



## ELECTRICAL CHARACTERISTICS

### Per type when used as voltage regulator diodes

Rating at Tj = 25 °C unless otherwise specified

| Type No.   | Working Voltage                 |      |      | Differential Resistance                 |      | Temperature Coefficient                |      | Test Current   | Maximum Reverse Leakage Current |     |
|------------|---------------------------------|------|------|-----------------------------------------|------|----------------------------------------|------|----------------|---------------------------------|-----|
|            | V <sub>Z</sub> @ I <sub>Z</sub> |      |      | r <sub>diff</sub> (Ω) at I <sub>Z</sub> |      | S <sub>Z</sub> (%/K) at I <sub>Z</sub> |      | I <sub>Z</sub> | I <sub>R</sub> @ V <sub>R</sub> |     |
|            | Min.                            | Nom. | Max. | Typ.                                    | Max. | Min.                                   | Max. | (mA)           | (μA)                            | (V) |
| BZT03-C7V5 | 7.0                             | 7.5  | 7.9  | 1                                       | 2    | 0.00                                   | 0.07 | 100            | 750                             | 5.6 |
| BZT03-C8V2 | 7.7                             | 8.2  | 8.7  | 1                                       | 2    | 0.03                                   | 0.08 | 100            | 600                             | 6.2 |
| BZT03-C9V1 | 8.5                             | 9.1  | 9.6  | 2                                       | 4    | 0.03                                   | 0.08 | 50             | 20                              | 6.8 |
| BZT03-C10  | 9.4                             | 10   | 10.6 | 2                                       | 4    | 0.05                                   | 0.09 | 50             | 7                               | 7.5 |
| BZT03-C11  | 10.4                            | 11   | 11.6 | 4                                       | 7    | 0.05                                   | 0.10 | 50             | 4                               | 8.2 |
| BZT03-C12  | 11.4                            | 12   | 12.7 | 4                                       | 7    | 0.05                                   | 0.10 | 50             | 3                               | 9.1 |
| BZT03-C13  | 12.4                            | 13   | 14.1 | 5                                       | 10   | 0.05                                   | 0.10 | 50             | 2                               | 10  |
| BZT03-C15  | 13.8                            | 15   | 15.6 | 5                                       | 10   | 0.05                                   | 0.10 | 50             | 1                               | 11  |
| BZT03-C16  | 15.3                            | 16   | 17.1 | 6                                       | 15   | 0.05                                   | 0.11 | 25             | 1                               | 12  |
| BZT03-C18  | 16.8                            | 18   | 19.1 | 6                                       | 15   | 0.06                                   | 0.11 | 25             | 1                               | 13  |
| BZT03-C20  | 18.8                            | 20   | 21.2 | 6                                       | 15   | 0.06                                   | 0.11 | 25             | 1                               | 15  |
| BZT03-C22  | 20.8                            | 22   | 23.3 | 6                                       | 15   | 0.06                                   | 0.11 | 25             | 1                               | 16  |
| BZT03-C24  | 22.8                            | 24   | 25.6 | 7                                       | 15   | 0.06                                   | 0.11 | 25             | 1                               | 18  |
| BZT03-C27  | 25.1                            | 27   | 28.9 | 7                                       | 15   | 0.06                                   | 0.11 | 25             | 1                               | 20  |
| BZT03-C30  | 28                              | 30   | 32   | 8                                       | 15   | 0.06                                   | 0.11 | 25             | 1                               | 22  |
| BZT03-C33  | 31                              | 33   | 35   | 8                                       | 15   | 0.06                                   | 0.11 | 25             | 1                               | 24  |
| BZT03-C36  | 34                              | 36   | 38   | 21                                      | 40   | 0.06                                   | 0.11 | 10             | 1                               | 27  |
| BZT03-C39  | 37                              | 39   | 41   | 21                                      | 40   | 0.06                                   | 0.11 | 10             | 1                               | 30  |
| BZT03-C43  | 40                              | 43   | 46   | 24                                      | 45   | 0.07                                   | 0.12 | 10             | 1                               | 33  |
| BZT03-C47  | 44                              | 47   | 50   | 24                                      | 45   | 0.07                                   | 0.12 | 10             | 1                               | 36  |
| BZT03-C51  | 48                              | 51   | 54   | 25                                      | 60   | 0.07                                   | 0.12 | 10             | 1                               | 39  |
| BZT03-C56  | 52                              | 56   | 60   | 25                                      | 60   | 0.07                                   | 0.12 | 10             | 1                               | 43  |
| BZT03-C62  | 58                              | 62   | 66   | 25                                      | 80   | 0.08                                   | 0.13 | 10             | 1                               | 47  |
| BZT03-C68  | 64                              | 68   | 72   | 25                                      | 80   | 0.08                                   | 0.13 | 10             | 1                               | 51  |
| BZT03-C75  | 70                              | 75   | 79   | 30                                      | 100  | 0.08                                   | 0.13 | 10             | 1                               | 56  |
| BZT03-C82  | 77                              | 82   | 87   | 30                                      | 100  | 0.08                                   | 0.13 | 10             | 1                               | 62  |
| BZT03-C91  | 85                              | 91   | 96   | 60                                      | 200  | 0.09                                   | 0.13 | 5              | 1                               | 68  |
| BZT03-C100 | 94                              | 100  | 106  | 60                                      | 200  | 0.09                                   | 0.13 | 5              | 1                               | 75  |
| BZT03-C110 | 104                             | 110  | 116  | 80                                      | 250  | 0.09                                   | 0.13 | 5              | 1                               | 82  |
| BZT03-C120 | 114                             | 120  | 127  | 80                                      | 250  | 0.09                                   | 0.13 | 5              | 1                               | 91  |
| BZT03-C130 | 124                             | 130  | 141  | 110                                     | 300  | 0.09                                   | 0.13 | 5              | 1                               | 100 |
| BZT03-C150 | 138                             | 150  | 156  | 130                                     | 300  | 0.09                                   | 0.13 | 5              | 1                               | 110 |
| BZT03-C160 | 153                             | 160  | 171  | 150                                     | 350  | 0.09                                   | 0.13 | 5              | 1                               | 120 |
| BZT03-C180 | 168                             | 180  | 191  | 180                                     | 400  | 0.09                                   | 0.13 | 5              | 1                               | 130 |
| BZT03-C200 | 188                             | 200  | 212  | 200                                     | 500  | 0.09                                   | 0.13 | 5              | 1                               | 150 |
| BZT03-C220 | 208                             | 220  | 233  | 350                                     | 750  | 0.09                                   | 0.13 | 2              | 1                               | 160 |
| BZT03-C240 | 228                             | 240  | 256  | 400                                     | 850  | 0.09                                   | 0.13 | 2              | 1                               | 180 |
| BZT03-C270 | 251                             | 270  | 289  | 450                                     | 1000 | 0.09                                   | 0.13 | 2              | 1                               | 200 |



