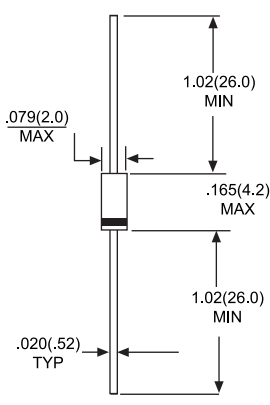


# NINGBO KLS ELECTRONIC CO.,LTD

## BZX55C Series

| Zener diode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                         | Voltage Range<br>2.4 to 75 Volts                                                                                                                                 |                  |                                |                |           |               |        |       |      |                  |                                |                   |     |     |           |                 |      |        |     |     |     |      |                 |                       |  |                |  |  |     |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------|----------------|-----------|---------------|--------|-------|------|------------------|--------------------------------|-------------------|-----|-----|-----------|-----------------|------|--------|-----|-----|-----|------|-----------------|-----------------------|--|----------------|--|--|-----|---|
| <div>Features</div> <div>1.High reliability</div> <div>Applications</div> <div>Voltage stabilization</div> <div>Construction</div> <div>Silicon epitaxial planer</div> <div>Absluto Maximum Ratings</div> <div>T<sub>j</sub>=25<sup>0</sup>C</div>                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                         | <div>DO-35</div> <div></div> <div>Dimensions in inches and (millimeters)</div> |                  |                                |                |           |               |        |       |      |                  |                                |                   |     |     |           |                 |      |        |     |     |     |      |                 |                       |  |                |  |  |     |   |
| Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Test Conditions                         | Type                                                                                                                                                             | Symbol           | Value                          | Unit           |           |               |        |       |      |                  |                                |                   |     |     |           |                 |      |        |     |     |     |      |                 |                       |  |                |  |  |     |   |
| Power dissipation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | I=4mm T <sub>L</sub> ≤25 <sup>0</sup> C |                                                                                                                                                                  | P <sub>D</sub>   | 500                            | mW             |           |               |        |       |      |                  |                                |                   |     |     |           |                 |      |        |     |     |     |      |                 |                       |  |                |  |  |     |   |
| Z-current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                         |                                                                                                                                                                  | I <sub>z</sub>   | P <sub>D</sub> /V <sub>z</sub> | mA             |           |               |        |       |      |                  |                                |                   |     |     |           |                 |      |        |     |     |     |      |                 |                       |  |                |  |  |     |   |
| Junction temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |                                                                                                                                                                  | T <sub>j</sub>   | 175                            | <sup>0</sup> C |           |               |        |       |      |                  |                                |                   |     |     |           |                 |      |        |     |     |     |      |                 |                       |  |                |  |  |     |   |
| Storage temperature range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                         |                                                                                                                                                                  | T <sub>stg</sub> | -65~+175                       | <sup>0</sup> C |           |               |        |       |      |                  |                                |                   |     |     |           |                 |      |        |     |     |     |      |                 |                       |  |                |  |  |     |   |
| <div>Maximum Thermal Resistance</div> <div>T<sub>j</sub>=25<sup>0</sup>C</div> <table><tr><td>Parameter</td><td>Test Condltns</td><td>Symbol</td><td>Value</td><td>Unit</td></tr><tr><td>Junction ambient</td><td>I=4mm T<sub>L</sub>=constant</td><td>R<sub>thJA</sub></td><td>500</td><td>K/W</td></tr></table> <div>Electrcal Characteristics</div> <div>T<sub>j</sub>=25<sup>0</sup>C</div> <table><tr><td>Parameter</td><td>Test Conditions</td><td>Type</td><td>Symbol</td><td>Min</td><td>Typ</td><td>Max</td><td>Unit</td></tr><tr><td>Forward voltage</td><td>I<sub>F</sub>=200mA</td><td></td><td>V<sub>F</sub></td><td></td><td></td><td>1.5</td><td>V</td></tr></table> |                                         |                                                                                                                                                                  |                  |                                |                | Parameter | Test Condltns | Symbol | Value | Unit | Junction ambient | I=4mm T <sub>L</sub> =constant | R <sub>thJA</sub> | 500 | K/W | Parameter | Test Conditions | Type | Symbol | Min | Typ | Max | Unit | Forward voltage | I <sub>F</sub> =200mA |  | V <sub>F</sub> |  |  | 1.5 | V |
| Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Test Condltns                           | Symbol                                                                                                                                                           | Value            | Unit                           |                |           |               |        |       |      |                  |                                |                   |     |     |           |                 |      |        |     |     |     |      |                 |                       |  |                |  |  |     |   |
| Junction ambient                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | I=4mm T <sub>L</sub> =constant          | R <sub>thJA</sub>                                                                                                                                                | 500              | K/W                            |                |           |               |        |       |      |                  |                                |                   |     |     |           |                 |      |        |     |     |     |      |                 |                       |  |                |  |  |     |   |
| Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Test Conditions                         | Type                                                                                                                                                             | Symbol           | Min                            | Typ            | Max       | Unit          |        |       |      |                  |                                |                   |     |     |           |                 |      |        |     |     |     |      |                 |                       |  |                |  |  |     |   |
| Forward voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | I <sub>F</sub> =200mA                   |                                                                                                                                                                  | V <sub>F</sub>   |                                |                | 1.5       | V             |        |       |      |                  |                                |                   |     |     |           |                 |      |        |     |     |     |      |                 |                       |  |                |  |  |     |   |

