NextGen Components,Inc.

# PART CODE: FL450K0000L0A1

## SPECIFICATION SHEET

| | | |
|---|---|---|
| **SPECIFICATION SHEET NO.** | Q1207-FL450K0000L0A1 | |
| **DATE** | Dec. 07, 2023 | |
| **REVISION** | A0 | Updated With Most Recent Data - Official First Release |
| **DESCRIPTION AND MAIN PARAMETRICS** | SMD Ceramic Filter 6560 Type L6.5*W6.0*H4.2mm 3 Pads CFTC U Series 450.0KHz, Insertion Loss. 2.0dB Max.; 6dB Bandwidth: +/-17.5KHz Min. Input/Output Impedance: 1.0Kohm, Operating Temp. Range -20°C ~+85°C, Reflow Profile Condition 260 °C Max. Tape/Reel, RoHS/RoHS III compliant, RoHS Annex III lead Exemption (exempt per RoHS EU 2015/863) | |
| **CUSTOMER** | | |
| **CUSTOMER PART NO.** | | |
| **CROSS REF. PART NO.** | | |
| **ORIGINAL MFG/PART NO.** | TGS/CFTC 450AU TLH/LTUC450A | |
| **PART CODE** | FL450K0000L0A1 | |

| **VENDOR APPROVE** |
|---|
| Issued/Checked/Approved       |
| DATE: Dec. 07, 2023 |

| **CUSTOMER APPROVE** |
|---|
| |
| DATE: |

NextGen Components,Inc.

PART CODE: **FL450K0000L0A1**

# KHZ SMD CERAMIC FILTER STANDARD TYPE CFTC U SERIES

## MAIN FEATURE

- KHz SMD Ceramic Filter 6560 Type 3 pads
- White case, L6.5*W6.0*H4.2mm
- Low Cost And Short Shipment
- Cross More Competitors Part CFWL Series
- RoHS/RoHS III compliant, RoHS Annex III lead Exemption (exempt per RoHS EU 2015/863)

## APPLICATION

- Communication Electronics

## PART CODE GUIDE

RFQ
Request For Quotation

| FL | 450K0000 | S | 0A1 |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

1. FL: Part family Code for KHz SMD Ceramic Filter 6560 Type L6.5*W6.0*H4.2mm 3 Pads CFTC U Series
2. 450K0000: Frequency range code for 450.0000KHz
3. S: SMD type, Package Tape/Reel, 1000pcs/Reel
4. 0A1: Internal Control Code or Special Parameters Code Letter A~Z or digits (1-9)

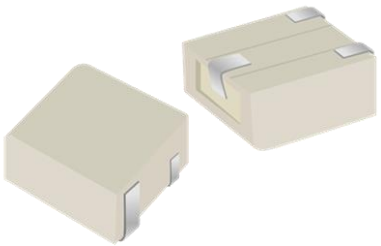
## HOW TO ORDER

Please follow up **Part Code Guide** and indicate pat code when you order or RFQ.