## ELECTRICAL CHARACTERISTICS

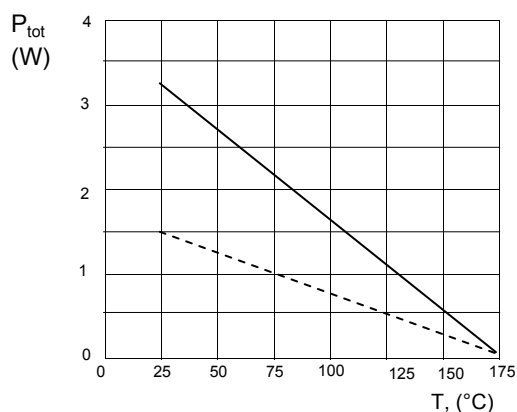
### Per type when used as Transient suppressor diodes

Rating at Tj = 25 °C unless otherwise specified

| Type No.   | Reverse Breakdown Voltage  | Temperature Coefficient   |      | Test Current | Clamping Voltage |              | Maximum Reverse Leakage Current |     |
|------------|----------------------------|---------------------------|------|--------------|------------------|--------------|---------------------------------|-----|
|            | $V_{(BR)R} @ I_{test}$ (V) | $S_Z$ (%/K) at $I_{test}$ |      | $I_{test}$   | $V_{(CL)R}$ (V)  | at $I_{RSM}$ | $I_R @ V_R$                     |     |
|            | Min.                       | Min.                      | Max. | (mA)         | Max.             | (A)          | ( $\mu$ A)                      | (V) |
| BZT03-C7V5 | 7.0                        | 0.00                      | 0.07 | 100          | 11.3             | 26.5         | 1500                            | 6.2 |
| BZT03-C8V2 | 7.7                        | 0.03                      | 0.08 | 100          | 12.3             | 24.4         | 1200                            | 6.8 |
| BZT03-C9V1 | 8.5                        | 0.03                      | 0.08 | 50           | 13.3             | 22.7         | 100                             | 7.5 |
| BZT03-C10  | 9.4                        | 0.05                      | 0.09 | 50           | 14.8             | 20.3         | 20                              | 8.2 |
| BZT03-C11  | 10.4                       | 0.05                      | 0.1  | 50           | 15.7             | 19.1         | 5                               | 9.1 |
| BZT03-C12  | 11.4                       | 0.05                      | 0.1  | 50           | 17.0             | 17.7         | 5                               | 10  |
| BZT03-C13  | 12.4                       | 0.05                      | 0.1  | 50           | 18.9             | 15.9         | 5                               | 11  |
| BZT03-C15  | 13.8                       | 0.05                      | 0.1  | 50           | 20.9             | 14.4         | 5                               | 12  |
| BZT03-C16  | 15.3                       | 0.06                      | 0.11 | 25           | 22.9             | 13.1         | 5                               | 13  |
| BZT03-C18  | 16.8                       | 0.06                      | 0.11 | 25           | 25.6             | 11.7         | 5                               | 15  |
| BZT03-C20  | 18.8                       | 0.06                      | 0.11 | 25           | 28.9             | 10.6         | 5                               | 16  |
| BZT03-C22  | 20.8                       | 0.06                      | 0.11 | 25           | 31.0             | 9.7          | 5                               | 18  |
| BZT03-C24  | 22.8                       | 0.06                      | 0.11 | 25           | 33.8             | 8.9          | 5                               | 20  |
| BZT03-C27  | 25.1                       | 0.06                      | 0.11 | 25           | 38.1             | 7.9          | 5                               | 22  |
| BZT03-C30  | 28                         | 0.06                      | 0.11 | 25           | 42.2             | 7.1          | 5                               | 24  |
| BZT03-C33  | 31                         | 0.06                      | 0.11 | 25           | 46.2             | 6.5          | 5                               | 27  |
| BZT03-C36  | 34                         | 0.06                      | 0.11 | 10           | 50.1             | 6.0          | 5                               | 30  |
| BZT03-C39  | 37                         | 0.06                      | 0.11 | 10           | 54.1             | 5.5          | 5                               | 33  |
| BZT03-C43  | 40                         | 0.07                      | 0.12 | 10           | 60.7             | 4.9          | 5                               | 36  |
| BZT03-C47  | 44                         | 0.07                      | 0.12 | 10           | 65.5             | 4.6          | 5                               | 39  |
