

### ZENER DIODES

$V_Z$  : 10 -- 270 V

POWER DISSIPATION: 3.0 W

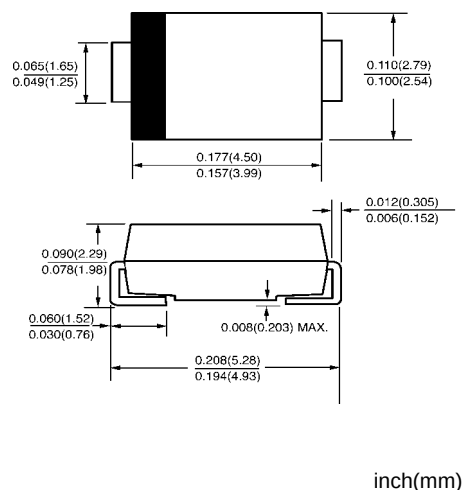
#### FEATURES

- ◇ High reliability
- ◇ Voltage range 10 V to 270 V
- ◇ Fits onto 5 mm SMD footpads
- ◇ Wave and reflow solderable
- ◇ Glass passivated junction

#### MECHANICAL DATA

- ◇ Case: JEDEC DO-214AC(SMA)
- ◇ Terminals: Solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode end
- ◇ Weight: 0.002 ounces, 0.064 grams
- ◇ Mounting position: any

#### DO-214AC(SMA)



#### Maximum Ratings and Thermal Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Parameter                                                                          | Symbol           | Value       | Unit               |
|------------------------------------------------------------------------------------|------------------|-------------|--------------------|
| Power dissipation at $T_A=100^{\circ}\text{C}$                                     | $P_{\text{tot}}$ | 3.0         | W                  |
| Forward voltage @ $I_F=500\text{mA}$                                               | $V_F$            | 1.2         | V                  |
| Maximum thermal resistance<br>junction to ambient                                  | $R_{\theta JA}$  | 150         | K/W                |
| Peak reverse power dissipation(non-repetitive)<br>$t_p=100\mu\text{s}$ square wave | $P_{ZSM}$        | 600         | W                  |
| Junction temperature                                                               | $T_J$            | -65 to +150 | $^{\circ}\text{C}$ |
| Storage temperature range                                                          | $T_{\text{STG}}$ | -65 to +150 | $^{\circ}\text{C}$ |

