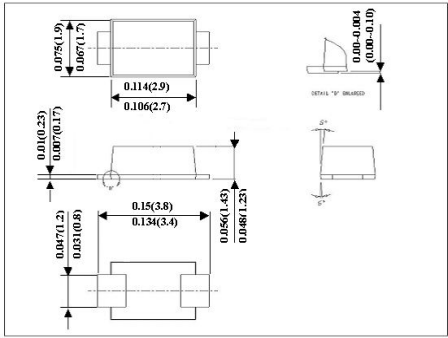


|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>BZD27C6V8P THRU BZD27C200P</b><br><b>Voltage Regulator Diodes</b>                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Voltage Range</b><br>6.8 to 200 Volts<br><b>0.8 Watts Power Dissipation</b>                                                                                                                                        |
| <b>Features</b> <ul style="list-style-type: none"> <li>✧ Silicon planar zener diodes</li> <li>✧ Low profile surface-mount package</li> <li>✧ Zener and surge current specification</li> <li>✧ Low leakage current</li> <li>✧ Excellent stability</li> <li>✧ High temperature soldering:<br/>260°C / 10 sec. at terminals</li> </ul><br><b>Mechanical Data</b> <ul style="list-style-type: none"> <li>✧ Case: Sub SMA Plastic</li> <li>✧ Packaging method: refer to package code</li> <li>✧ Marking code: as table</li> <li>✧ Weight: 10 mg (approx.)</li> </ul> | <p style="text-align: center;"><b>Sub SMA</b></p>  <p style="text-align: center;"><b>Dimensions in inches and (millimeters)</b></p> |
| <b>Maximum Ratings and Electrical Characteristics</b><br>Rating at 25°C ambient temperature unless otherwise specified.                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                       |

**Maximum Ratings**

| Type Number                                                                                                 | Symbol                            | Value        | Units |
|-------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------|-------|
| Forward Voltage @ IF = 0.2A                                                                                 | V <sub>F</sub>                    | 1.2          | V     |
| Power Dissipation TL=80°C<br>TA=25°C (Note 1)                                                               | P <sub>tot</sub>                  | 2.3<br>0.8   | W     |
| Non-Repetitive Peak Pulse Power Dissipation<br>100us square pulse (Note 2)                                  | P <sub>ZSM</sub>                  | 300          | W     |
| Non-Repetitive Peak Pulse Power Dissipation<br>10/1000 us waveform (BZD27-C7V5P to<br>BZD27-C100P) (Note 2) | P <sub>RSM</sub>                  | 150          | W     |
| Non-Repetitive Peak Pulse Power Dissipation<br>10/1000 us waveform (BZD27-110P to BZD27-C200P)<br>(Note 2)  | P <sub>RSM</sub>                  | 100          | W     |
| Thermal Resistance Junction to Ambient Air (Note 1)                                                         | R <sub>θJA</sub>                  | 180          | K /W  |
| Thermal Resistance Junction to Lead                                                                         | R <sub>θJL</sub>                  | 30           | K /W  |
| Operating and Storage Temperature Range                                                                     | T <sub>J</sub> , T <sub>STG</sub> | -65 to + 150 | °C    |

Notes: 1. Mounted on Epoxy-Glass PCB with 3 x 3 mm Cu pads (≥ 40um thick)

