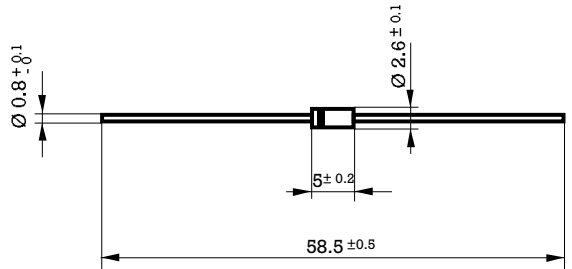



## 1.3 W Glass Passivated Zener Diodes

|  |   |
|--|---|
| <p><b>Dimensions in mm.</b></p>  <p><b>DO-41<br/>(Plastic)</b></p> <p><b>Mounting instructions</b></p> <ol style="list-style-type: none"> <li>1. Min. distance from body to soldering point, 4 mm.</li> <li>2. Max. solder temperature, 350 °C.</li> <li>3. Max. soldering time, 3.5 sec.</li> <li>4. Do not bend lead at a point closer than 2 mm. to the body.</li> </ol> | <p><b>Voltage</b><br/>6.2 to 220 V</p> <p><b>Power</b><br/>1.3 W</p>  <p>Standard Voltage Tolerance is <math>\pm 5\%</math></p> <ul style="list-style-type: none"> <li>• <b>Glass Passivated Junction</b></li> <li>• The plastic material carries U/L recognition 94 V-0</li> <li>• Terminals: Axial Leads</li> <li>• Polarity: Color band denotes cathode</li> </ul> |
|--|---|

### Maximum Ratings, according to IEC publication No. 134

|           |   |                  |
|-----------|---|------------------|
| $P_{tot}$ | Power dissipation at $T_{amb} = 25\text{ °C}$ | 1.3 W            |
| $T_j$     | Operating temperature range                   | - 55 to + 175 °C |
| $T_{stg}$ | Storage temperature range                     | - 55 to + 175 °C |

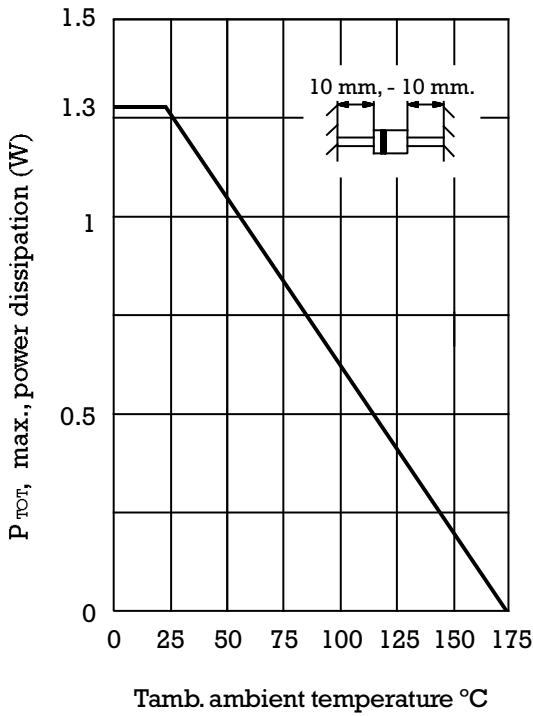
### Electrical Characteristics at $T_{amb} = 25\text{ °C}$

|             |   |          |
|-------------|---|----------|
| $V_F$       | Max. forward voltage drop at $I_F = 0.2\text{ A}$ | 1.0 V    |
| $R_{thj-a}$ | Max. thermal resistance at 10 mm. lead length     | 130 °C/W |

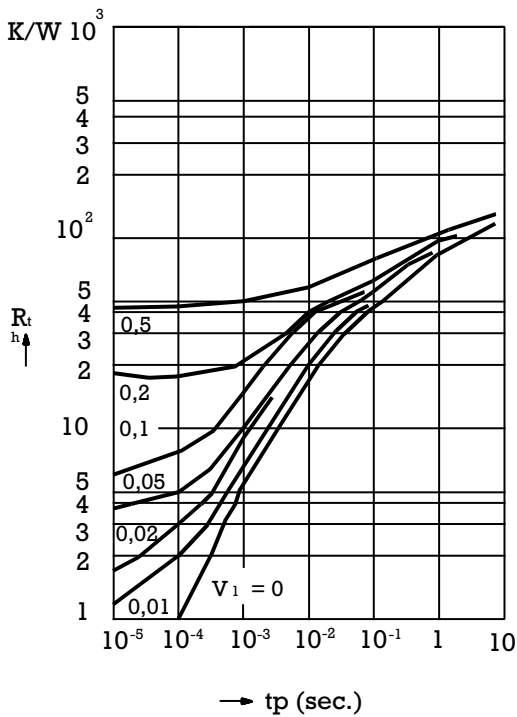
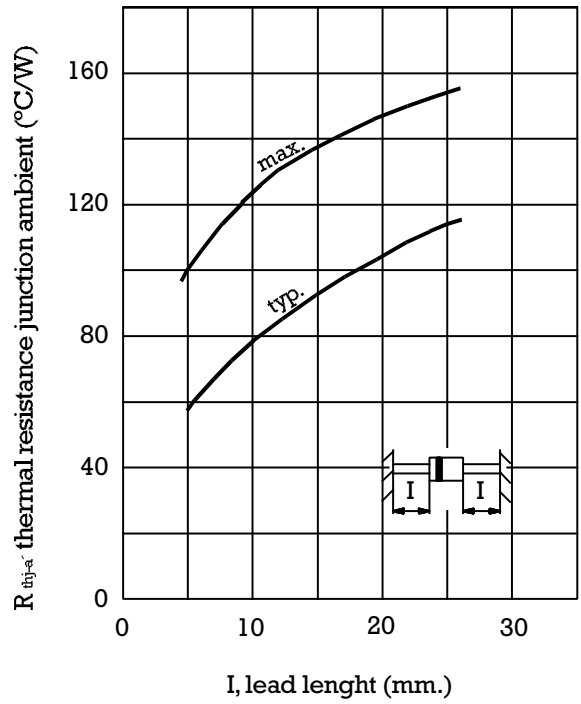
## 1.3 W Glass Passivated Zener Diodes

