




SPECIFICATION SHEET

SPECIFICATION SHEET NO.	Q1207-FL455K0000L0A1	
DATE	Dec. 07, 2023	
REVISION	A0	Updated With Most Recent Data - Official First Release
DESCRIPTION AND MAIN PARAMETRICS	<p>SMD Ceramic Filter 6560 Type L6.5*W6.0*H4.2mm 3 Pads CFTC U Series 455.0KHz, 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)</p>	
CUSTOMER		
CUSTOMER PART NO.		
CROSS REF. PART NO.		
ORIGINAL MFG/PART NO.	TGS/CFTC 455AU TLH/LTUC455A	
PART CODE	FL455K0000L0A1	

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

CUSTOMER APPROVE	
DATE:	
12/7/2023	

12/7/2023

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	455K0000	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. 455K0000: Frequency range code for 455.0000KHz
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)

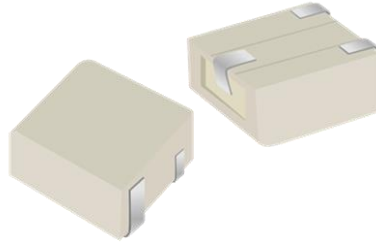
HOW TO ORDER

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

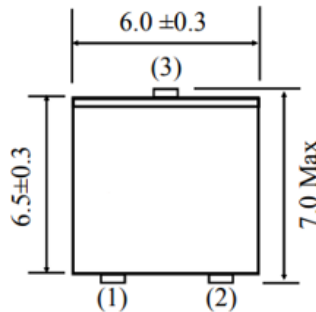
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DIMENSION (Unit: mm)

Image for reference



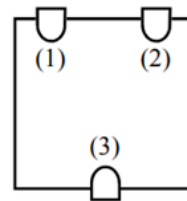
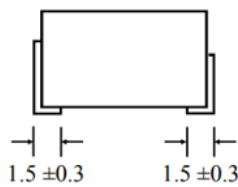
Top View



Marking

Line 1: Series Code
Line 2: Frequency Range
+Internal Code

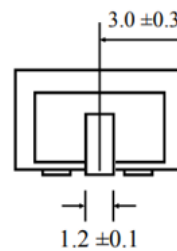
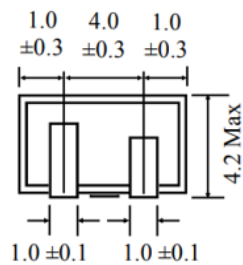
Bottom View



Connection

Pin 1: Input
Pin 2: Output
Pin 3: Ground

Side View

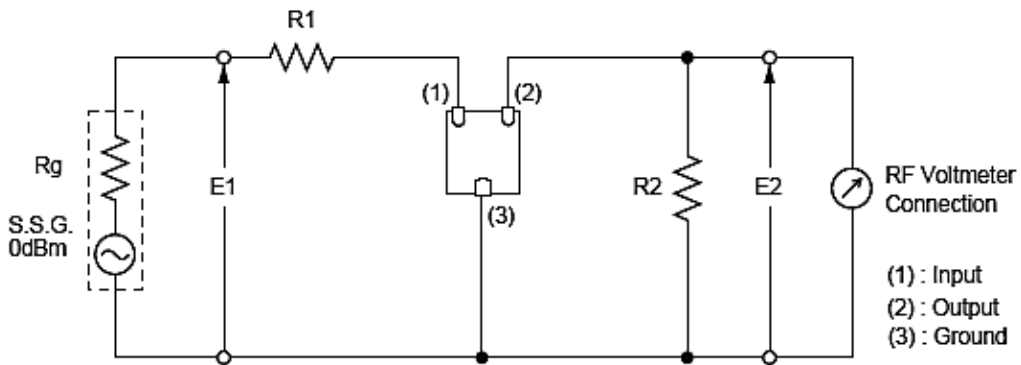


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GENERAL ELECTRICAL PARAMETERS

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

MEASURING CIRCUIT



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

KHZ SMD CERAMIC FILTER STANDARD TYPE CFTC U SERIES

MAIN ELECTRICAL PARAMETERS - Ta = 25°C

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)				
FL455K0000LOA1	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°C

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)				
FL450K0000LOA1	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

KHZ SMD CERAMIC FILTER STANDARD TYPE CFTC U SERIES

MEASUREMENT

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

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°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 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

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ENVIRONMENTAL CHARACTERISTICS

