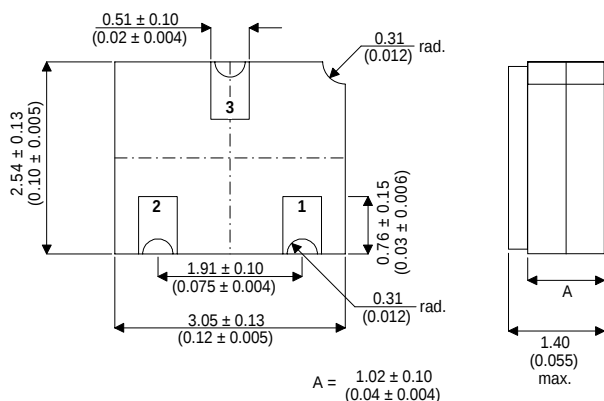


## MECHANICAL DATA

Dimensions in mm(inches)



### SOT23 CERAMIC (LCC1 PACKAGE)

#### Underside View

Pad 1 – Anode

Pad 2 – N/C

Pad 3 – Cathode

## VOLTAGE REGULATOR DIODE IN A CERAMIC SURFACE MOUNT PACKAGE FOR HI-REL APPLICATIONS

### FEATURES

- HERMETIC CERAMIC SURFACE MOUNT PACKAGE (SOT23 COMPATIBLE)
- VOLTAGE RANGE 2.4 TO 75V

## ABSOLUTE MAXIMUM RATINGS

|                   |                                              |                        |                          |
|-------------------|----------------------------------------------|------------------------|--------------------------|
| $P_{TOT}$         | Power Dissipation                            | $T_{MB} = 25^{\circ}C$ | 500mW                    |
|                   | Derate above $25^{\circ}C$                   |                        | 4mW/ $^{\circ}C$         |
| $T_{OP}$          | Maximum Operating Ambient Temperature        |                        | $-55$ to $+150^{\circ}C$ |
| $T_{STG}$         | Storage Temperature Range                    |                        | $-65$ to $+175^{\circ}C$ |
| $T_{SOL}$         | Soldering Temperature                        | (5 seconds max.)       | $260^{\circ}C$           |
| $R_{\theta JA}$   | Thermal Resistance Junction to Ambient       |                        | $336^{\circ}C/W$         |
| $R_{\theta J-MB}$ | Thermal Resistance Junction to Mounting Base |                        | $140^{\circ}C/W$         |

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^{\circ}C$ unless otherwise stated)

| Parameter                                                  | Test Conditions                              | Min.       | Typ.       | Max.                     | Units    |
|------------------------------------------------------------|----------------------------------------------|------------|------------|--------------------------|----------|
| $V_Z$ Zener Voltage                                        | For $V_Z$ nom. $\leq 36V$ , $I_Z = 5mA$      | $V_Z$ min. | $V_Z$ nom. | $V_Z$ max.               | V        |
|                                                            | For $V_Z$ nom. $\geq 39V$ , $I_Z = 2.5mA$    |            |            |                          |          |
| $I_R$ Reverse Current                                      | $V_R = V_R$ test                             |            |            | $I_R$ max.               | $\mu A$  |
|                                                            | $V_R = V_R$ test $T_{AMB} = 150^{\circ}C$    |            |            | $I_R$ max <sup>(2)</sup> |          |
| $Z_Z$ Small Signal Breakdown Impedance                     | $I_Z = I_Z$ test                             |            |            | $Z_Z$ max.               | $\Omega$ |
| $Z_Z$ Small Signal Breakdown Impedance near breakdown knee | For $V_Z$ nom. $\leq 36V$ , $I_{ZK} = 1mA$   |            |            | $Z_K$ max.               | $\Omega$ |
|                                                            | For $V_Z$ nom. $\geq 39V$ , $I_{ZK} = 0.5mA$ |            |            |                          |          |

See table 1 for type variants and test parameters.

