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|---|--|-------------------------------|
| SPECIFICATION SHEET NO. | R1010- FB450K0000L005 | |
| ORIGINAL MFG/PART NO | TGS Crystals/CF 450FW BLH/LT450FW | |
| DATE | Oct. 10, 2024 | |
| REVISION | A4 | Updated With Most Recent Data |
| DESCRIPTION AND MAIN PARAMETRICS | <p>KHz DIP Ceramic Filter, Standard Type, 5 Pins, FB Series</p> <p>Case 11070, Dimension L11.0*W7.0*H8.0mm</p> <p>450KHz, Insertion Loss. 5.0dB Max.; 6dB Bandwidth: ±6.0KHz Min.</p> <p>Input/Output Impedance: 2000 ohm,</p> <p>Operating Temp. Range -20°C ~+85°C, Packed in Bulk</p> <p>RoHS/RoHS III compliant, RoHS Annex III lead Exemption (exempt per RoHS EU 2015/863)</p> | |
| CUSTOMER | | |
| CUSTOMER PART NUMBER | | |
| CROSS REF. PART NUMBER | | |
| MEMO | | |

| | | | |
|-------------------------|---|--|---|
| VENDOR APPROVE | | | |
| Issued/Checked/Approved |  |  |  |
| Date: Oct. 10, 2024 | | | |

| | |
|-------------------------|--|
| CUSTOMER APPROVE | |
| | |
| Date: | |

MAIN FEATURE

- KHz DIP Ceramic Filter, Standard Type, 5 pins, Case 11070
- Black Case, Dimension L11.0*W7.0*H8.0mm
- Low Cost And Short Shipment
- Cross Main Competitors Parts CFWL series
- REACH/RoHS/RoHS III compliant, RoHS Annex III lead Exemption
(Exempt per RoHS EU 2015/863)

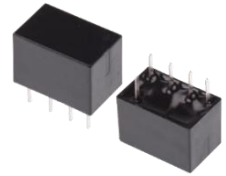


Image shown is a representation only. Exact specifications should be obtained from the product dimension.

APPLICATION

- Communication Electronics

HOW TO ORDER

- Please follow up part code guide and indicate part code when you order or RFQ.



PART CODE GUIDE

RFQ
[Request For Quotation](#)

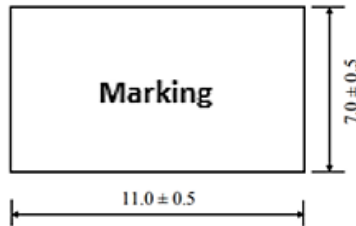
| CODE | NAME | KEY SPECIFICATION OPTION |
|------|--------------------|--|
| FB | Product Series | KHz DIP Ceramic Filter, 5 pins, Case 11070 Dimension L11.0*W7.0*H8.0mm |
| 450K | Frequency Range | 450: 450KHz; 455K: 455KHz |
| 0000 | Internal Control | Letter or Digits (A~Z, a~z or 1~9) |
| L | Dip Type Package | Package in bulk |
| 005 | Special Parametric | Letter or Digits (A~Z, a~z or 1~9) |
| - XX | Suffix | Blank: N/A XX: Internal Control Code, Letter A~Z, a~z or digits (0~9) for Special/Custom Parameters |

DIMENSION (Unit: mm)