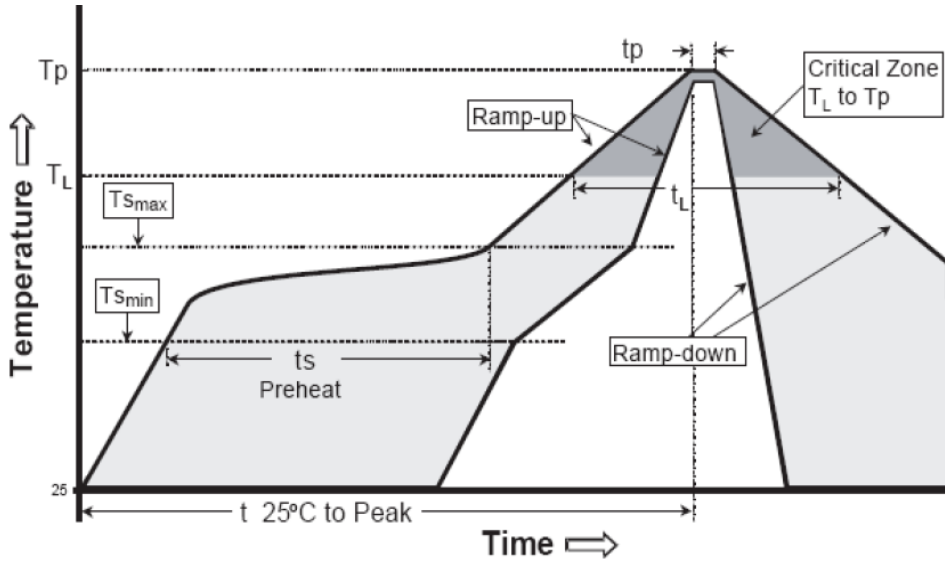
TEST ITEMS	MEASUREMENT CONDITION	REQUIREMENT
Humidity	After being placed in a chamber with 90-95% R.H. at 40±2°C for 100 hours and then being placed in room temperature for 1 hour, filter shall be measured.	It shall meet Table 1.
Resistance to Solder Heat	After being placed in a chamber with 80±2°C, 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°C, 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°C, 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 °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 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

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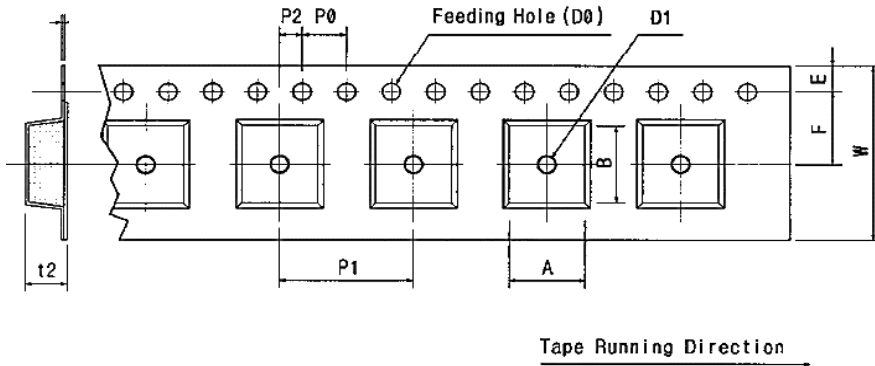
SUGGESTED REFLOW PROFILE (For Reference Only)



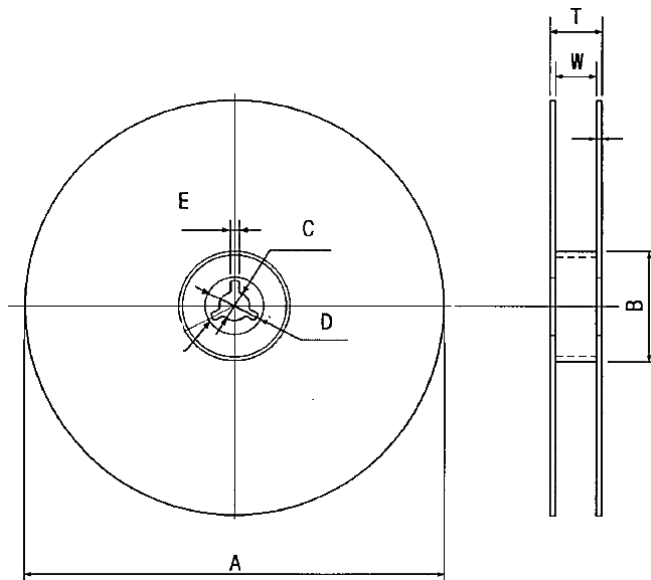
PROFILE FEATURE		PB-FREE ASSEMBLY
Average Ramp-up Rate (Ts Max to Tp)		3°C/second Max
Preheat	Temperature Min (Ts Min.)	125°C
	Temperature Max (Ts Max.)	200°C
	Time (ts Min. to ts Max.)	60 ~ 180 seconds
Time maintained above	Temperature (TL)	217°C
	Time (tL)	60 ~ 150 seconds
Peak/Classification Temperature (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.

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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

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IMPORTANT NOTES AND DISCLAIMER

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