




**SPECIFICATION SHEET**

|                                |  |
|--------------------------------|--|
| <b>SPECIFICATION SHEET NO.</b> | N0529-DC455K0000S124   |
| <b>DATE</b>                    | May 29, 2021   |
| <b>REVISION</b>                | A0   |
| <b>DESCRIPTION</b>             | <p>KHz SMD Discriminators 6260 Type L6.2*W6.0*H3.1mm 2 Pads CDBC Series<br/>           455.0KHz, Demodulated Bandwidth(3dB): ±4.0KHz Min from 455KHz<br/>           Operating Temp. Range -20°C ~+80°C<br/>           Reflow Profile Condition 260 °C Max.<br/>           In Tape/Reel, 2000pcs/Reel<br/>           RoHS III Complaint</p> |
| <b>CUSTOMER</b>                |  |
| <b>CUSTOMER PART NUMBER</b>    |  |
| <b>CROSS REF. PART NUMBER</b>  |  |
| <b>ORIGINAL PART NUMBER</b>    | TGS CDBC 455C24 TLF  |
| <b>PART CODE</b>               | DC455K0000S124   |

|                         |   |  |
|-------------------------|---|--|
| <b>VENDOR APPROVE</b>   |   |  |
| Issued/Checked/Approved |    |  |
|                         |  |  |
| DATE: May 29, 2021      |   |  |

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

## KHZ SMD CERAMIC DISCRIMINATOR CDBC SERIES

### MAIN FEATURE

- KHz SMD Ceramic Discriminator 6260 Type 2 pads
- White case, L6.2\*W6.0\*H3.1mm
- Low cost and short shipment
- Reflow Profile Condition 260 °C Max.
- Cross main competitors parts CDBC and JTC series
- RoHS/RoHS III compliant
- For quadrature detection with IC: TOSHIBA/TA31136



### APPLICATION

- Communication Electronics

### PART CODE GUIDE

**RFQ**

[Request For Quotation](#)

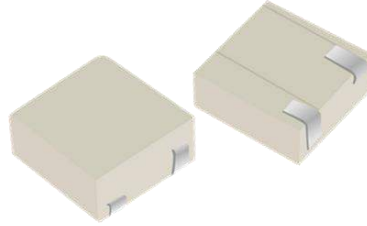
|           |                 |          |            |
|-----------|-----------------|----------|------------|
| <b>DC</b> | <b>455K0000</b> | <b>S</b> | <b>124</b> |
| 1         | 2               | 3        | 4          |

- 1) DC: Part family Code for KHz SMD Ceramic Discriminator 6260 Type L6.2\*W6.0\*H3.1mm 2 Pads
- 2) 455K0000: Frequency range code for 455.0000KHz
- 3) S: SMD type, Package Tape/Reel, 2000pcs/Reel
- 4) 124: Specification code for original part No.: **TGS CDBC 455C24 TLF**

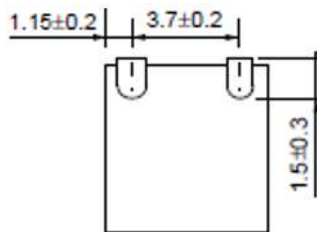
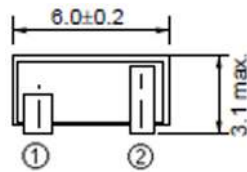
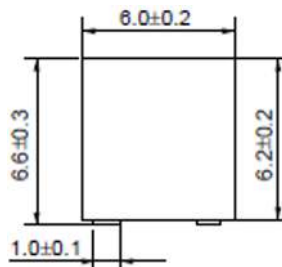
**KHZ SMD CERAMIC DISCRIMINATOR CDBC SERIES**