| BZT03-C51  | 48                         | 0.07                      | 0.12 | 10           | 70.8             | 4.2          | 5                               | 43  |
| BZT03-C56  | 52                         | 0.07                      | 0.12 | 10           | 78.6             | 3.8          | 5                               | 47  |
| BZT03-C62  | 58                         | 0.08                      | 0.13 | 10           | 86.5             | 3.5          | 5                               | 51  |
| BZT03-C68  | 64                         | 0.08                      | 0.13 | 10           | 94.4             | 3.2          | 5                               | 56  |
| BZT03-C75  | 70                         | 0.08                      | 0.13 | 10           | 103.5            | 2.9          | 5                               | 62  |
| BZT03-C82  | 77                         | 0.08                      | 0.13 | 10           | 114.0            | 2.6          | 5                               | 68  |
| BZT03-C91  | 85                         | 0.09                      | 0.13 | 5            | 126              | 2.4          | 5                               | 75  |
| BZT03-C100 | 94                         | 0.09                      | 0.13 | 5            | 139              | 2.2          | 5                               | 82  |
| BZT03-C110 | 104                        | 0.09                      | 0.13 | 5            | 152              | 2.0          | 5                               | 91  |
| BZT03-C120 | 114                        | 0.09                      | 0.13 | 5            | 167              | 1.8          | 5                               | 100 |
| BZT03-C130 | 124                        | 0.09                      | 0.13 | 5            | 185              | 1.6          | 5                               | 110 |
| BZT03-C150 | 138                        | 0.09                      | 0.13 | 5            | 204              | 1.5          | 5                               | 120 |
| BZT03-C160 | 153                        | 0.09                      | 0.13 | 5            | 224              | 1.3          | 5                               | 130 |
| BZT03-C180 | 168                        | 0.09                      | 0.13 | 5            | 249              | 1.20         | 5                               | 150 |
| BZT03-C200 | 188                        | 0.09                      | 0.13 | 5            | 276              | 1.10         | 5                               | 160 |
| BZT03-C220 | 208                        | 0.09                      | 0.13 | 2            | 305              | 1.00         | 5                               | 180 |
| BZT03-C240 | 228                        | 0.09                      | 0.13 | 2            | 336              | 0.90         | 5                               | 200 |
| BZT03-C270 | 251                        | 0.09                      | 0.13 | 2            | 380              | 0.80         | 5                               | 220 |
| BZT03-C300 | 280                        | 0.09                      | 0.13 | 2            | 419              | 0.72         | 5                               | 240 |
| BZT03-C330 | 310                        | 0.09                      | 0.13 | 2            | 459              | 0.65         | 5                               | 270 |
| BZT03-C360 | 340                        | 0.09                      | 0.13 | 2            | 498              | 0.60         | 5                               | 300 |
| BZT03-C390 | 370                        | 0.09                      | 0.13 | 2            | 537              | 0.56         | 5                               | 330 |
| BZT03-C430 | 400                        | 0.09                      | 0.13 | 2            | 603              | 0.50         | 5                               | 360 |
| BZT03-C470 | 440                        | 0.09                      | 0.13 | 2            | 655              | 0.45         | 5                               | 390 |
| BZT03-C510 | 480                        | 0.09                      | 0.13 | 2            | 707              | 0.42         | 5                               | 430 |

