




**SPECIFICATION SHEET**

|                                |   |
|--------------------------------|---|
| <b>SPECIFICATION SHEET NO.</b> | Q0522-FK10M7000SVA20  |
| <b>DATE</b>                    | May 22, 2023  |
| <b>REVISION</b>                | A0  |
| <b>DESCRIPTION</b>             | SMD MHz Ceramic Filter, L7.0*W3.0*H1.5mm, 3 Pads, CF73 Series<br>10.700MHz 3dB Band Width kHz: 330+/-50KHz,<br>Insertion Loss: 4.0+/-2.0dB. Impedance: 330 ohm<br>Operating Temp. Range -20°C ~+80°C,<br>Packed in Tape/Reel, 4000pcs/Reel<br>RoHS/RoHS III compliant |
| <b>CUSTOMER</b>                |   |
| <b>CUSTOMER PART NUMBER</b>    |   |
| <b>CROSS REF. PART NUMBER</b>  |   |
| <b>ORIGINAL PART NUMBER</b>    | TGS CF73 10.7MVA20 TLF  |
| <b>PART CODE</b>               | FK10M7000SVA20  |

|                         |   |  |   |
|-------------------------|---|--|---|
| <b>VENDOR APPROVE</b>   |   |  |   |
| Issued/Checked/Approved |  |  |  |
| DATE: May 22, 2023      |   |  |   |

|                         |  |
|-------------------------|--|
| <b>CUSTOMER APPROVE</b> |  |
|                         |  |
| DATE:                   |  |

5/24/2023

**SMD MHZ CERAMIC FILTER CF73 SERIES VA20 TYPE**

**MAIN FEATURE**

- SMD MHz Ceramic Filter, L7.0\*W3.0\*H1.5mm, 3 Pads
- Low cost & short lead time.
- Cross more competitors part SFECF/SFECV Series
- RoHS/RoHS III compliant



**APPLICATION**

- Communication Electronics and more

**PART CODE GUIDE**

**RFQ**  
[Request For Quotation](#)

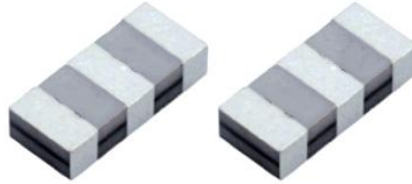
| FK | 10M7000 | S | VA20 |
|----|---------|---|------|
| 1  | 2       | 3 | 4    |

- 1) FK: Part family Code for SMD MHz Ceramic Filter, L7.0\*W3.0\*H1.5mm, 3 Pads, CF73 series
- 2) 10M7000: Frequency range code for 10.70000MHz
- 3) S: Packed in Tape/Reel
- 4) VA20: Specification code for original Part No. TGS CF73 10.7MVA20 TLF

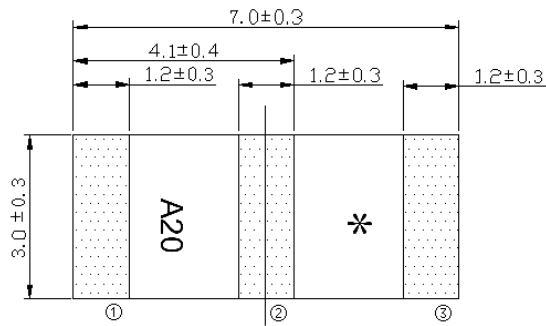
**SMD MHZ CERAMIC FILTER CF73 SERIES VA20 TYPE**

**DIMENSION (Unit: mm)**

Image for reference



CF73

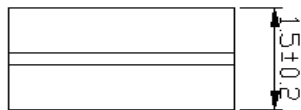
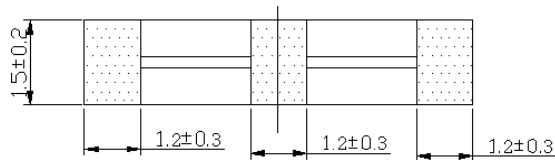