www.galaxycn.com

# ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

| Type      | Device marking code | Zener voltage range V <sub>Z</sub> |      |      | Dynamic resistance |      |     | Temperature coefficient of zener voltage |      | Reverse leakage current I <sub>R</sub> @V <sub>R</sub> |     |
|-----------|---------------------|------------------------------------|------|------|--------------------|------|-----|------------------------------------------|------|--------------------------------------------------------|-----|
|           |                     |                                    |      |      |                    |      |     |                                          |      |                                                        |     |
|           |                     | V                                  | V    | V    | Ω                  | Ω    | m A | %/K                                      | %/K  | μ A                                                    | V   |
|           |                     | Min.                               | Typ. | Max. | Typ.               | Max. |     | Typ.                                     | Max. | Max.                                                   |     |
| BZG03C10  | G10                 | 9.4                                | 10   | 10.6 | 2.0                | 4.0  | 50  | 0.05                                     | 0.09 | 10                                                     | 7.5 |
| BZG03C11  | G11                 | 10.4                               | 11   | 11.6 | 4.0                | 7.0  | 50  | 0.05                                     | 0.10 | 4.0                                                    | 8.2 |
| BZG03C12  | G12                 | 11.4                               | 12   | 12.7 | 4.0                | 7.0  | 50  | 0.05                                     | 0.10 | 3.0                                                    | 9.1 |
| BZG03C13  | G13                 | 12.4                               | 13   | 14.1 | 5.0                | 10   | 50  | 0.05                                     | 0.10 | 2.0                                                    | 10  |
| BZG03C15  | G15                 | 13.8                               | 15   | 15.6 | 5.0                | 10   | 50  | 0.05                                     | 0.10 | 1.0                                                    | 11  |
| BZG03C16  | G16                 | 15.3                               | 16   | 17.1 | 6.0                | 15   | 25  | 0.06                                     | 0.11 | 1.0                                                    | 12  |
| BZG03C18  | G18                 | 16.8                               | 18   | 19.1 | 6.0                | 15   | 25  | 0.06                                     | 0.11 | 1.0                                                    | 13  |
| BZG03C20  | G20                 | 18.8                               | 20   | 21.2 | 6.0                | 15   | 25  | 0.06                                     | 0.11 | 1.0                                                    | 15  |
| BZG03C22  | G22                 | 20.8                               | 22   | 23.3 | 6.0                | 15   | 25  | 0.06                                     | 0.11 | 1.0                                                    | 16  |
| BZG03C24  | G24                 | 22.8                               | 24   | 25.6 | 7.0                | 15   | 25  | 0.06                                     | 0.11 | 1.0                                                    | 18  |
| BZG03C27  | G27                 | 25.1                               | 27   | 28.9 | 7.0                | 15   | 25  | 0.06                                     | 0.11 | 1.0                                                    | 20  |
| BZG03C30  | G30                 | 28                                 | 30   | 32   | 8.0                | 15   | 25  | 0.06                                     | 0.11 | 1.0                                                    | 22  |
| BZG03C33  | G33                 | 31                                 | 33   | 35   | 8.0                | 15   | 25  | 0.06                                     | 0.11 | 1.0                                                    | 24  |
| BZG03C36  | G36                 | 34                                 | 36   | 38   | 21                 | 40   | 10  | 0.06                                     | 0.11 | 1.0                                                    | 27  |
| BZG03C39  | G39                 | 37                                 | 39   | 41   | 21                 | 40   | 10  | 0.06                                     | 0.11 | 1.0                                                    | 30  |
| BZG03C43  | G43                 | 40                                 | 43   | 46   | 24                 | 45   | 10  | 0.07                                     | 0.12 | 1.0                                                    | 33  |
| BZG03C47  | G47                 | 44                                 | 47   | 50   | 24                 | 45   | 10  | 0.07                                     | 0.12 | 1.0                                                    | 36  |
| BZG03C51  | G51                 | 48                                 | 51   | 54   | 25                 | 60   | 10  | 0.07                                     | 0.12 | 1.0                                                    | 39  |
| BZG03C56  | G56                 | 52                                 | 56   | 60   | 25                 | 60   | 10  | 0.07                                     | 0.12 | 1.0                                                    | 43  |
| BZG03C62  | G62                 | 58                                 | 62   | 66   | 25                 | 80   | 10  | 0.08                                     | 0.13 | 1.0                                                    | 47  |
| BZG03C68  | G68                 | 64                                 | 68   | 72   | 25                 | 80   | 10  | 0.08                                     | 0.13 | 1.0                                                    | 51  |
| BZG03C75  | G75                 | 70                                 | 75   | 79   | 30                 | 100  | 10  | 0.08                                     | 0.13 | 1.0                                                    | 56  |
| BZG03C82  | G82                 | 77                                 | 82   | 87   | 30                 | 100  | 10  | 0.08                                     | 0.13 | 1.0                                                    | 62  |
| BZG03C91  | G91                 | 85                                 | 91   | 96   | 60                 | 200  | 5   | 0.09                                     | 0.13 | 1.0                                                    | 68  |
| BZG03C100 | G100                | 94                                 | 100  | 106  | 60                 | 200  | 5   | 0.09                                     | 0.13 | 1.0                                                    | 75  |
| BZG03C110 | G110                | 104                                | 110  | 116  | 80                 | 250  | 5   | 0.09                                     | 0.13 | 1.0                                                    | 82  |
| BZG03C120 | G120                | 114                                | 120  | 127  | 80                 | 250  | 5   | 0.09                                     | 0.13 | 1.0                                                    | 91  |
| BZG03C130 | G130                | 124                                | 130  | 141  | 110                | 300  | 5   | 0.09                                     | 0.13 | 1.0                                                    | 100 |
| BZG03C150 | G150                | 138                                | 150  | 156  | 130                | 300  | 5   | 0.09                                     | 0.13 | 1.0                                                    | 110 |
| BZG03C160 | G160                | 158                                | 160  | 171  | 150                | 350  | 5   | 0.09                                     | 0.13 | 1.0                                                    | 120 |
| BZG03C180 | G180                | 168                                | 180  | 191  | 180                | 400  | 5   | 0.09                                     | 0.13 | 1.0                                                    | 130 |
| BZG03C200 | G200                | 188                                | 200  | 212  | 200                | 500  | 5   | 0.09                                     | 0.13 | 1.0                                                    | 150 |
| BZG03C220 | G220                | 208                                | 220  | 233  | 350                | 750  | 2   | 0.09                                     | 0.13 | 1.0                                                    | 160 |
| BZG03C240 | G240                | 228                                | 240  | 256  | 400                | 850  | 2   | 0.09                                     | 0.13 | 1.0                                                    | 180 |
| BZG03C270 | G270                | 251                                | 270  | 289  | 450                | 1000 | 2   | 0.09                                     | 0.13 | 1.0                                                    | 200 |

