

### ZENER DIODES

POWER DISSIPATION: 500 mW

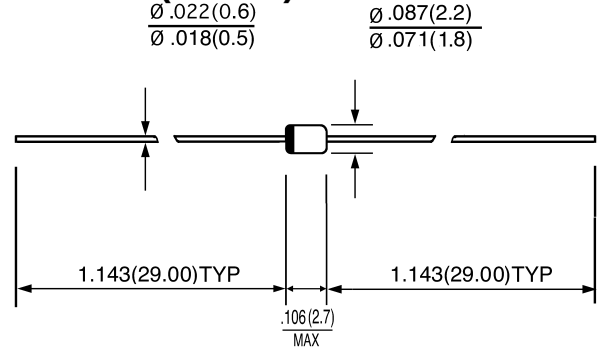
#### FEATURES

- ◇ Silicon planar power zener diodes
- ◇ The zener voltages are graded according to the international E 24 standard. Standard zener voltage tolerance is  $\pm 5\%$ . Replace suffix "C" with "B" for  $\pm 2\%$ , other voltage tolerance and other zener voltage are available upon request.

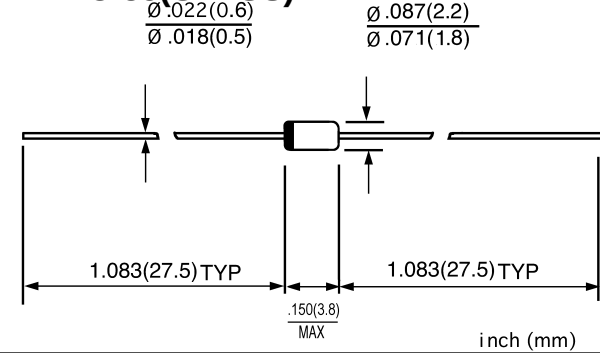
#### MECHANICAL DATA

- ◇ Case: DO-35, Glass Case
- ◇ Terminals: Solderable per MIL-STD-202, method 208
- ◇ Polarity: Cathode band
- ◇ Marking: Type number
- ◇ Approx. Weight: 0.013 grams.

#### DO-34(GLASS)



#### DO-35(GLASS)



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|                                                  | SYMBOL    | VALUE              | UNIT |
|--------------------------------------------------|-----------|--------------------|------|
| Zener current (see Table "Characteristics")      |           |                    |      |
| Power dissipation @ $T_{amb}=25^{\circ}\text{C}$ | $P_{tot}$ | 500 <sup>(1)</sup> | mW   |
| Junction temperature                             | $T_J$     | 175                | °C   |
| Storage temperature range                        | $T_s$     | -55---+175         | °C   |

|                                        | SYMBOL          | MIN | TYP | MAX                | UNIT |
|----------------------------------------|-----------------|-----|-----|--------------------|------|
| Thermal resistance junction to ambient | $R_{\theta JA}$ | —   | —   | 300 <sup>(1)</sup> | °C/W |
| Forward voltage at $I_F=100\text{mA}$  | $V_F$           | —   | —   | 1.0                | V    |

NOTES: (1) Valid provided that leads at a distance of 10 mm from case are kept at ambient temperature.