## TABLE 1 – TYPE VARIANTS & TEST PARAMETERS

| Product   | V <sub>Z</sub> nom. | V <sub>Z</sub> min. | V <sub>Z</sub> max. | I <sub>Z</sub> max. | Z <sub>Z</sub> max. | V <sub>R</sub> test | I <sub>R</sub> max. | T <sub>CVZ</sub> |       | Z <sub>K</sub> max. | I <sub>R</sub> max <sup>(2)</sup> |
|-----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------|-------|---------------------|-----------------------------------|
|           | (V)                 | (V)                 | (V)                 | (mA)                | (Ω)                 | (V)                 | (μA)                | min.             | max.  | (Ω)                 | (μA)                              |
| BZX55C2V4 | 2.4                 | 2.28                | 2.56                | 155                 | 85                  | 1.0                 | 50                  | -0.08            | -0.06 | 600                 | 100                               |
| BZX55C2V7 | 2.7                 | 2.5                 | 2.9                 | 135                 | 85                  | 1.0                 | 10                  | -0.08            | -0.06 | 600                 | 50                                |
| BZX55C3V0 | 3.0                 | 2.8                 | 3.2                 | 125                 | 85                  | 1.0                 | 4.0                 | -0.08            | -0.06 | 600                 | 40                                |
| BZX55C3V3 | 3.3                 | 3.1                 | 3.5                 | 115                 | 85                  | 1.0                 | 2.0                 | -0.08            | -0.05 | 600                 | 40                                |
| BZX55C3V6 | 3.6                 | 3.4                 | 3.8                 | 105                 | 85                  | 1.0                 | 2.0                 | -0.08            | -0.04 | 600                 | 40                                |
| BZX55C3V9 | 3.9                 | 3.7                 | 4.1                 | 95                  | 85                  | 1.0                 | 2.0                 | -0.07            | -0.03 | 600                 | 40                                |
| BZX55C4V3 | 4.3                 | 4.0                 | 4.6                 | 90                  | 75                  | 1.0                 | 1.0                 | -0.04            | -0.01 | 600                 | 20                                |
| BZX55C4V7 | 4.7                 | 4.4                 | 5.0                 | 85                  | 60                  | 1.0                 | 0.5                 | -0.03            | +0.01 | 600                 | 10                                |
| BZX55C5V1 | 5.1                 | 4.8                 | 5.4                 | 80                  | 35                  | 1.0                 | 0.1                 | -0.02            | +0.05 | 550                 | 2.0                               |
| BZX55C5V6 | 5.6                 | 5.2                 | 6.0                 | 70                  | 25                  | 1.0                 | 0.1                 | -0.01            | +0.06 | 450                 | 2.0                               |
| BZX55C6V2 | 6.2                 | 5.8                 | 6.6                 | 64                  | 10                  | 2.0                 | 0.1                 | 0                | +0.07 | 200                 | 2.0                               |
| BZX55C6V8 | 6.8                 | 6.4                 | 7.2                 | 58                  | 8.0                 | 3.0                 | 0.1                 | +0.01            | +0.08 | 150                 | 2.0                               |
| BZX55C7V5 | 7.5                 | 7.0                 | 7.9                 | 53                  | 7.0                 | 5.0                 | 0.1                 | +0.01            | +0.09 | 50                  | 2.0                               |
| BZX55C8V2 | 8.2                 | 7.7                 | 8.7                 | 47                  | 7.0                 | 6.2                 | 0.1                 | +0.01            | +0.09 | 50                  | 2.0                               |
| BZX55C9V1 | 9.1                 | 8.5                 | 9.6                 | 43                  | 10                  | 6.8                 | 0.1                 | +0.02            | +0.10 | 50                  | 2.0                               |
| BZX55C10  | 10                  | 9.4                 | 10.6                | 40                  | 15                  | 7.5                 | 0.1                 | +0.03            | +0.11 | 70                  | 2.0                               |
| BZX55C11  | 11                  | 10.4                | 11.6                | 36                  | 20                  | 8.2                 | 0.1                 | +0.03            | +0.11 | 70                  | 2.0                               |
