit

N°	Characteristics
3.1	Measurement Condition: The reference temperature shall be 25 ±2°C. The measurement shall be performed at the temperature range of 5 to 35°C unless the result is doubtful otherwise.
3.2	Test Circuit and Equipment: The standard test circuit shall measure the oscillating frequency as shown below. Resonant impedance shall be measur



Rg + R1 = R2 = 1.5 KΩ

[1] Operating beyond this limit may result in change or permanent damage to the device.

4.0 Physical Characterstics

N°	Characteristics	Test conditions	Requirements
4.1	Random Drop	The Filter shall be measured after 3 times random drops from the height of 0.3M on concrete floor.	No visible damage and the measured values shall meet Table 1.
4.2	Vibration	The Filter shall be measured after being applied vibration of the amplitude of 1.5mm with 10 to 55Hz bands of vibration frequency to each of 3 perpendicular directions for 2 hours.	The measured values shall meet Table 1.
4.3	Resistance to Soldering Heat	Lead terminals are immersed up to 1.5mm from the Filter's body in a solder bath of 230 ±5°C for 3 ±0.5 seconds, and then the Filter shall be measured after being placed in natural condition for 1 hour.	The measured values shall meet Table 1.
4.4	Solderability	Lead terminals are immersed in resin for 5 seconds and then immersed in soa ldering bath of 230 ±5°C for 2 ±0.5 seconds.	95% min. lead terminals shall be wet with solder.
4.5	Washability	See Table 2.	No visible damage and the measured values shall meet Table 1.

5.0 Environmental Characterstics

N°	Characteristics	Test conditions	Requirements
5.1	High Temperature	After being placed in a chamber with +80 ±2°C for 96 ±4 hours and then being placed in natural condition for 1 hour. The Filter shall be measured.	No visible damage and the measured values shall meet Table 1.
5.2	Low Temperature	After being placed in a chamber with -20 ±2°C for 96 ±4 hours and then being placed in natural condition for 1 hour. The Filter shall be measured.	The measured values shall meet Table 1.
5.3	Humidity	After being placed in a chamber with 90 to 95% R.H. at +40 ±2°C for 96 ±4 hours and then beaced in natural condition for 1 hour. The Filter shall be measured.	The measured values shall meet Table 1.
5.4	Heat Shock	After being kept at room temperature, the Filter shall be placed at temperature of –20°C for 30 minutes, then the Filter shall be immediately placed at temperature of 80°C, after 30 minutes at temperature of 80°C, the Filter shall be returned to –20°C again. After 5 times above cycles, the Filter shall be returned to room temperature, after 1 hour in natural condition, the Filter shall be measured.	The measured values shall meet Table 1.
5.5	Temperature Characteristic	From temperature range of -20 to +85°C	FTC < 0.3%

6.0 Table 1 and Table 2

Table 1 – Measurement Requirements

Measurements	Requirements
Center Frequency	455±1.0 kHz max
6 dB Bandwidth	±15.0 kHz max
Selectivity (50 dB)	±30.0 kHz max
Stop Band Attenuation	45 dB max
Ripple	3.0 dB max
Insertion Loss	6.0 dB max

Table 2 – Washablilty

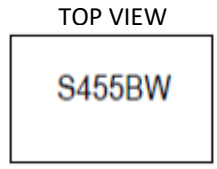
Item	Condition	Cleaning Solvent
Ultrasonic Wash	1 minute max. in above solvent at 60°C max. (Frequency = 28kHz, Output = 20W/L)	1. Trichloroethane 2. Isopropanol 3. Tap Water Demineralizer Water
Immersion Wash	5 minutes max. in above solvent at 60°C max.	
Shower or Rinse Wash	5 minutes max. in above solvent at 60°C max.	
Drying	5 minutes max. by air blow at 80°C max.	

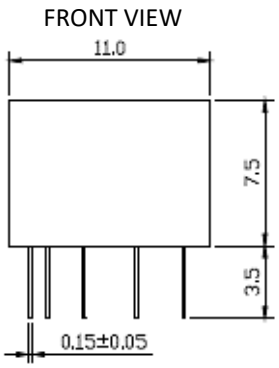
1. In case of immersing in cleaning solvent, the temperature of device must be returned to room temperature after soldering.
2. Total washing time should be within 10 minutes.

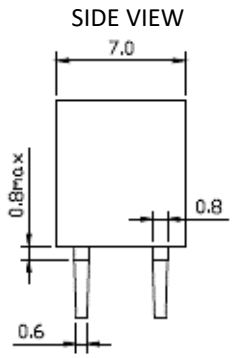
3. Please insure the device is thoroughly evaluated in your application circuit.
4. The device may be damaged if it's washed with chorine, petroleum or alkali cleaning solvent.

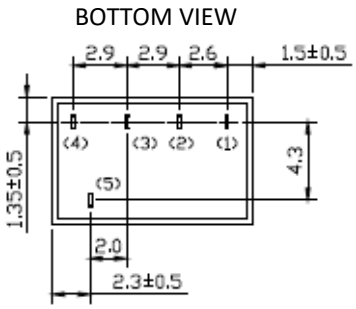
7.0 Package, marking and pin connections

N°	Characteristics	Specifications		Model outline drawing
9.1	Package type	THT, 11.0 x 7.0 x 7.5 mm		
9.2	Marking	Line 1: S244BW		
9.3	Pin connections	Pin 1: Pin 2, 3, 4: Pin 5:	Input GND Output	









NOTE:

- Unit: mm
- Tolerance: ±0.3 mm
- Leads are soldered on electrode and body is molded by resin.

8.0 Disclaimer

When something gets doubtful with this specification, we shall jointly work to get an agreement.

9.0 Specification History

Revision	Change notes	Date
A0	Preliminary Datasheet creation	Sep, 15th 2009
A1	Re-branding Rakon to RakonXpress	Jan, 26th 2023