**DIMENSION (Unit: mm, Tol. +/-0.15mm)**

Image for reference



CDBC



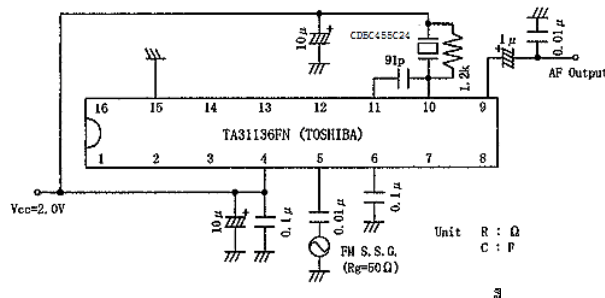
**Marking**

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

**Connection**

Pin 1: Input  
Pin 2: Output

Measuring Circuit



## KHZ SMD CERAMIC DISCRIMINATOR CDBC SERIES

**ELECTRICAL PARAMETERS**

| Parameter                     | Part No. Symbol | Units   | Value                            |                         |                    | Condition    |
|-------------------------------|-----------------|---|----------------------------------|-------------------------|--------------------|--------------|
|                               |                 |   | Min.                             | Typical                 | Max.               |              |
| Original Manufacturer         | TGS             | TGS Crystals  |                                  |                         |                    |              |
| Holder Type                   | CDBC            | KHz SMD Discriminators<br>6260 Type L6.2*W6.0*H3.1mm 2 Pads |                                  |                         |                    |              |
| Frequency Range (f0)          | 455             | KHz   | 455.000                          |                         | @ ± 1.0KHz         |              |
| Bandwidth                     | C24             | KHz   | ±4.0                             |                         | @3dB Bandwidth, f0 |              |
| Operation Temperature         |                 | °C  | -20                              |                         | +80                |              |
| Storage Temperature           |                 | °C  | -40                              |                         | +85                |              |
| Demodulated Output            |                 | mV  |                                  | 100±40                  |                    | @f0          |
| Demodulated Distortion Factor |                 | %   |                                  |                         | 2.0                | @ 455KHz     |
| Temperature Stability         |                 | %   | 0.3                              |                         |                    | @-20 ~+80 °C |
| IC Model No.                  |                 | TOSHIBA/TA31136   |                                  |                         |                    |              |
| Withstand Voltage             |                 | DC 5.0V 1 minute  |                                  |                         |                    |              |
| Other                         |                 | Package   | T                                | Tape/Reel, 2000pcs/Reel |                    |              |
|                               | RoHS Status     | LF  | RoHS III compliant               |                         |                    |              |
|                               | Add Value       |   | N/A                              |                         |                    |              |
|                               | Special Code    |   | For Internal Control, Blank: N/A |                         |                    |              |

Note: Original Part Number: **TGS CDBC 455C24 TLF**

**INPUT SIGNAL CONDITION**

| Item                 | Unit | Value |
|----------------------|------|-------|
| Input                | dBm  | -27.0 |
| Deviation            | KHz  | ±1.5  |
| Frequency Modulation | KHz  | 1.0   |

**KHZ SMD CERAMIC DISCRIMINATOR CDBC SERIES**

**TEST METHOD**

| Test Items                           | Test Method And Conditions  | Requirement                            |
|--------------------------------------|---|--|
| <b>Demodulated 3dB Bandwidth</b>     | <p>Input the above signal and sweep the carrier around 455 kHz, and find Out the maximum audio output frequency. Then sweep the carrier frequency again and find two frequencies, which are observed –3dB attenuation points from the maximum point.</p> <p>Higher frequency point is called (f1) and lower called (f2). (F1-455KHz) is defined as upper 3dB bandwidth and (455KHz-f2) defined as lower 3dB bandwidth.</p>                        | <p>It shall meet the specification</p> |
| <b>Demodulate Output</b>             | <p>Demodulated output shall be measured when carrier frequency is adjusted to 455KHz.</p>   | <p>It shall meet the specification</p> |
| <b>Demodulated Distortion Factor</b> | <p>Carrier frequency is adjusted to 455KHz.And distortion shall be measured with 1 kHz modulation frequency.</p>  | <p>It shall meet the specification</p> |
| <b>Input signal condition</b>        | <p>Input signal condition, Input level - 80dBμ;<br/>Frequency Deviation – 4.0KHz; Modulation Frequency: 1.0KHz</p>  |  |
| <b>Measurement Condition</b>         | <p>Unless otherwise noted, the standard range of atmospheric conditions for measurements and tests are as follows:</p> <p>Ambient temperature:5°C to 35 °C Relative humidity :45% to 85%<br/>Air pressure :86Kpa to 106 Kpa</p> <p>If there is doubt about the results, measurement shall be made within the following limits:</p> <p>Ambient temperature: 18°C to 22 °C<br/>Relative humidity :60% to 70%<br/>Air pressure: 86Kpa to 106 Kpa</p> |  |