| BZX55C12  | 12                  | 11.4                | 12.7                | 32                  | 20                  | 9.1                 | 0.1                 | +0.03            | +0.11 | 90                  | 2.0                               |
| BZX55C13  | 13                  | 12.4                | 14.1                | 29                  | 26                  | 10                  | 0.1                 | +0.03            | +0.11 | 110                 | 2.0                               |
| BZX55C15  | 15                  | 13.8                | 15.6                | 27                  | 30                  | 11                  | 0.1                 | +0.03            | +0.11 | 110                 | 2.0                               |
| BZX55C16  | 16                  | 15.3                | 17.1                | 24                  | 40                  | 12                  | 0.1                 | +0.03            | +0.11 | 170                 | 2.0                               |
| BZX55C18  | 18                  | 16.8                | 19.1                | 21                  | 50                  | 13                  | 0.1                 | +0.03            | +0.11 | 170                 | 2.0                               |
| BZX55C20  | 20                  | 18.8                | 21.2                | 20                  | 55                  | 15                  | 0.1                 | +0.03            | +0.11 | 220                 | 2.0                               |
| BZX55C22  | 22                  | 20.8                | 23.3                | 18                  | 55                  | 16                  | 0.1                 | +0.03            | +0.11 | 220                 | 2.0                               |
| BZX55C24  | 24                  | 22.8                | 25.6                | 16                  | 80                  | 18                  | 0.1                 | +0.04            | +0.12 | 220                 | 2.0                               |
| BZX55C27  | 27                  | 25.1                | 28.9                | 14                  | 80                  | 20                  | 0.1                 | +0.04            | +0.12 | 220                 | 2.0                               |
| BZX55C30  | 30                  | 28                  | 32                  | 13                  | 80                  | 22                  | 0.1                 | +0.04            | +0.12 | 220                 | 2.0                               |
| BZX55C33  | 33                  | 31                  | 35                  | 12                  | 80                  | 24                  | 0.1                 | +0.04            | +0.12 | 220                 | 2.0                               |
| BZX55C36  | 36                  | 34                  | 38                  | 11                  | 80                  | 27                  | 0.1                 | +0.04            | +0.12 | 220                 | 2.0                               |
| BZX55C39  | 39                  | 37                  | 41                  | 10                  | 90                  | 30                  | 0.1                 | +0.04            | +0.12 | 500                 | 5.0                               |
| BZX55C43  | 43                  | 40                  | 46                  | 9.2                 | 90                  | 33                  | 0.1                 | +0.04            | +0.12 | 600                 | 5.0                               |
| BZX55C47  | 47                  | 44                  | 50                  | 8.5                 | 110                 | 36                  | 0.1                 | +0.04            | +0.12 | 700                 | 5.0                               |
| BZX55C51  | 51                  | 48                  | 54                  | 7.8                 | 125                 | 39                  | 0.1                 | +0.04            | +0.12 | 700                 | 10                                |
| BZX55C56  | 56                  | 52                  | 60                  | 7.0                 | 135                 | 43                  | 0.1                 | +0.04            | +0.12 | 1000                | 10                                |
| BZX55C62  | 62                  | 58                  | 66                  | 6.4                 | 150                 | 47                  | 0.1                 | +0.04            | +0.12 | 1000                | 10                                |
| BZX55C68  | 68                  | 64                  | 72                  | 5.9                 | 200                 | 51                  | 0.1                 | +0.04            | +0.12 | 1000                | 10                                |
| BZX55C75  | 75                  | 70                  | 80                  | 5.3                 | 250                 | 56                  | 0.1                 | +0.04            | +0.12 | 1500                | 10                                |