2. T<sub>J</sub>=25°C Prior to Surge.

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

| Device     | Device Marking Code | Working Voltage (Note 1)         |      | Differential Resistance           |      | Temperature Coefficient            |      | Test            | Reverse Current @ Reverse Voltage |                |
|------------|---------------------|----------------------------------|------|-----------------------------------|------|------------------------------------|------|-----------------|-----------------------------------|----------------|
|            |                     | V <sub>Z</sub> @ I <sub>ZT</sub> |      | r <sub>dif</sub> @ I <sub>Z</sub> |      | ALPH <sub>Z</sub> @ I <sub>Z</sub> |      | Current         | I <sub>R</sub>                    |                |
|            |                     | V                                |      | Ω                                 |      | % / °C                             |      | I <sub>ZT</sub> | uA                                | V <sub>R</sub> |
|            |                     | Min.                             | Max. | typ                               | Max. | Min                                | Max. | Ma              | Max                               | V              |
| BZD27C6V8P | D7                  | 6.4                              | 7.2  | 1.0                               | 3    | 0.0                                | 0.07 | 100             | 10                                | 3              |
| BZD27C7V5P | D8                  | 7.0                              | 7.9  | 1.0                               | 2    | 0.0                                | 0.07 | 100             | 50                                | 3              |
| BZD27C8V2P | D9                  | 7.7                              | 8.7  | 1.0                               | 2    | 0.03                               | 0.08 | 100             | 10                                | 3              |
| BZD27C9V1P | E0                  | 8.5                              | 9.6  | 2.0                               | 4    | 0.03                               | 0.08 | 50              | 10                                | 5              |
| BZD27C10P  | E1                  | 9.4                              | 10.6 | 2.0                               | 4    | 0.05                               | 0.09 | 50              | 7.0                               | 7.5            |
| BZD27C11P  | E2                  | 10.4                             | 11.6 | 4.0                               | 7    | 0.05                               | 0.10 | 50              | 4.0                               | 8.2            |
| BZD27C12P  | E3                  | 11.4                             | 12.7 | 4.0                               | 7    | 0.05                               | 0.10 | 50              | 3.0                               | 9.1            |
| BZD27C13P  | E4                  | 12.4                             | 14.1 | 5.0                               | 10   | 0.05                               | 0.10 | 50              | 2.0                               | 10             |
| BZD27C15P  | E5                  | 13.8                             | 15.6 | 5.0                               | 10   | 0.05                               | 0.10 | 25              | 1.0                               | 11             |
| BZD27C16P  | E6                  | 15.3                             | 17.1 | 6.0                               | 15   | 0.06                               | 0.11 | 25              | 1.0                               | 12             |
| BZD27C18P  | E7                  | 16.8                             | 19.1 | 6.0                               | 15   | 0.06                               | 0.11 | 25              | 1.0                               | 13             |
| BZD27C20P  | E8                  | 18.8                             | 21.2 | 6.0                               | 15   | 0.06                               | 0.11 | 25              | 1.0                               | 15             |
| BZD27C22P  | E9                  | 20.8                             | 23.3 | 6.0                               | 15   | 0.06                               | 0.11 | 25              | 1.0                               | 16             |
| BZD27C24P  | F0                  | 22.8                             | 25.6 | 7.0                               | 15   | 0.06                               | 0.11 | 25              | 1.0                               | 18             |
| BZD27C27P  | F1                  | 25.1                             | 28.9 | 7.0                               | 15   | 0.06                               | 0.11 | 25              | 1.0                               | 20             |
| BZD27C30P  | F2                  | 28                               | 32   | 8.0                               | 15   | 0.06                               | 0.11 | 25              | 1.0                               | 22             |
| BZD27C33P  | F3                  | 31                               | 35   | 8.0                               | 15   | 0.06                               | 0.11 | 25              | 1.0                               | 24             |
| BZD27C36P  | F4                  | 34                               | 38   | 21                                | 40   | 0.06                               | 0.11 | 10              | 1.0                               | 27             |
| BZD27C39P  | F5                  | 37                               | 41   | 21                                | 40   | 0.06                               | 0.11 | 10              | 1.0                               | 30             |
| BZD27C43P  | F6                  | 40                               | 46   | 24                                | 45   | 0.07                               | 0.12 | 10              | 1.0                               | 33             |
| BZD27C47P  | F7                  | 44                               | 50   | 24                                | 45   | 0.07                               | 0.12 | 10              | 1.0                               | 36             |
| BZD27C51P  | F8                  | 48                               | 54   | 25                                | 60   | 0.07                               | 0.12 | 10              | 1.0                               | 39             |
| BZD27C56P  | F9                  | 52                               | 60   | 25                                | 60   | 0.07                               | 0.12 | 10              | 1.0                               | 43             |
| BZD27C62P  | G0                  | 58                               | 66   | 25                                | 80   | 0.08                               | 0.13 | 10              | 1.0                               | 47             |
| BZD27C68P  | G1                  | 64                               | 72   | 25                                | 80   | 0.08                               | 0.13 | 10              | 1.0                               | 51             |
| BZD27C75P  | G2                  | 70                               | 79   | 30                                | 100  | 0.08                               | 0.13 | 10              | 1.0                               | 56             |
| BZD27C82P  | G3                  | 77                               | 87   | 30                                | 100  | 0.08                               | 0.13 | 10              | 1.0                               | 62             |
| BZD27C91P  | G4                  | 85                               | 96   | 60                                | 200  | 0.08                               | 0.13 | 5               | 1.0                               | 68             |
| BZD27C100P | G5                  | 94                               | 106  | 60                                | 200  | 0.09                               | 0.13 | 5               | 1.0                               | 75             |
| BZD27C110P | G7                  | 104                              | 116  | 80                                | 250  | 0.09                               | 0.13 | 5               | 1.0                               | 82             |
| BZD27C120P | G8                  | 114                              | 127  | 80                                | 250  | 0.09                               | 0.13 | 5               | 1.0                               | 91             |
| BZD27C130P | G9                  | 124                              | 141  | 110                               | 300  | 0.09                               | 0.13 | 5               | 1.0                               | 100            |
| BZD27C150P | G0                  | 138                              | 156  | 130                               | 300  | 0.09                               | 0.13 | 5               | 1.0                               | 110            |
| BZD27C160P | H0                  | 153                              | 171  | 150                               | 350  | 0.09                               | 0.13 | 5               | 1.0                               | 120            |
| BZD27C180P | H1                  | 168                              | 191  | 180                               | 400  | 0.09                               | 0.13 | 5               | 1.0                               | 130            |
| BZD27C200P | H2                  | 188                              | 212  | 200                               | 500  | 0.09                               | 0.13 | 5               | 1.0                               | 150            |