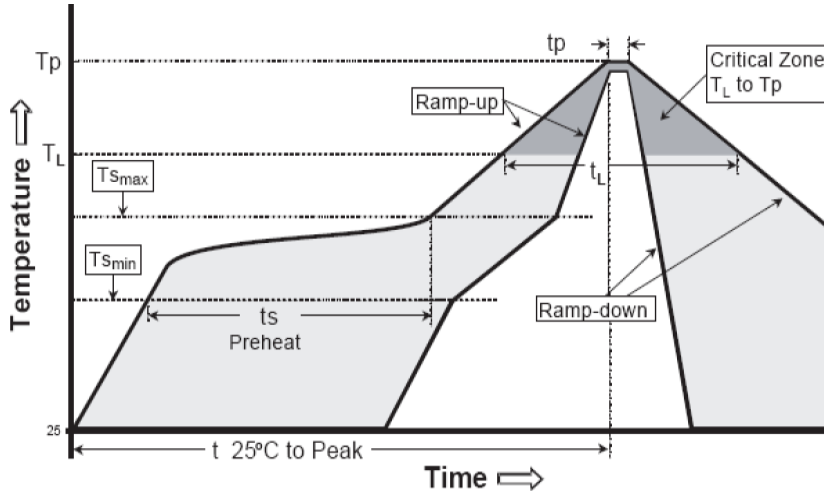
## KHZ SMD CERAMIC DISCRIMINATOR CDBC SERIES

**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 100 hours and then being placed in room temperature for 1 hour, filter shall be measured.   | It shall meet Table 1.                |
| <b>High Temperature</b>          | 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.                |
| <b>Low Temperature</b>           | 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.                |
| <b>Heat Shock</b>                | 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.                |
| <b>Resistance to Solder Heat</b> | Lead terminals are immersed up to 1.5mm from filter’s body in soldering bath of 350± 10°C, for 3±0.5 sec. And then filter shall be measured after being placed in room temperature for 1 hour.   | It shall meet Table 1.                |
| <b>Solderability</b>             | 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   | It shall meet Table 1.                |
| <b>Drop Test</b>                 | Filter shall be measured after 3 times random drops from the height of 30 cm on concrete floor   | No visible damage and it meet Table 1 |
| <b>Adhesion</b>                  | A static load of 20N to the direction of the arrow (see Fig. 4) shall be applied on the core of the Component and hold for 10 seconds. Filter shall be soldered correctly and tightly to PCB.  | It shall meet Table 1.                |
| <b>Vibration</b>                 | 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 visible damage and it meet Table 1 |
| <b>Substrate Bending Test</b>    | Apply pressure in the direction of arrow (see Fig. 3) at a rate of about 0.5mm per second until it reaches a bend of 3mm and hold for 30 seconds.  | It shall meet Table 1.                |

**Table1**

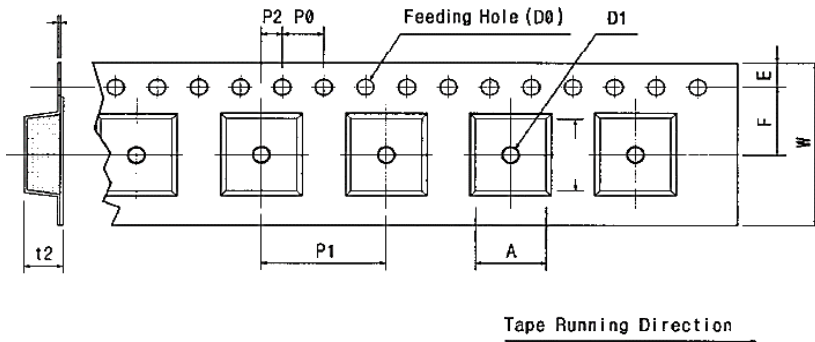
| Item          | Center Frequency | Demodulated Bandwidth(3dB) | Demodulated Output (at 455 kHz) | Demodulated Distortion |
|---------------|------------------|----------------------------|---------------------------------|------------------------|
| Specification | 455±1.0KHz Max.  | ±4.0KHz Min.               | 100±40mV.                       | 2.0%Max.               |