Case 11070, 5 Pins

L11.0*W7.0*H8.0mm

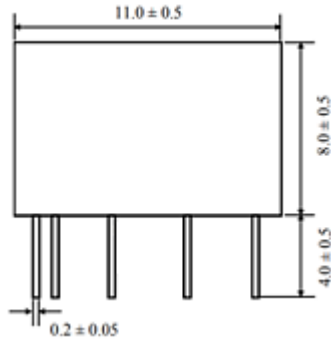
Top View



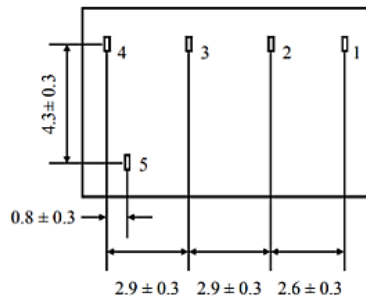
Marking

Line 1: CF or LT
 Line 2: Frequency Range
 + Internal Code

Side View



Bottom View

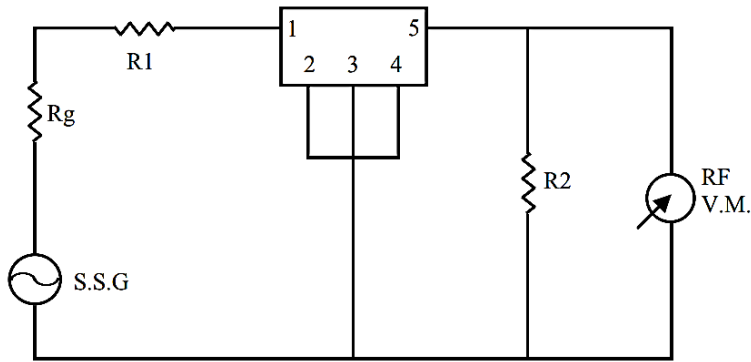


Connection

- 1: Pin 1: Input
- 2: Pin 2: Ground
- 3: Pin 3, Ground
- 4: Pin 4: Ground
- 5: Pin 5: Output

MEASUREMENT

- Measurement shall be carried out at the standard temperature of $25\pm 2^{\circ}\text{C}$. If no specific requirements, Test can be carried out under $5-35^{\circ}\text{C}$.
- Measuring Circuit



$R_g + R_1 = R_2 = \text{Output/input Impedance}$

GENERAL ELECTRICAL PARAMETERS

| PARAMETER | UNITS | VALUE | | | CONDITION |
|-----------------------|--------------------|-------|---------|-----------|--|
| | | MIN. | TYPICAL | MAX. | |
| Operating Temperature | $^{\circ}\text{C}$ | -20 | | +85 | |
| Storage Temperature | $^{\circ}\text{C}$ | -40 | | +85 | |
| Temperature Stability | % | | | ± 0.3 | @ $-20^{\circ}\text{C} \sim +85^{\circ}\text{C}$ |
| Insulation Resistance | $\text{M}\Omega$ | 100 | | | @DC 25V 1 minute |

MAIN ELECTRICAL PARAMETERS - Ta = 25°C

| Part Code | Freq. Range | Bandwidth (6dB) Min | Selectivity (50dB) Max | Stop Band Attenuation Min. | Ripple Max. | Insertion Loss Max. | Input/Output Impedance |
|-----------------------|-------------|---------------------|------------------------|----------------------------|-------------|---------------------|------------------------|
| | KHz | KHz | KHz | dB | dB | dB | Ω |
| FB455K0000L001 | 455±1.0 | ±15.0 | ±30.0 | 30 | 2.0 | 5.0 | 1500 |
| FB455K0000L002 | 455±1.0 | ±12.5 | ±24.0 | 45 | 2.0 | 5.0 | 1500 |
| FB455K0000L003 | 455±1.0 | ±10.0 | ±20.0 | 45 | 2.0 | 5.0 | 1500 |
| FB455K0000L004 | 455±1.0 | ±7.5 | ±15.0 | 45 | 2.0 | 5.0 | 1500 |
| FB455K0000L005 | 455±1.0 | ±6.0 | ±12.5 | 45 | 2.0 | 5.0 | 2000 |
| FB455K0000L006 | 455±1.0 | ±4.5 | ±10.0 | 45 | 2.0 | 5.0 | 2000 |
| FB455K0000L007 | 455±1.0 | ±3.0 | ±9.0 | 45 | 2.0 | 5.0 | 2000 |
| FB455K0000L008 | 455±1.0 | ±3.0 | ±9.0 | 50 | 2.0 | 5.0 | 2000 |
| FB455K0000L009 | 455±1.0 | ±2.0 | ±7.5 | 50 | 2.0 | 7.0 | 2000 |
| FB455K0000L010* | 455±1.0 | ±1.5 | ±4.5 | 60 | 3.0 | 8.0 | 2000 |
| FB450K0000L001 | 450±1.0 | ±15.0 | ±30.0 | 30 | 2.0 | 5.0 | 1500 |
| FB450K0000L002 | 450±1.0 | ±12.5 | ±24.0 | 45 | 2.0 | 5.0 | 1500 |
| FB450K0000L003 | 450±1.0 | ±10.0 | ±20.0 | 45 | 2.0 | 5.0 | 1500 |
| FB450K0000L004 | 450±1.0 | ±7.5 | ±15.0 | 45 | 2.0 | 5.0 | 1500 |
| FB450K0000L005 | 450±1.0 | ±6.0 | ±12.5 | 45 | 2.0 | 5.0 | 2000 |
| FB450K0000L006 | 450±1.0 | ±4.5 | ±10.0 | 45 | 2.0 | 5.0 | 2000 |
| FB450K0000L007 | 450±1.0 | ±3.0 | ±9.0 | 45 | 2.0 | 5.0 | 2000 |
| FB450K0000L008 | 450±1.0 | ±3.0 | ±9.0 | 50 | 2.0 | 5.0 | 2000 |
| FB450K0000L009 | 450±1.0 | ±2.0 | ±7.5 | 50 | 2.0 | 7.0 | 2000 |
| FB450K0000L010* | 450±1.0 | ±1.5 | ±4.5 | 60 | 3.0 | 8.0 | 2000 |

