

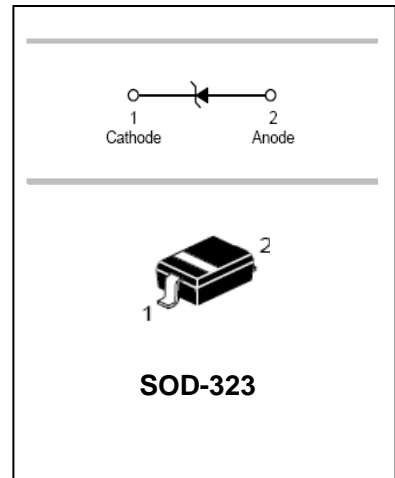


# MM3Z3V3S-MM3Z18VS

## 200mW Surface Mount Zener Diode

### FEATURES

- Standard zener breakdown voltage range 3.3V-18V
- Steady state power rating of 200mW



### APPLICATIONS

- Zener diode
- Ultra-small surface mount package

### ORDERING INFORMATION

| Type No.          | Marking     | Package Code |
|-------------------|-------------|--------------|
| MM3Z3V3S-MM3Z18VS | See table 2 | SOD-323      |

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

| Characteristic                              | Symbol           | Value       | Unit |
|---|------------------|-------------|------|
| Forward Voltage @ I <sub>F</sub> =10mA      | V <sub>F</sub>   | 0.9         | V    |
| Power Dissipation                           | P <sub>d</sub>   | 200         | mW   |
| Thermal resistance, junction to ambient air | R <sub>θjA</sub> | 635         | °C/W |
| Junction temperature                        | T <sub>j</sub>   | 150         | °C   |
| Storage temperature range                   | T <sub>stg</sub> | -65 to +150 | °C   |



200mW Surface Mount Zener Diode

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Type Number | Marking Code | Zener Voltage          |     |       | Zener Impedance  |                                  |                                  | Leakage Current |                 | @V <sub>Z</sub> (Mv/k) |      | C<br>@V <sub>R</sub> =0,<br>f=1MHz<br>pF |     |
|-------------|--------------|------------------------|-----|-------|------------------|----------------------------------|----------------------------------|-----------------|-----------------|------------------------|------|--|-----|
|             |              | V <sub>Z</sub> (Volts) |     |       | @I <sub>ZT</sub> | Z <sub>ZT</sub> @I <sub>ZT</sub> | Z <sub>ZK</sub> @I <sub>ZK</sub> | I <sub>R</sub>  | @V <sub>R</sub> | @I <sub>ZT</sub>       |      |  |     |
|             |              | Min                    | Nom | Max   | mA               | Ω                                | Ω                                | mA              | μA              | V                      | Min  |  | Max |
| MM3Z3V3S    | T5           | 3.32                   | 3.3 | 3.53  | 5                | 95                               | 1000                             | 0.5             | 5               | 1.0                    | -3.5 | 0  | 450 |
| MM3Z3V9S    | T7           | 3.89                   | 3.9 | 4.16  | 5                | 90                               | 1000                             | 0.5             | 3               | 1.0                    | -3.5 | -2.5                                     | 450 |
| MM3Z4V3S    | T8           | 4.17                   | 4.3 | 4.43  | 5                | 90                               | 1000                             | 0.5             | 3               | 1.0                    | -3.5 | 0  | 450 |
| MM3Z4V7S    | T9           | 4.55                   | 4.7 | 4.75  | 5                | 80                               | 800                              | 0.5             | 3               | 2.0                    | -3.5 | 0.2                                      | 260 |
| MM3Z5V1S    | TA           | 4.98                   | 5.1 | 5.20  | 5                | 60                               | 500                              | 0.5             | 2               | 2.0                    | -2.7 | 1.2                                      | 225 |
| MM3Z5V6S    | TC           | 5.49                   | 5.6 | 5.73  | 5                | 40                               | 200                              | 0.5             | 1               | 2.0                    | -2.0 | 2.5                                      | 200 |
| MM3Z6V2S    | TE           | 6.06                   | 6.2 | 6.33  | 5                | 10                               | 100                              | 0.5             | 3               | 4.0                    | 0.4  | 3.7                                      | 185 |
| MM3Z6V8S    | TF           | 6.65                   | 6.8 | 6.93  | 5                | 15                               | 160                              | 0.5             | 2               | 4.0                    | 1.2  | 4.5                                      | 155 |
| MM3Z7V5S    | TG           | 7.28                   | 7.5 | 7.60  | 5                | 15                               | 160                              | 0.5             | 1               | 5.0                    | 2.5  | 5.3                                      | 140 |
| MM3Z8V2S    | TH           | 8.02                   | 8.2 | 8.36  | 5                | 15                               | 160                              | 0.5             | 0.7             | 5.0                    | 3.2  | 6.2                                      | 135 |
| MM3Z9V1S    | TK           | 8.85                   | 9.1 | 9.23  | 5                | 15                               | 160                              | 0.5             | 0.5             | 6.0                    | 3.8  | 7.0                                      | 130 |
| MM3Z10S     | WB           | 9.80                   | 10  | 10.20 | 5                | 20                               | 160                              | 0.5             | 0.5             | 6.0                    | 4.5  | 8.0                                      | 130 |
| MM3Z12S     | TN           | 11.74                  | 12  | 12.24 | 5                | 25                               | 80                               | 0.5             | 0.1             | 8.0                    | 6.0  | 10                                       | 130 |
| MM3Z15S     | WF           | 14.70                  | 15  | 15.30 | 5                | 30                               | 80                               | 0.5             | 0.05            | 10.5                   | 9.2  | 13                                       | 110 |
| MM3Z16S     | TU           | 15.85                  | 16  | 16.51 | 5                | 40                               | 80                               | 0.5             | 0.05            | 11.2                   | 10.4 | 14                                       | 105 |
| MM3Z18S     | TW           | 17.56                  | 18  | 18.35 | 5                | 45                               | 80                               | 0.5             | 0.05            | 12.6                   | 12.4 | 16                                       | 100 |