**KHZ SMD CERAMIC DISCRIMINATOR CDBC SERIES**
**SUGGESTED REFLOW PROFILE (For Reference Only)**


|   |                                    |                   |
|---|------------------------------------|-------------------|
| <b>Profile Feature</b>  |                                    | Pb-Free Assembly  |
| <b>Average Ramp-up Rate (Ts Max to Tp)</b>                        |                                    | 3°C/second Max    |
| <b>Preheat</b>  | <b>Temperature Min (Ts Min.)</b>   | 125°C             |
|   | <b>Temperature Max (Ts Max.)</b>   | 200°C             |
|   | <b>Time (ts Min. to ts Max.)</b>   | 60 ~ 180 seconds  |
| <b>Time maintained above</b>                                      | <b>Temperature (T<sub>L</sub>)</b> | 217°C             |
|   | <b>Time (t<sub>L</sub>)</b>        | 60 ~ 150 seconds  |
| <b>Peak/Classification Temperature (T<sub>p</sub>)</b>            |                                    | 260 °C            |
| <b>Time within 5°C of actual Peak Temperature (t<sub>p</sub>)</b> |                                    | 20 ~ 40 seconds   |
| <b>Ramp-down rate</b>   |                                    | 6 °C /Second Max. |
| <b>Time 25 °C to Peak Temperature</b>                             |                                    | 8 minutes Max.    |
| <b>Suggest reflow times</b>                                       |                                    | 3 Times Max.      |

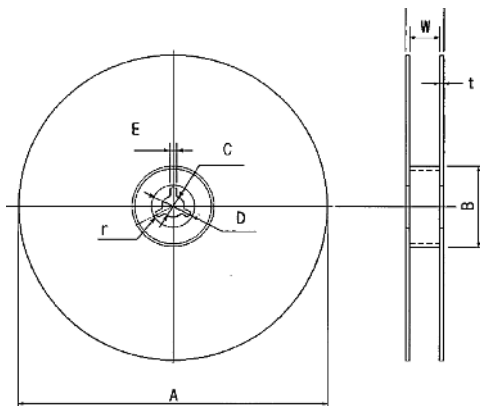
**KHZ SMD CERAMIC DISCRIMINATOR CDBC SERIES**

**REEL DIMENSION (Unit: mm, 2000pcs/Reel)**

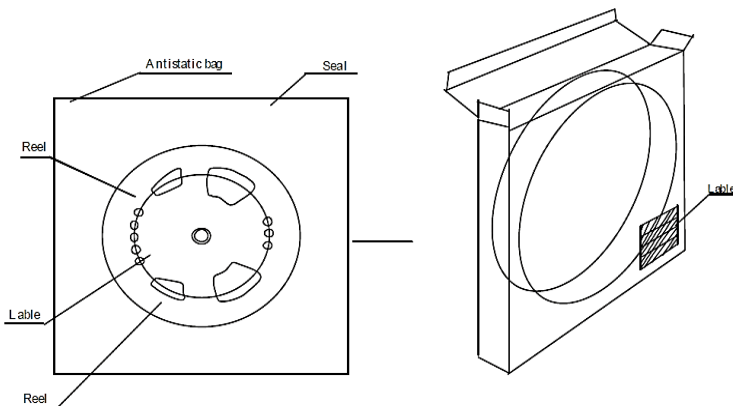


| Code | Dimension   |
|------|-------------|
| W    | 16.0+/-0.30 |
| F    | 6.80+/-0.20 |
| E    | 1.75+/-0.10 |
| P 0  | 4.00+/-0.10 |
| P 1  | 7.80+/-0.10 |
| P 2  | 2.00+/-0.05 |
| D 0  | Ø1.5+/-0.10 |
| D 1  | Ø1.5+/-0.10 |
| t 2  | 3.60+/-0.10 |
| A    | 7.70+/-0.10 |

**TAPE DIMENSION (Unit: mm)**



| Code | Dimension   |
|------|-------------|
| A    | Ø330+/-1.0  |
| B    | Ø80.0+/-0.5 |
| C    | Ø13.0+/-0.5 |
| E    | 2.00+/-0.3  |
| W    | 16.0+/-1.0  |



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