Note: *: Spurious @(0.1-1.0MHz): 50dB Min.

PHYSICAL CHARACTERISTICS

| TEST ITEMS | MEASUREMENT CONDITION | REQUIREMENT |
|------------------------|---|---|
| Random Drop | Filter shall be measured after 3 times random drops from the height of 30cm on concrete floor | No visible damage and it meet Table at Page 4~5 |
| Vibration | Filter shall be measured after being applied vibration of amplitude of 1.5mm with 10-55Hz band of vibration frequency to each of 3 perpendicular directions for 2 hours | No damage and it meet Table at Page 4~5 |
| Solderability | Lead terminals are immersed in aide solder for 5 sec and then immersed in soldering bath of 230±5°C, for 3±0.5 sec. | At least 95% lead terminals shall be covered with solder. |
| Substrate Bending Test | Apply pressure in the direction of arrow at a rate of about 0.5mm per second until it reaches a bend of 3mm and hold for 30s. | No damage, no cut-off and it meet Table at Page 4~5 |
| Adhesion | A static load of 20N to the direction of the arrow shall be applied on the core of the component and hold for 10 seconds. Filter shall be soldered correctly and tightly to PCB. | No damage, no cut-off and it meet Table at Page 4~5 |
| Reflow Soldering | Put on the solder paste on the printed wiring board the samples shall be mounted and soldered under the condition, then it shall be subjected to the room atmosphere for 24 hours prior to the measurement. | No damage, no cut-off and it meet Table at Page 4~5 |

ENVIRONMENTAL CHARACTERISTICS

| TEST ITEMS | MEASUREMENT CONDITION | REQUIREMENT |
|---------------------------|--|---------------------------------|
| Humidity | After being placed in a chamber with 90-95% R.H. at $40\pm 2^{\circ}\text{C}$ for 100 hours and then being placed in room temperature for 1 hour, filter shall be measured. | It shall meet Table at Page 4~5 |
| Resistance to Solder Heat | After being placed in a chamber with $80\pm 2^{\circ}\text{C}$, for 100 hours and then being placed in room temperature for 1 hour, filter shall be measured. | It shall meet Table at Page 4~5 |
| High Temperature | After being placed in a chamber with $80\pm 2^{\circ}\text{C}$, for 100 hours and then being placed in room temperature for 1 hour, filter shall be measured. | It shall meet Table at Page 4~5 |
| Low Temperature | After being placed in a chamber with $-20\pm 2^{\circ}\text{C}$, for 100 hours and then being placed in room temperature for 1 hour, filter shall be measured. | It shall meet Table at Page 4~5 |
| Heat Shock | After being kept at room temperature, filter shall be placed at temperature of -55°C , for 30 minutes, then be placed at temperature. 85°C , for 30 minutes. After that returned to -55°C again. Repeated above cycle for 5 times. After being kept in room temp. for 1 hour, filter shall be measured | It shall meet Table at Page 4~5 |

IMPORTANT NOTES AND DISCLAIMER

1. **ROHS COMPLIANCE:** The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained at Download Center.
2. **REACH COMPLIANCE:** REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
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