www.galaxycn.com

FIG.1 –TYPICAL FORWARD CHARACTERISTIC

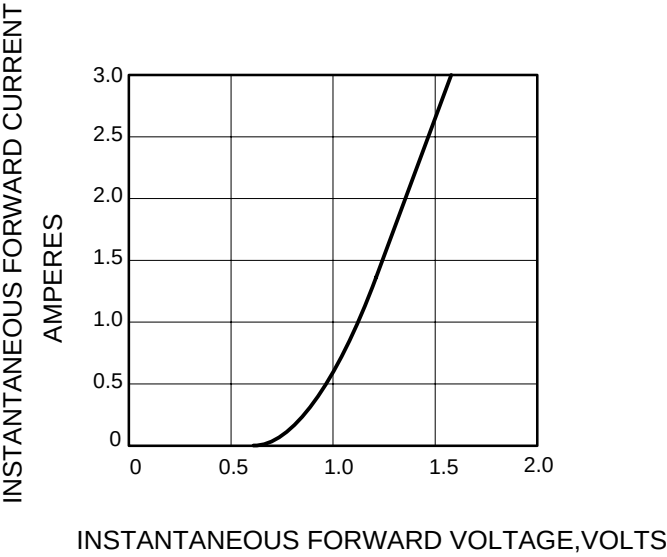


FIG.2 – NON REPETITIVE SURGE POWER  
DISSIPATION VS.PULSE LENGTH

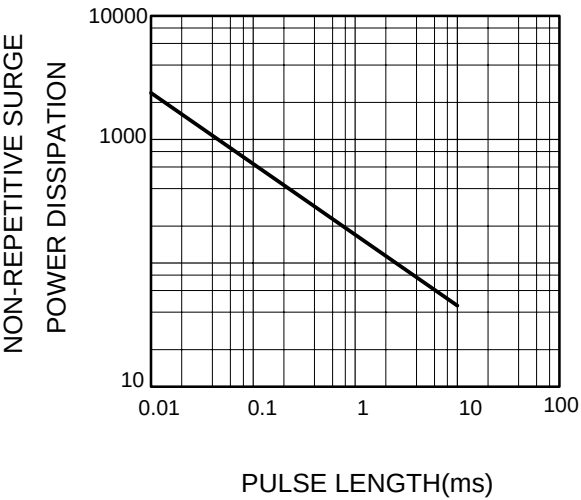


FIG.3 – THERMAL RESPONSE