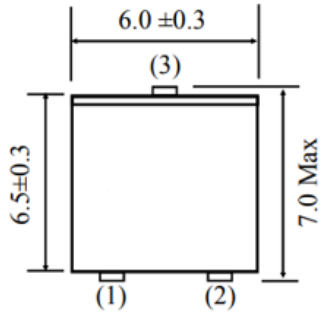
# KHZ SMD CERAMIC FILTER STANDARD TYPE CFTC U SERIES

**DIMENSION (**Unit: mm)

**Image for reference**



**Top View**



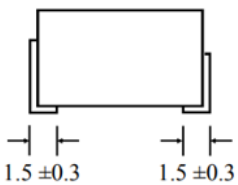

**Marking**

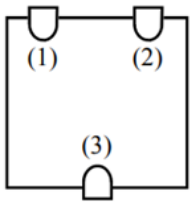
Line 1: Series Code

Line 2: Frequency Range

+Internal Code

**Bottom View**



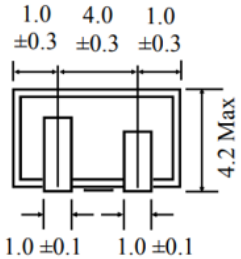

**Connection**

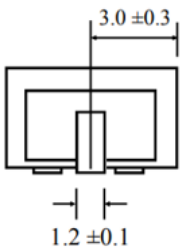
Pin 1: Input

Pin 2: Output

Pin 3: Ground

**Side View**



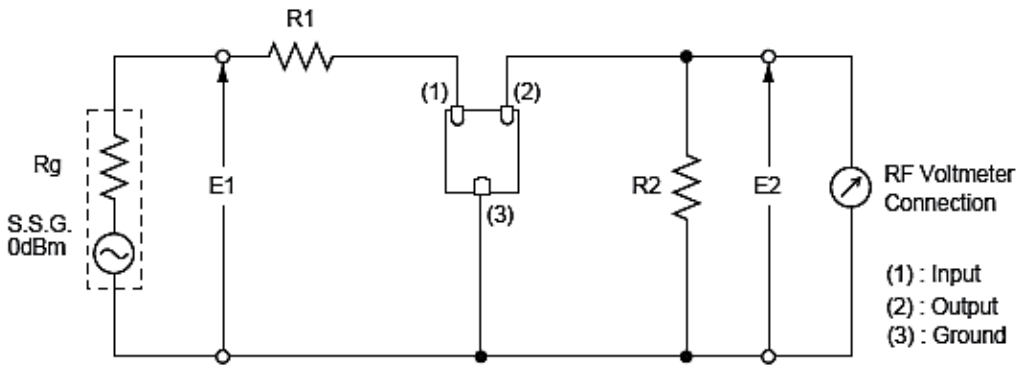



# KHZ SMD CERAMIC FILTER STANDARD TYPE CFTC U SERIES

## GENERAL ELECTRICAL PARAMETERS

| PARAMETER | UNITS | VALUE | | | CONDITION |
|---|---|---|---|---|---|
| | | MIN. | TYPICAL | MAX. | |
| Operation Temperance | °C | -20 | | +85 | |
| Storage Temperance | °C | -40 | | +85 | |
| Temperature Stability | % | | | ±0.5 | @ -20°C ~+85°C |
| Insulation Resistance | MΩ | 100 | | | @DC 100V<br>1 minute |
| RoHS Status | RoHS/RoHS III compliant, RoHS Annex III lead Exemption<br>(exempt per RoHS EU 2015/863) | | | | |

## MEASURING CIRCUIT




Rg+R1=R2=Output/input Impedance

# KHZ SMD CERAMIC FILTER STANDARD TYPE CFTC U SERIES

**MAIN ELECTRICAL PARAMETERS** - Ta = 25℃

| Part Code | Center Freq. Range (KHz) | Bandwidth | | | Stop Band Attenuation @ F0± 100KHz Min. (dB) | Ripple Max. (dB) | Insertion Loss @ Loss Point Max.(dB) | Input/ Output Impedance (KΩ) |
|---|---|---|---|---|---|---|---|---|
| | | @3dB Min. (KHz) | @6dB Min. (KHz) | @40dB Min. (KHz) | | | | |
| FL455K0000L0A1 | 455±2.0 | ±13.0 | ±17.5 | ±40.0 | 27 | 2.0 | 4.0 | 1.0 |
| FL455K0000L004 | 455±1.0 | ±5.0 | ±7.5 | ±15.0 | 27 | 2.0 | 5.0 | 1.5 |
| FL455K0000L005 | 455±1.0 | ±4.5 | ±6.0 | ±12.5 | 27 | 2.0 | 5.0 | 1.5 |
| FL455K0000L006 | 455±1.0 | ±3.0 | ±4.5 | ±10.0 | 27 | 2.0 | 5.0 | 1.5 |