| Type   | V <sub>znom</sub> | I <sub>zt</sub> | for V <sub>zr</sub> and | r    | r <sub>zk</sub> at | I <sub>zk</sub> | I <sub>R</sub> at | V <sub>R</sub> | TK <sub>vz</sub> |
|--------|-------------------|-----------------|-------------------------|------|--------------------|-----------------|-------------------|----------------|------------------|
| BZX55C | V                 | mA              | V                       | Ω    | Ω                  | mA              | μA                | V              | %/k              |
| 2V4    | 2.4               | 5               | 2.28~2.56               | <85  | <600               | 1               | <50               | 1              | -0.09~-0.06      |
| 2V7    | 2.7               | 5               | 2.5~2.9                 | <85  | <600               | 1               | <10               | 1              | -0.09~-0.06      |
| 3V0    | 3.0               | 5               | 2.8~3.2                 | <85  | <600               | 1               | <4                | 1              | -0.08~-0.05      |
| 3V3    | 3.3               | 5               | 3.1~3.5                 | <85  | <600               | 1               | <2                | 1              | -0.08~-0.05      |
| 3V6    | 3.6               | 5               | 3.4~3.8                 | <85  | <600               | 1               | <2                | 1              | -0.08~-0.05      |
| 3V9    | 3.9               | 5               | 3.7~4.1                 | <85  | <600               | 1               | <2                | 1              | -0.08~-0.05      |
| 4V3    | 4.3               | 5               | 4.0~4.6                 | <75  | <600               | 1               | <1                | 1              | -0.06~-0.03      |
| 4V7    | 4.7               | 5               | 4.4~5.0                 | <60  | <600               | 1               | <0.5              | 1              | -0.05~+0.02      |
| 5V1    | 5.1               | 5               | 4.8~5.4                 | <35  | <550               | 1               | <0.1              | 1              | -0.02~+0.02      |
| 5V6    | 5.6               | 5               | 5.2~6.0                 | <25  | <450               | 1               | <0.1              | 1              | -0.05~+0.05      |
| 6V2    | 6.2               | 5               | 5.8~6.6                 | <10  | <200               | 1               | <0.1              | 2              | 0.03~0.06        |
| 6V8    | 6.8               | 5               | 6.4~7.2                 | <8   | <150               | 1               | <0.1              | 3              | 0.03~0.07        |
| 7V5    | 7.5               | 5               | 7.0~7.9                 | <7   | <50                | 1               | <0.1              | 5              | 0.03~0.07        |
| 8V2    | 8.2               | 5               | 7.7~8.7                 | <7   | <50                | 1               | <0.1              | 6.2            | 0.03~0.08        |
| 9V1    | 9.1               | 5               | 8.5~9.6                 | <10  | <50                | 1               | <0.1              | 6.8            | 0.03~0.09        |
| 10     | 10                | 5               | 9.4~10.6                | <15  | <70                | 1               | <0.1              | 7.5            | 0.03~0.1         |
| 11     | 11                | 5               | 10.4~11.6               | <20  | <70                | 1               | <0.1              | 8.2            | 0.03~0.11        |
| 12     | 12                | 5               | 11.4~12.7               | <20  | <90                | 1               | <0.1              | 9.1            | 0.03~0.11        |
| 13     | 13                | 5               | 12.4~14.1               | <26  | <110               | 1               | <0.1              | 10             | 0.03~0.11        |
| 15     | 15                | 5               | 13.8~15.6               | <30  | <110               | 1               | <0.1              | 11             | 0.03~0.11        |
| 16     | 16                | 5               | 15.3~17.1               | <40  | <170               | 1               | <0.1              | 12             | 0.03~0.11        |
| 18     | 18                | 5               | 16.8~19.1               | <50  | <170               | 1               | <0.1              | 13             | 0.03~0.11        |
| 20     | 20                | 5               | 18.8~21.2               | <55  | <220               | 1               | <0.1              | 15             | 0.03~0.11        |
| 22     | 22                | 5               | 20.8~23.3               | <55  | <220               | 1               | <0.1              | 16             | 0.04~0.12        |
| 24     | 24                | 5               | 22.8~25.6               | <80  | <220               | 1               | <0.1              | 18             | 0.04~0.12        |
| 27     | 27                | 5               | 25.1~28.9               | <80  | <220               | 1               | <0.1              | 20             | 0.04~0.12        |
| 30     | 30                | 5               | 28~32                   | <80  | <220               | 1               | <0.1              | 22             | 0.04~0.12        |
| 33     | 33                | 5               | 31~35                   | <80  | <220               | 1               | <0.1              | 24             | 0.04~0.12        |
| 36     | 36                | 5               | 34~38                   | <80  | <220               | 1               | <0.1              | 27             | 0.04~0.12        |
| 39     | 39                | 2.5             | 37~41                   | <90  | <500               | 0.5             | <0.1              | 30             | 0.04~0.12        |
| 43     | 43                | 2.5             | 40~46                   | <90  | <600               | 0.5             | <0.1              | 33             | 0.04~0.12        |
| 47     | 47                | 2.5             | 44~50                   | <110 | <700               | 0.5             | <0.1              | 36             | 0.04~0.12        |
| 51     | 51                | 2.5             | 48~54                   | <125 | <700               | 0.5             | <0.1              | 39             | 0.04~0.12        |
| 56     | 56                | 2.5             | 52~60                   | <135 | <1000              | 0.5             | <0.1              | 43             | 0.04~0.12        |
| 62     | 62                | 2.5             | 58~66                   | <150 | <1000              | 0.5             | <0.1              | 47             | 0.04~0.12        |
| 68     | 68                | 2.5             | 64~72                   | <200 | <1000              | 0.5             | <0.1              | 51             | 0.04~0.12        |
| 75     | 75                | 2.5             | 70~79                   | <250 | <1500              | 0.5             | <0.1              | 56             | 0.04~0.12        |

1) Tighter tolerances available request:

BZX55A...±1% of V<sub>znom</sub>

BZX55B...±2% of V<sub>znom</sub>

2) at T<sub>j</sub>=150°C