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

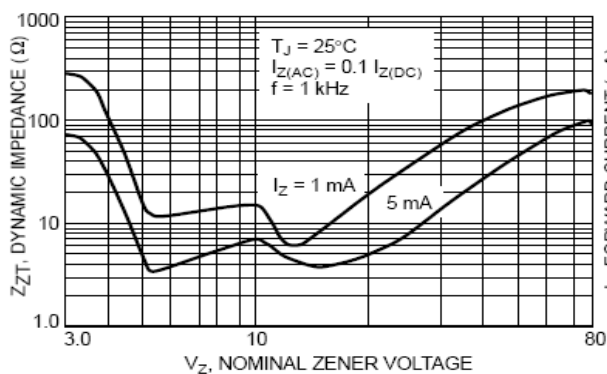


Figure 1. Effect of Zener Voltage on Zener Impedance

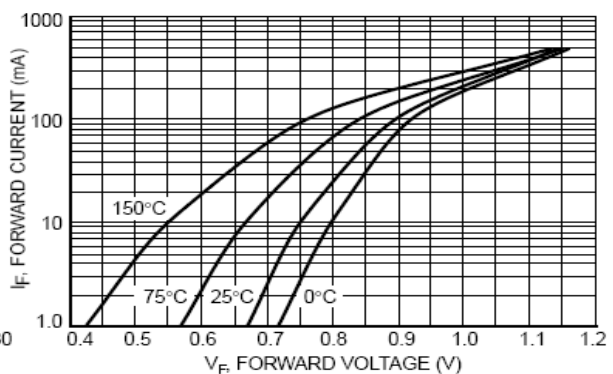


Figure 2. Typical Forward Voltage



200mW Surface Mount Zener Diode

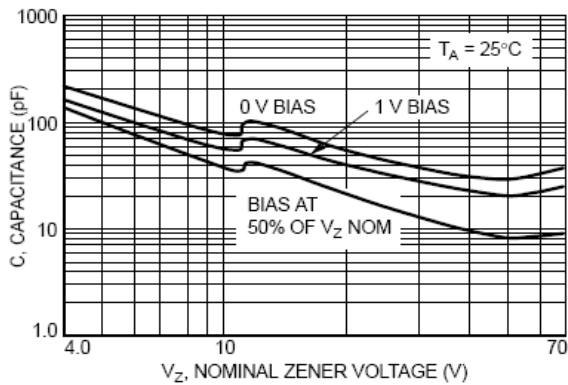


Figure 3. Typical Capacitance

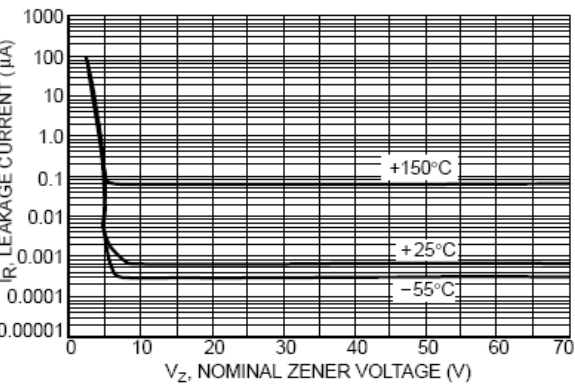


Figure 4. Typical Leakage Current

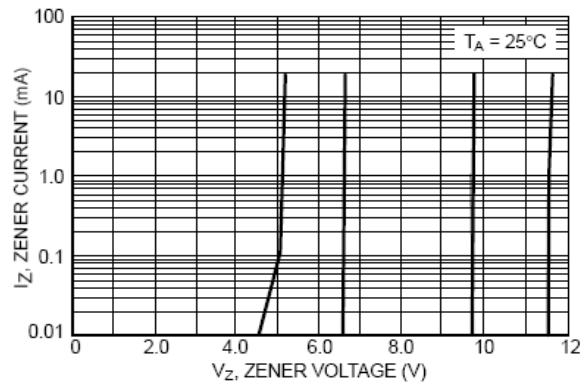


Figure 5. Zener Voltage versus Zener Current (Vz Up to 12 V)

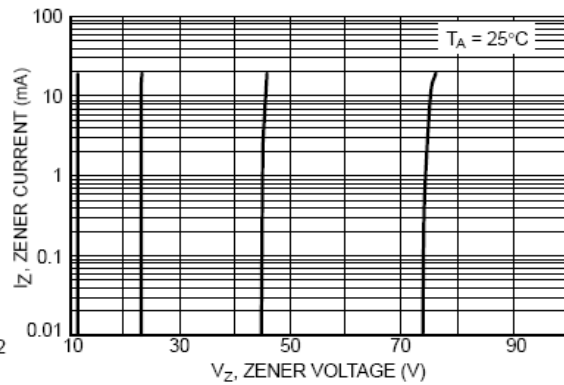


Figure 6. Zener Voltage versus Zener Current (12 V to 75 V)

PACKAGE OUTLINE

Plastic surface mounted package

SOD-323

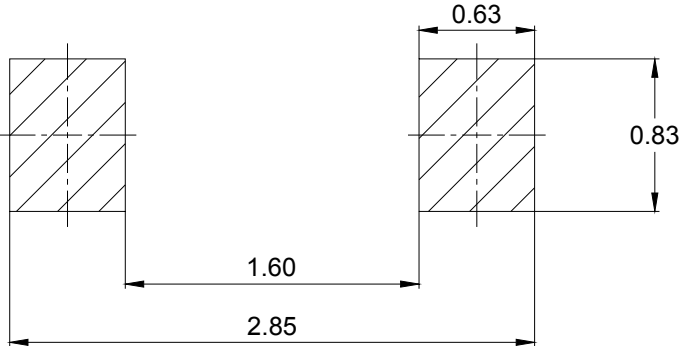
| SOD-323              |              |      |
|----------------------|--------------|------|
| Dim                  | Min          | Max  |
| A                    | 1.60         | 1.80 |
| B                    | 1.20         | 1.40 |
| C                    | 0.9 Max      |      |
| D                    | 0.30 Typical |      |
| E                    | 0.22         | 0.42 |
| H                    | 0.02         | 0.1  |
| J                    | 0.1 Typical  |      |
| K                    | 2.55         | 2.75 |
| All Dimensions in mm |              |      |



# MM3Z3V3S-MM3Z18VS

## 200mW Surface Mount Zener Diode

### SOLDERING FOOTPRINT



Unit : mm

### PACKAGE INFORMATION

| Device            | Package | Shipping       |
|-------------------|---------|----------------|
| MM3Z3V3S-MM3Z18VS | SOD-323 | 3000/Tape&Reel |