**MAIN ELECTRICAL PARAMETERS** - Ta = 25℃

| Part Code | Center Freq. Range (KHz) | Bandwidth | | | Stop Band Attenuation @ F0± 100KHz Min. (dB) | Ripple Max. (dB) | Insertion Loss @ Loss Point Max.(dB) | Input/ Output Impedance (KΩ) |
|---|---|---|---|---|---|---|---|---|
| | | @3dB Min. (KHz) | @6dB Min. (KHz) | @40dB Min. (KHz) | | | | |
| FL450K0000L0A1 | 450±2.0 | ±13.0 | ±17.5 | ±40.0 | 27 | 2.0 | 4.0 | 1.0 |
| FL450K0000L004 | 450±1.0 | ±5.0 | ±7.5 | ±15.0 | 27 | 2.0 | 5.0 | 1.5 |
| FL450K0000L005 | 450±1.0 | ±4.5 | ±6.0 | ±12.5 | 27 | 2.0 | 5.0 | 1.5 |
| FL450K0000L006 | 450±1.0 | ±3.0 | ±4.5 | ±10.0 | 27 | 2.0 | 5.0 | 1.5 |

## MEASUREMENT

- Measurement Condition: Measurement shall be carried out at the standard temperature of 25±2℃. If no specific requirements, Test can be carried out under 5-35℃.

## 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 1 |
| 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 1. |
| Solderability | Lead terminals are immersed in aide solder for 5 sec and then immersed in soldering bath of 230±5℃, 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 1. |
| 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 1 |
| 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 1 |

# KHZ SMD CERAMIC FILTER STANDARD TYPE CFTC U SERIES

## ENVIRONMENTAL CHARACTERISTICS

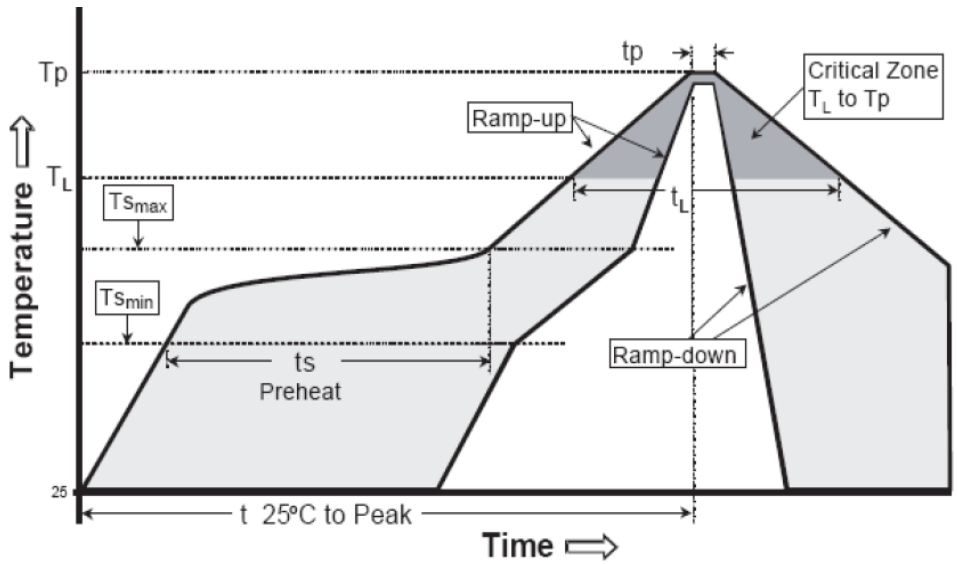
| TEST ITEMS | MEASUREMENT CONDITION | REQUIREMENT |
|---|---|---|
| Humidity | After being placed in a chamber with 90-95% R.H. at 40±2℃ for 100 hours and then being placed in room temperature for 1 hour, filter shall be measured. | It shall meet Table 1. |
| Resistance to Solder Heat | After being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

*Table1*

| Item | Center Frequency | Band width (6dB) | Selectivity (40dB) | Stop Band Attenuation (fo±100KHz) | Ripple (f0±13 KHz) | Insertion Loss |
|---|---|---|---|---|---|---|
| Specification | 455±2.0KHz Max. | ±17.5KHz Min. | ±40.0 KHz Max. | 27dB Min. | 2.0dB Max | 4.0dB Max |