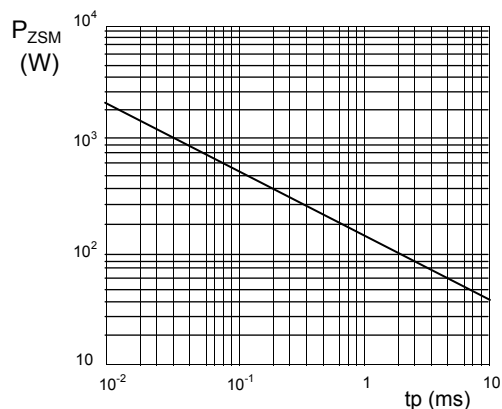
## RATING AND CHARACTERISTIC CURVES ( BZT03 Series )

FIG.1 - Maximum total power dissipation as a function of temperature.



Solid line: tie-point temperature; lead length = 10 mm  
Dotted line: ambient temperature; PCB mounted

FIG.2 - Maximum non-repetitive peak reverse power dissipation as a function of pulse duration (square pulse).



T<sub>j</sub> = 25 °C prior to surge.

FIG. 3 - Forward current as a function of forward voltage; typical values.

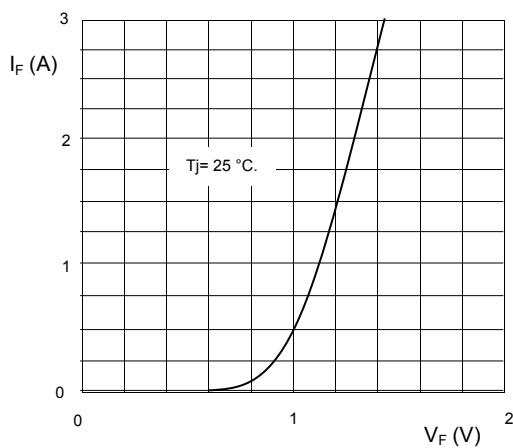
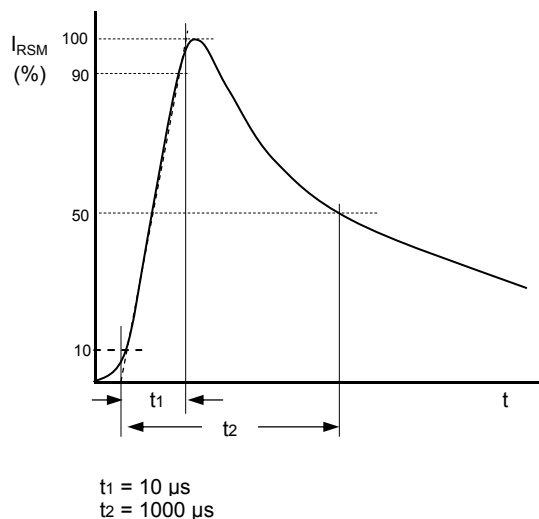


FIG.4 - Non-Repetitive peak reverse current pulse definition



t<sub>1</sub> = 10 μs  
t<sub>2</sub> = 1000 μs