www.galaxycn.com

# ELECTRICAL CHARACTERISTICS (TA=25°C)

| Type       | Nominal zener voltage<br>@I <sub>Z</sub> =5mA | Maximum dynamic impedance        |                                   | Typical<br>temperature<br>coefficient | Maximum reverse leakage current |                             | Maximum<br>regulator<br>current |
|------------|-----------------------------------------------|----------------------------------|-----------------------------------|---------------------------------------|---------------------------------|-----------------------------|---------------------------------|
|            | V <sub>Z</sub>                                | Z <sub>1T</sub> @I <sub>1T</sub> | Z <sub>1T</sub> @I <sub>1ZK</sub> | α <sub>Z</sub>                        | I <sub>R</sub>                  | Test voltage V <sub>R</sub> | I <sub>ZM</sub>                 |
|            | V                                             | Ω                                | Ω                                 | %/°C                                  | μA                              | V                           | mA                              |
| BZX55-C2V4 | 2.28-2.55                                     | 85                               | 600                               | -0.070                                | 50                              | 1.0                         | 150                             |
| BZX55-C2V7 | 2.5-2.9                                       | 85                               | 600                               | -0.070                                | 10                              | 1.0                         | 135                             |
| BZX55-C3V0 | 2.8-3.2                                       | 85                               | 600                               | -0.070                                | 4                               | 1.0                         | 125                             |
| BZX55-C3V3 | 3.1-3.5                                       | 85                               | 600                               | -0.065                                | 2                               | 1.0                         | 115                             |
| BZX55-C3V6 | 3.4-3.8                                       | 85                               | 600                               | -0.060                                | 2                               | 1.0                         | 105                             |
| BZX55-C3V9 | 3.7-4.1                                       | 85                               | 600                               | -0.050                                | 2                               | 1.0                         | 95                              |
| BZX55-C4V3 | 4.0-4.6                                       | 75                               | 600                               | -0.025                                | 1                               | 1.0                         | 90                              |
| BZX55-C4V7 | 4.4-5.0                                       | 60                               | 600                               | -0.010                                | 0.5                             | 1.0                         | 85                              |
| BZX55-C5V1 | 4.8-5.4                                       | 35                               | 550                               | +0.015                                | 0.1                             | 1.0                         | 80                              |
| BZX55-C5V6 | 5.2-6.0                                       | 25                               | 450                               | +0.025                                | 0.1                             | 1.0                         | 70                              |
| BZX55-C6V2 | 5.8-6.6                                       | 10                               | 200                               | +0.035                                | 0.1                             | 20                          | 64                              |
| BZX55-C6V8 | 6.4-7.2                                       | 8                                | 150                               | +0.045                                | 0.1                             | 3.0                         | 58                              |
| BZX55-C7V5 | 7.0-7.9                                       | 7                                | 50                                | +0.050                                | 0.1                             | 5.0                         | 53                              |
| BZX55-C8V2 | 7.7-8.7                                       | 7                                | 50                                | +0.050                                | 0.1                             | 6.0                         | 47                              |
| BZX55-C9V1 | 8.5-9.6                                       | 10                               | 50                                | +0.060                                | 0.1                             | 7.0                         | 43                              |
| BZX55-C10  | 9.4-10.6                                      | 15                               | 70                                | +0.070                                | 0.1                             | 7.5                         | 40                              |
| BZX55-C11  | 10.4-11.6                                     | 20                               | 70                                | +0.070                                | 0.1                             | 8.5                         | 36                              |
| BZX55-C12  | 11.4-12.7                                     | 20                               | 90                                | +0.070                                | 0.1                             | 9.0                         | 32                              |
| BZX55-C13  | 12.4-14.1                                     | 26                               | 110                               | +0.070                                | 0.1                             | 10                          | 29                              |
| BZX55-C15  | 13.8-15.6                                     | 30                               | 110                               | +0.070                                | 0.1                             | 11                          | 27                              |
| BZX55-C16  | 15.3-17.1                                     | 40                               | 170                               | +0.070                                | 0.1                             | 12                          | 24                              |
| BZX55-C18  | 16.8-19.1                                     | 50                               | 170                               | +0.070                                | 0.1                             | 14                          | 21                              |
| BZX55-C20  | 18.8-21.2                                     | 55                               | 220                               | +0.070                                | 0.1                             | 15                          | 20                              |
| BZX55-C22  | 20.8-23.3                                     | 55                               | 220                               | +0.070                                | 0.1                             | 17                          | 18                              |
| BZX55-C24  | 22.8-25.6                                     | 80                               | 220                               | +0.080                                | 0.1                             | 18                          | 16                              |
| BZX55-C27  | 25.1-28.9                                     | 80                               | 220                               | +0.080                                | 0.1                             | 20                          | 14                              |
| BZX55-C30  | 28-32                                         | 80                               | 220                               | +0.080                                | 0.1                             | 22                          | 13                              |
| BZX55-C33  | 31-35                                         | 80                               | 220                               | +0.080                                | 0.1                             | 24                          | 12                              |
| BZX55-C36  | 34-38                                         | 80                               | 220                               | +0.080                                | 0.1                             | 27                          | 11                              |