# KHZ SMD CERAMIC FILTER STANDARD TYPE CFTC U SERIES

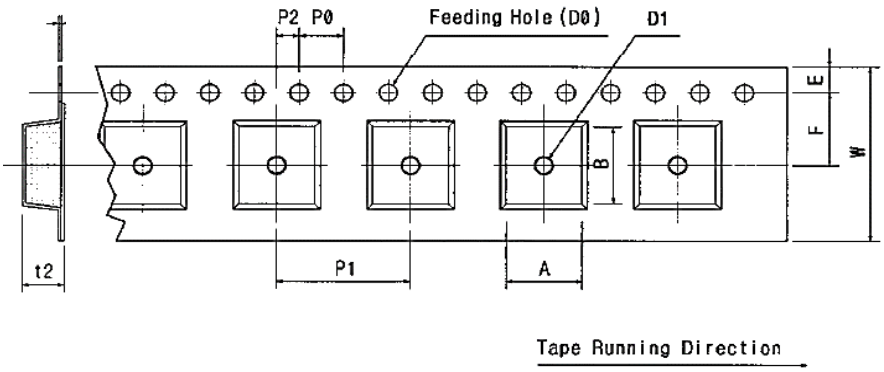
**SUGGESTED REFLOW PROFILE** (For Reference Only)



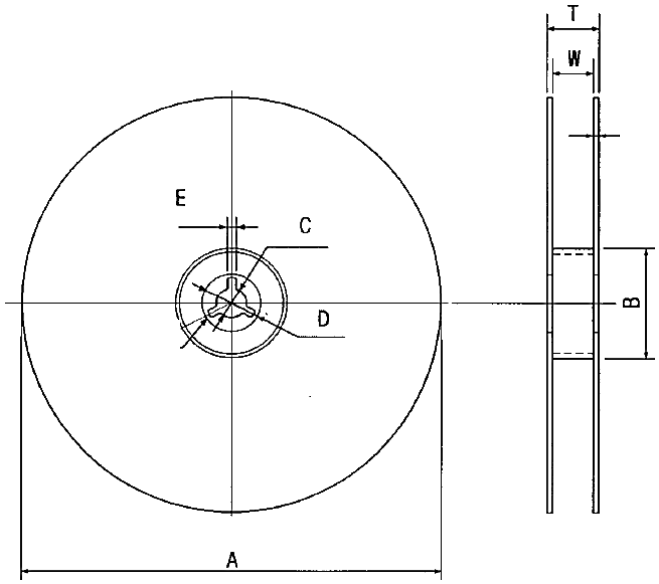

| PROFILE FEATURE | | PB-FREE ASSEMBLY |
|---|---|---|
| Average Ramp-up Rate (Ts Max to Tp) | | 3°C/second Max |
| Preheat | Temperature Min (Ts Min.) | 125°C |
| | Temperature Max (Ts Max.) | 200°C |
| | Time (ts Min. to ts Max.) | 60 ~ 180 seconds |
| Time maintained above | Temperature ($T_L$) | 217°C |
| | Time ($t_L$) | 60 ~ 150 seconds |
| Peak/Classification Temperature (Tp) | | 260 °C |
| Time within 5°C of actual Peak Temperature (tp) | | 20 ~ 40 seconds |
| Ramp-down rate | | 6 °C /Second Max. |
| Time 25 °C to Peak Temperature | | 8 minutes Max. |
| Suggest reflow times | | 3 Times Max. |

# KHZ SMD CERAMIC FILTER STANDARD TYPE CFTC U SERIES

**REEL AND TAPE DIMENSION** (Unit: mm, 1000pcs/Reel)




| CODE | DIMENSION |
|---|---|
| W | 16.0+/-0.30 |
| F | 7.50+/-0.05 |
| E | 1.75+/-0.10 |
| P 0 | 4.00+/-0.10 |
| P 1 | 8.00+/-0.10 |
| P 2 | 2.00+/-0.05 |
| D 0 | Ø1.5+/-0.10 |
| D 1 | Ø1.0+/-0.25 |
| t 2 | 4.20+/-0.10 |
| A | 6.70+/-0.10 |
| B | 6.30+/-0.10 |




| CODE | DIMENSION |
|---|---|
| A | Ø180+/-1.0 |
| B | Ø60+/-0.5 |
| C | Ø13.0+/-0.5 |
| E | 2.00+/-0.5 |
| W | 17.0+/-1.0 |
| T | 19.4+/-0.3 |

## IMPORTANT NOTES AND DISCLAIMER

1. 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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