| Type        | Zener Voltage Range<br>$V_Z$ at $I_{ZT}$ |      | Maximum Zener Impedance<br>$Z_{ZT}$ at $I_{ZT}$ | Typical Temperature Coeffi.<br>(%) / °C | Max Reverse Leakage current |               | Surge Current (10 ms)<br>$I_{ZS}$ | Maximum Regulator Current<br>$I_{ZM}$ |
|-------------|--|------|---|---|-----------------------------|---------------|-----------------------------------|---------------------------------------|
|             | (V)                                      | (mA) |   |   | ( )                         | $I_R$ @ $V_R$ |                                   |                                       |
| BZX85C6V2GP | 5.8 - 6.6                                | 35   | 4   | + 0.025                                 | 5                           | 3             | 1263                              | 170                                   |
| BZX85C6V8GP | 6.4 - 7.2                                | 35   | 3.5   | + 0.035                                 | 5                           | 4             | 1157                              | 155                                   |
| BZX85C7V5GP | 7.0 - 7.9                                | 35   | 3   | + 0.035                                 | 5                           | 5             | 1055                              | 140                                   |
| BZX85C8V2GP | 7.7 - 8.7                                | 25   | 5   | + 0.055                                 | 5                           | 6             | 958                               | 130                                   |
| BZX85C9V1GP | 8.5 - 9.6                                | 25   | 5   | + 0.055                                 | 5                           | 7             | 868                               | 120                                   |
| BZX85C10GP  | 9.4 - 10.6                               | 25   | 7   | + 0.06                                  | 1                           | 5.0           | 786                               | 105                                   |
| BZX85C11GP  | 10.4 - 11.6                              | 20   | 8   | + 0.0625                                | 1                           | 5.0           | 718                               | 97                                    |
| BZX85C12GP  | 11.4 - 12.7                              | 20   | 9   | + 0.065                                 | 1                           | 7.0           | 656                               | 88                                    |
| BZX85C13GP  | 12.4 - 14.1                              | 20   | 10  | + 0.0675                                | 1                           | 7.0           | 591                               | 79                                    |
| BZX85C15GP  | 13.8 - 15.6                              | 15   | 15  | + 0.0725                                | 1                           | 10            | 534                               | 71                                    |
| BZX85C16GP  | 15.3 - 17.1                              | 15   | 15  | + 0.0725                                | 1                           | 10            | 487                               | 66                                    |
| BZX85C18GP  | 16.8 - 19.1                              | 15   | 20  | + 0.075                                 | 1                           | 10            | 436                               | 62                                    |
| BZX85C20GP  | 18.8 - 21.2                              | 10   | 24  | + 0.075                                 | 1                           | 10            | 393                               | 56                                    |
| BZX85C22GP  | 20.8 - 23.3                              | 10   | 25  | + 0.0775                                | 1                           | 12            | 358                               | 52                                    |
| BZX85C24GP  | 22.8 - 25.6                              | 10   | 25  | + 0.0775                                | 1                           | 12            | 326                               | 47                                    |
| BZX85C27GP  | 25.1 - 28.9                              | 8    | 30  | + 0.0775                                | 1                           | 14            | 288                               | 41                                    |
| BZX85C30GP  | 28 - 32                                  | 8    | 30  | + 0.0775                                | 1                           | 14            | 260                               | 36                                    |
| BZX85C33GP  | 31 - 35                                  | 8    | 35  | + 0.0775                                | 1                           | 17            | 238                               | 33                                    |
| BZX85C36GP  | 34 - 38                                  | 8    | 40  | + 0.0775                                | 1                           | 17            | 219                               | 30                                    |
| BZX85C39GP  | 37 - 41                                  | 6    | 50  | + 0.0775                                | 1                           | 20            | 203                               | 28                                    |
| BZX85C43GP  | 40 - 46                                  | 6    | 50  | + 0.0775                                | 1                           | 20            | 181                               | 26                                    |
| BZX85C47GP  | 44 - 50                                  | 4    | 90  | + 0.0775                                | 1                           | 24            | 167                               | 23                                    |
| BZX85C51GP  | 48 - 54                                  | 4    | 115   | + 0.0775                                | 1                           | 24            | 154                               | 21                                    |
| BZX85C56GP  | 52 - 60                                  | 4    | 120   | + 0.0775                                | 1                           | 28            | 139                               | 19                                    |
| BZX85C62GP  | 58 - 66                                  | 4    | 125   | + 0.0775                                | 1                           | 28            | 126                               | 16                                    |
| BZX85C68GP  | 64 - 72                                  | 4    | 130   | + 0.0775                                | 1                           | 34            | 116                               | 15                                    |
| BZX85C75GP  | 70 - 80                                  | 4    | 135   | + 0.0775                                | 1                           | 34            | 104                               | 14                                    |
| BZX85C82GP  | 77 - 87                                  | 2.7  | 200   | + 0.095                                 | 1                           | 41            | 96                                | 12                                    |
| BZX85C91GP  | 85 - 96                                  | 2.7  | 250   | + 0.095                                 | 1                           | 41            | 87                                | 10                                    |
| BZX85C100GP | 94 - 106                                 | 2.7  | 350   | + 0.095                                 | 1                           | 50            | 79                                | 9.4                                   |
| BZX85C110GP | 104 - 116                                | 2.7  | 450   | + 0.095                                 | 1                           | 50            | 72                                | 8.6                                   |
| BZX85C120GP | 114 - 127                                | 2    | 550   | + 0.095                                 | 1                           | 60            | 66                                | 7.8                                   |
| BZX85C130GP | 124 - 141                                | 2    | 700   | + 0.095                                 | 1                           | 60            | 59                                | 7.0                                   |
| BZX85C150GP | 138 - 156                                | 2    | 1000  | + 0.095                                 | 1                           | 75            | 53                                | 6.4                                   |
| BZX85C160GP | 153 - 171                                | 1.5  | 1100  | + 0.095                                 | 1                           | 75            | 49                                | 5.8                                   |
| BZX85C180GP | 168 - 191                                | 1.5  | 1200  | + 0.095                                 | 1                           | 90            | 44                                | 5.2                                   |
| BZX85C200GP | 188 - 212                                | 1.5  | 1500  | + 0.095                                 | 1                           | 90            | 39                                | 4.7                                   |
| BZX85C220GP | 207 - 233                                | 1.5  | 1500  | + 0.095                                 | 1                           | 110           | 36                                | 4.2                                   |