\*: QC Code

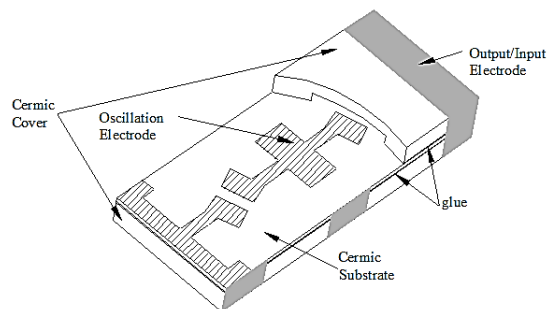
(1): Input

(2): Ground

(3): Output



**Structure**



**SMD MHZ CERAMIC FILTER CF73 SERIES VA20 TYPE**
**ELECTRICAL PARAMETERS**

| Parameter              | Part No. Symbol         | Units   | Value               |         |           | Condition            |
|------------------------|-------------------------|---|---------------------|---------|-----------|----------------------|
|                        |                         |   | Min.                | Typical | Max.      |                      |
| Original Manufacturer  | TGS                     | TGS Crystals  |                     |         |           |                      |
| Holder Type            | CF73                    | SMD MHz Ceramic Filter,<br>L7.0*W3.0*H1.5mm, 3 Pads |                     |         |           |                      |
| Center Frequency (f0)  | 10.7M                   | MHz   | 10.7000             |         | @+/-30KHz |                      |
| Bandwidth              | VA20                    | kHz   | 280                 | 330     | 380       | @3 dB                |
| Bandwidth              |                         | kHz   | -                   |         | 680       | @20 dB               |
| Ripple                 |                         | dB  |                     |         | 1.0       | within 3dB bandwidth |
| Insertion Loss         |                         | dB  | 2.0                 | 4.0     | 6.0       | @Min.loss point      |
| Temp. Characteristic   |                         | %   |                     |         | ±0.5      | @-20°C ~ +80°C       |
| Spurious Response      |                         | dB  | 30                  |         |           | @9.0 ~ 12.0MHz       |
| Input/Output Impedance |                         | Ω   |                     | 330     |           |                      |
| Insulation Resistance  |                         | MΩ  | 100                 |         |           | @ 10V 1 min.         |
| Withstand DC Voltage   |                         | V   |                     |         | 50        | @ DC, 1 min          |
| Operating Temp. Range  |                         | °C  | -20                 |         | +80       |                      |
| Storage Temp. Range    | °C                      | -40   |                     | +85     |           |                      |
| Others                 | Package                 | T   | Packed in Tape/Reel |         |           |                      |
|                        | RoHS Status             | LF  | RoHS III compliant  |         |           |                      |
|                        | Add Value               |   | N/A                 |         |           |                      |
|                        | Internal Control Code * |   | N/A                 |         |           |                      |