www.galaxycn.com

FIG.1 -- BREAKDOWN CHARACTERISTICS

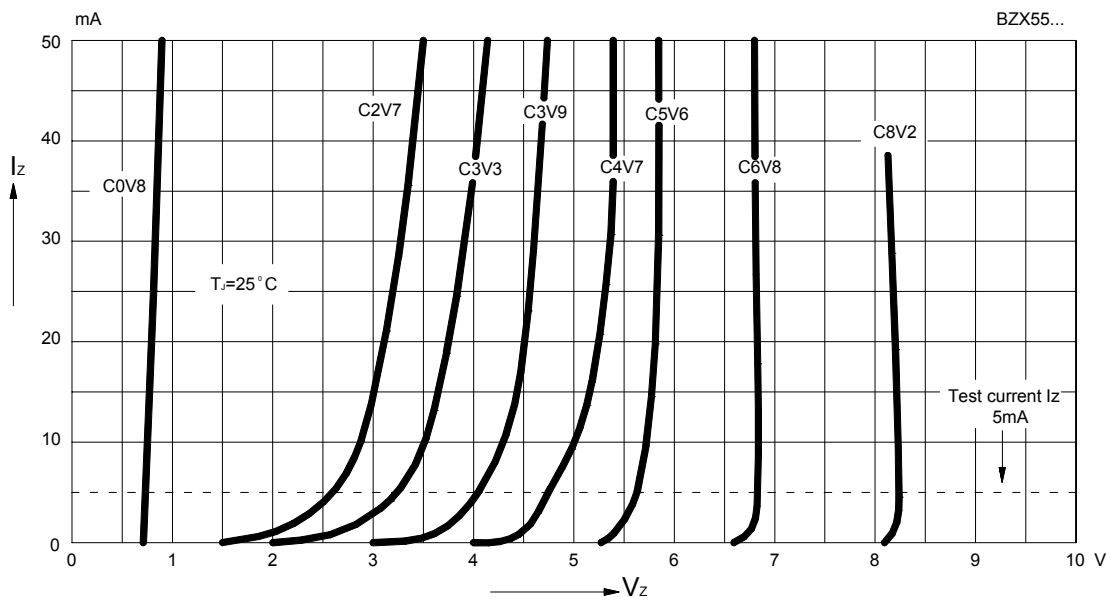


FIG.2 -- BREAKDOWN CHARACTERISTICS

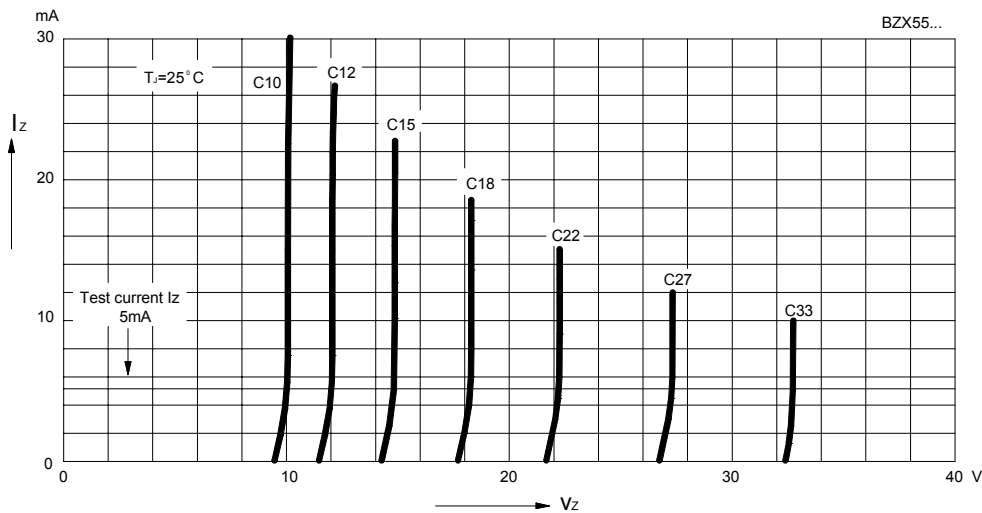


FIG.3 -- ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE