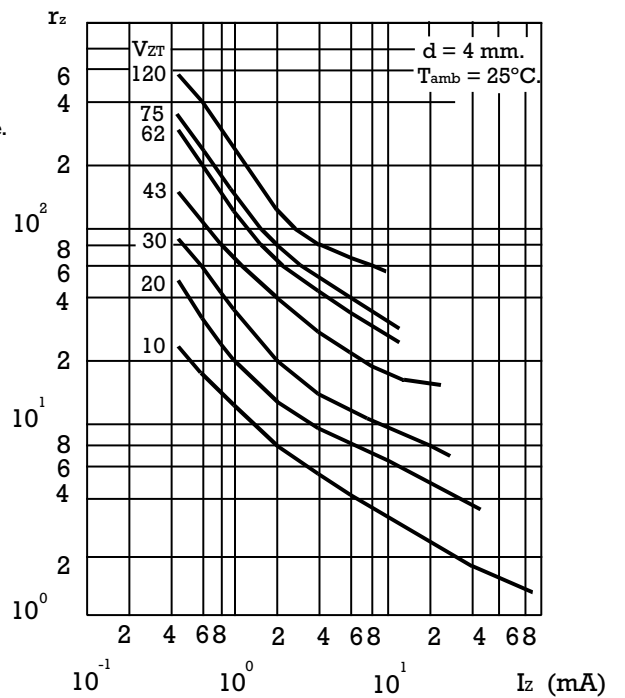
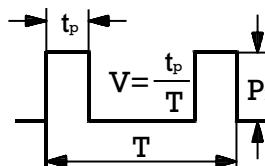
### MAXIMUM CONTINUOUS POWER DISSIPATION



### THERMAL RESISTANCE



Pulse thermal resistance versus pulse duration. Valid provided that leads are kept at ambient temperature at a distance of 10 mm. from case.



Differential resistance  $r_z$  vs, current  $I_z$  for several regulation voltages  $V_{ZT}$

Test conditions: AC signal, amplitude  $i_z = 10\%$  of  $I_z$ ,  $f = 1 \text{ kHz}$

BREAKDOWN CHARACTERISTICS