 Note: Original Part Number: **TGS CF73 10.7MVA20 TLF**

**SMD MHZ CERAMIC FILTER CF73 SERIES VA20 TYPE**

**RELIABILITY**

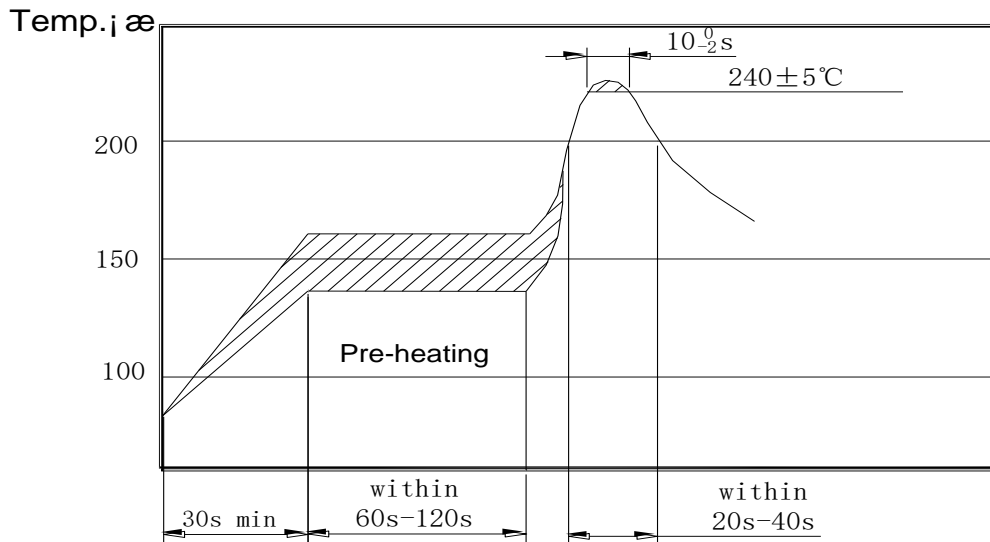
| Test Items                 | Test Method And Conditions   | Requirement  |
|----------------------------|--|--|
| <b>Humidity</b>            | After being placed in a chamber with 90-95% R.H. at 40±2°C for 96 hours and then being placed in room temperature for 1 hour, filter shall be measured.  | It shall fulfill Table 1.                              |
| <b>High Temperature</b>    | After being placed in a chamber with 85±2 °C,for 96 hours and then being placed in room temperature for 1 hour, filter shall be measured.  | It shall fulfill Table 1.                              |
| <b>Low Temperature</b>     | After being placed in a chamber with -40±2 °C,for 96 hours and then being placed in room temperature for 1 hour, filter shall be measured.   | It shall fulfill Table 1.                              |
| <b>Temperature Cycling</b> | After temperature cycling of blow table was performed 5 times, Filter shall be measured after being placed in natural conditions for 1h.<br>Temp.: -20±3°C, Time: 30±3 min ; Temp.: -80±3°C, Time: 30±3 min. | It shall fulfill Table 1.                              |
| <b>Vibration</b>           | Subject the filter to vibration for 2h.Each in x y and z axis with the amplitude of 1.5mm, The frequency shall be varied uniformly between the limits of 10Hz-55Hz-10Hz and then filter shall be measured.   | It shall fulfill Table 1.                              |
| <b>Mechanical Shock</b>    | Filter shall be measured after 3 times random dropping from the height of 1m on the wooden plate.  | No visible damage. it shall fulfill Table 1            |
| <b>Soldering Test</b>      | Passed through the reflow oven under the following condition, and left at room temp. for 24 hours before measurement.  | It shall fulfill Table 1.                              |
| <b>Solderability</b>       | Dipped in 235°C±5°C solder bath for 3s±0.5s with rosin flux (25wt% ethanol solution.)  | The terminals shall be at least 95% covered by solder. |
| <b>Board Bending</b>       | Mount on a glass-epoxy board(width =50mm, thickness=1.6mm),then bend it to 1mm displacement(velocity= 1mm/s) and keep it for 5s.   | Mechanical damage such as break shall not occur        |

**SMD MHZ CERAMIC FILTER CF73 SERIES VA20 TYPE**

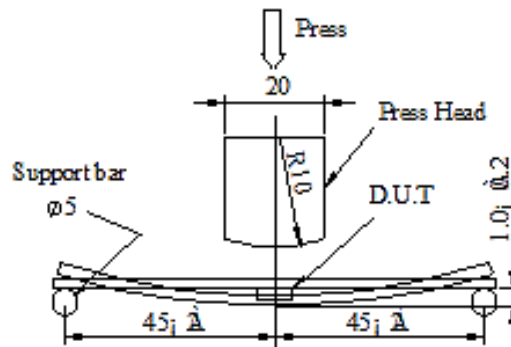
**Table 1**

| Test Items             | Characteristics after test |
|------------------------|----------------------------|
| Center Frequency Drift | ±30 kHz Max.               |
| Insertion Loss Drift   | ±2.0 dB Max.               |
| 3dB Bandwidth Drift    | ±25 kHz Max.               |
| 20dB Bandwidth Drift   | ±60 kHz Max.               |

Note: The limits in the above table are referenced to the initial measurements.



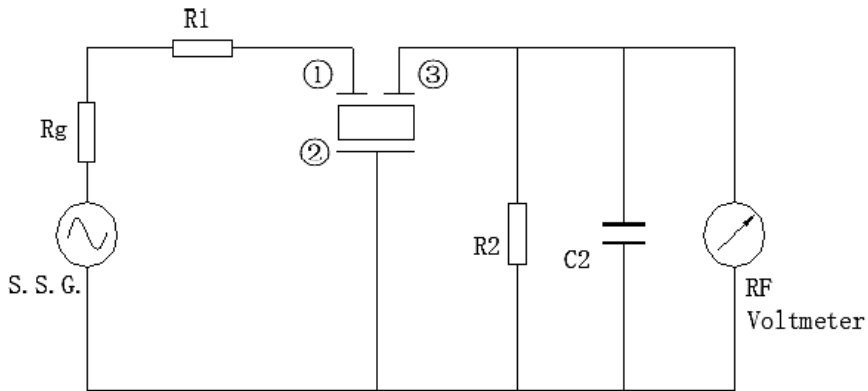
**Soldering Test**



**Board Bending**

**SMD MHZ CERAMIC FILTER CF73 SERIES VA20 TYPE**

**TEST CIRCUIT (For Reference Only)**



$$R1+Rg = R2=330\Omega\pm5\%, Rg=50\Omega$$

C2=10 PF (Including stray capacitance and capacitance of RF Voltmeter)

S.S.G: Output Voltmeter

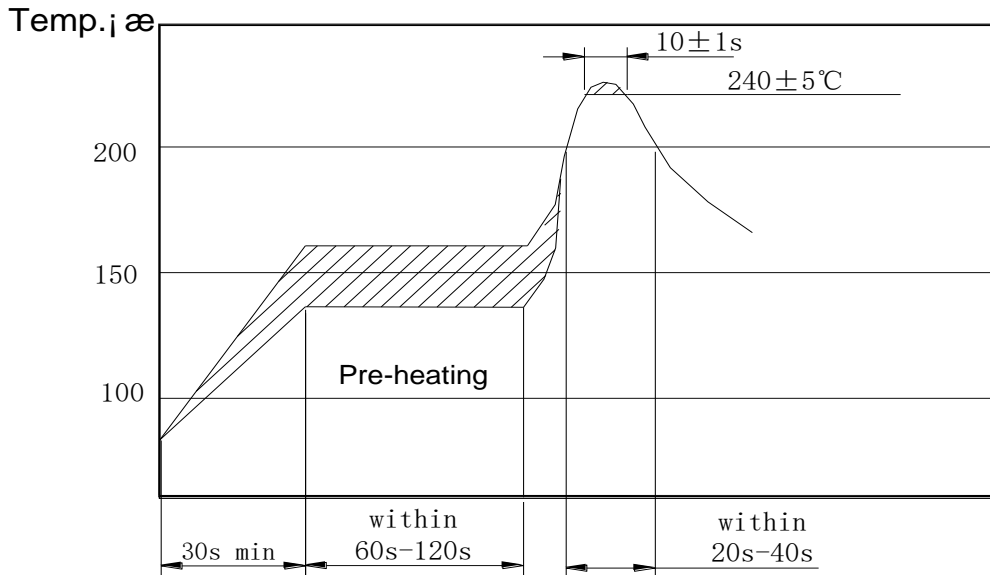
(1): Input (2): Ground (3): Output

**Note:**

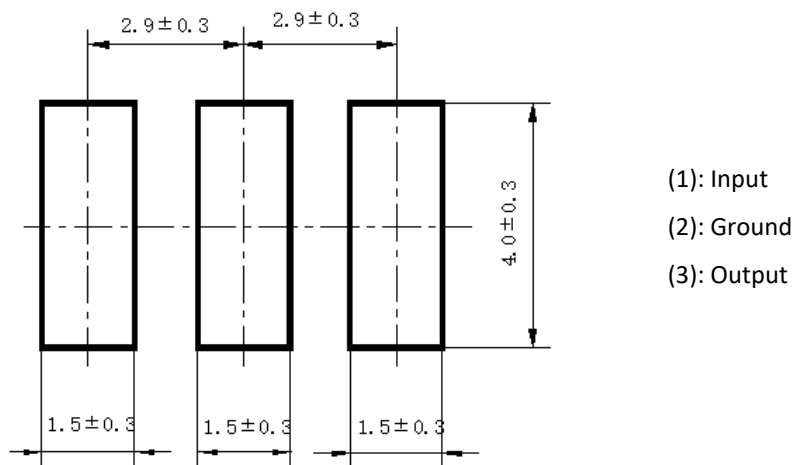
Parts shall be tested under the condition ( Temp.:  $20\pm15^{\circ}\text{C}$ , Humidity  $65\pm20\%$  R.H.) unless the standard condition (Temp.:  $25\pm3^{\circ}\text{C}$ , Humidity :  $65\pm10\%$  R.H.) is regulated to measure.