Notes: 1. Pulse test: tp ≤5ms.

## RATINGS AND CHARACTERISTIC CURVES (BZD27C6V8P THRU BZD27C200P)

FIG.1- FORWARD CURRENT vs FORWARD VOLTAGE

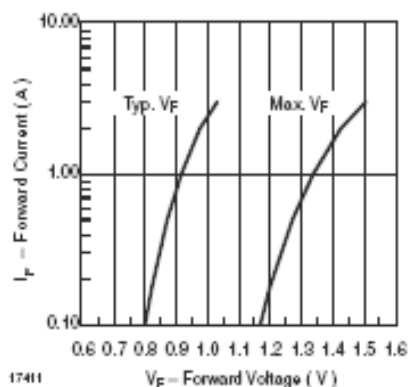


FIG.2- TYP. DIODE CAPACITANCE vs REVERSE VOLTAGE

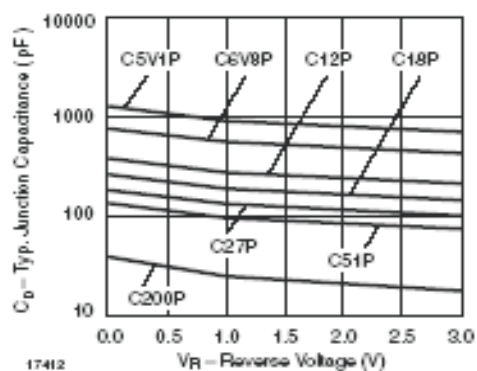


FIG.3- POWER DISSIPATION vs AMBIENT TEMPERATURE

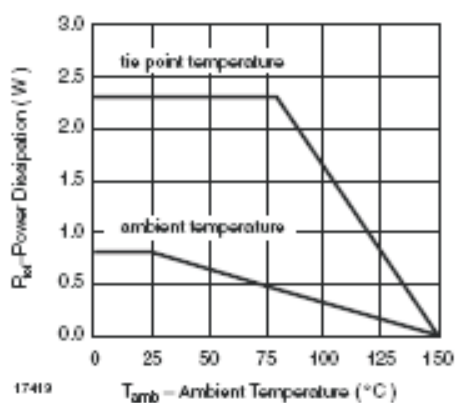


FIG.4- MAXIMUM PULSE POWER DISSIPATION vs ZENER VOLTAGE