**SMD MHZ CERAMIC FILTER CF73 SERIES VA20 TYPE**

**RECOMMENDED REFLOW SOLDERING STANDARD CONDITION**



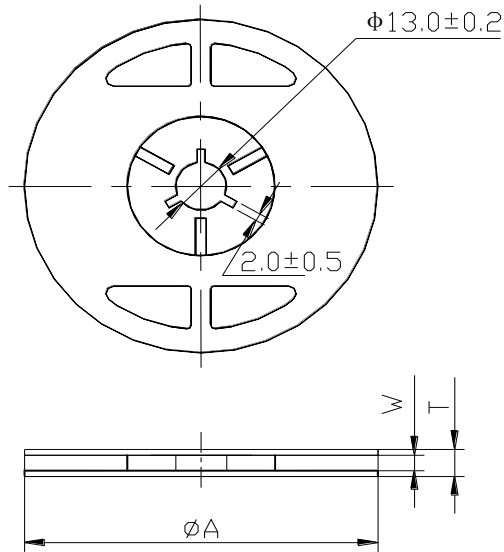
**RECOMMENDED LAND PATTERN**



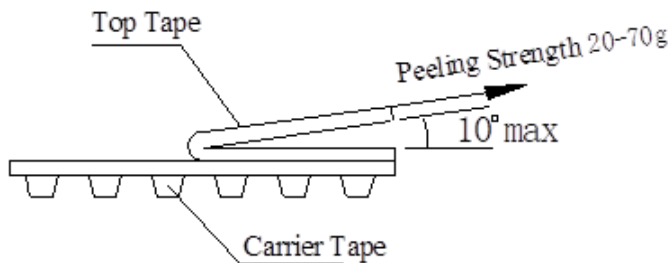
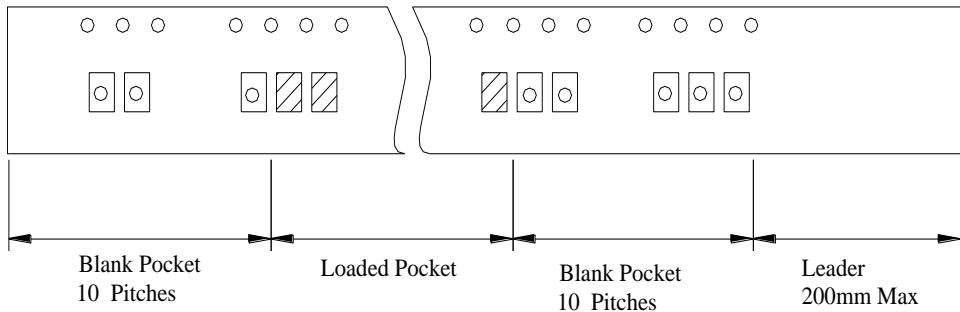


**SMD MHZ CERAMIC FILTER CF73 SERIES VA20 TYPE**

**TPAE/REEL DIMENSIONS (mm)**



| $\phi A$    | W       | T       | Pieces per reel | Carrier tape size |
|-------------|---------|---------|-----------------|-------------------|
| $330 \pm 3$ | 16.4min | 22.4max | 4000 typ.       | 16                |



## SMD MHZ CERAMIC FILTER CF73 SERIES VA20 TYPE

### NOTES

- Don't apply excess mechanical stress to the component and terminals at soldering. Do not use this product with bend.
- Do not clean or wash the component for it is not hermetically sealed.
- Do not use strong acidity flux, more than 0.2wt% chlorine content, in flow soldering.
- Don't be close to fire.
- This specification mentions the quality of the component as a single unit. Please insure the component is thoroughly evaluated in your application circuit
- Expire date (Shelf life) of the products is 12 months after delivery under the conditions of a sealed and an unopened package. Please use the products within 12 months after delivery. If you store the products for a long time (more than 12 months), use carefully because the products may be degraded in the solder-ability or rusty. Please confirm solder-ability and characteristics for the products regularly.
- Exposure components under soldering condition that is exceeding our recommendation will increase the failure dangerous.
- Please contact us before using the product as automobile electronic component.
- Please return one of these specifications after your signature of acceptance.
- When something gets doubtful with this specifications, we shall jointly work to get an agreement.
- For questions on technology, prices and delivery, please contact our sales offices or e-mail:  
[sales@NextGenComponent.com](mailto:sales@NextGenComponent.com) .

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