

# DATA SHEET

## ZMM55-C2V4 SERIES

### SURFACE MOUNT ZENER DIODES

**VOLTAGE** 2.4 to 47 Volts

**POWER** 500 mWatts

**MINI-MELF/LL-34**

Unit : inch (mm)

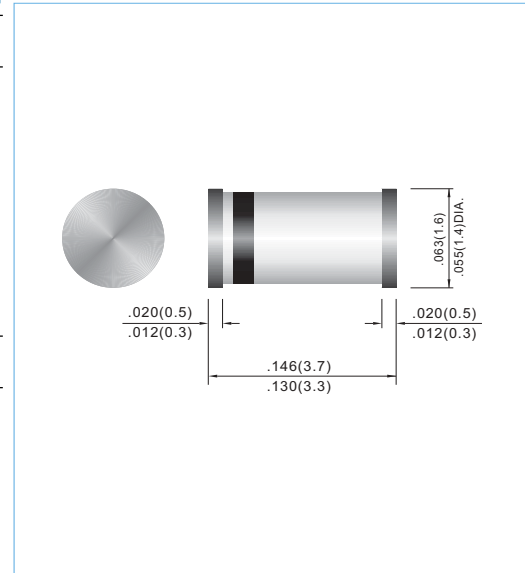
#### FEATURES

- Planar Die construction
- 500mW Power Dissipation
- Ideally Suited for Automated Assembly Processes
- Both normal and Pb free product are available :  
Normal : 80~95% Sn, 5~20% Pb  
Pb free: 98.5% Sn above

#### MECHANICAL DATA

- Case: Molded Glass MINI-MELF
- Terminals: Solderable per MIL-STD-202E, Method 208
- Polarity: See Diagram Below
- Approx. Weight: 0.03 grams
- Mounting Position: Any
- Packing information

T/R - 2.5K per 7" plastic Reel



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| Parameter                         | Symbol           | Value       | Units |
|-----------------------------------|------------------|-------------|-------|
| Power Dissipation at Tamb = 25 °C | P <sub>TOT</sub> | 500         | mW    |
| Junction Temperature              | T <sub>J</sub>   | 175         | °C    |
| Storage Temperature Range         | T <sub>S</sub>   | -55 to +175 | °C    |

Valid provided that leads at a distance of 8mm from case are kept at ambient temperature.

| Parameter                                  | Symbol           | Min. | Typ. | Max. | Units |
|--|------------------|------|------|------|-------|
| Thermal Resistance Junction to Ambient Air | R <sub>thA</sub> | —    | —    | 0.3  | K/AW  |
| Forward Voltage at I <sub>F</sub> = 100mA  | V <sub>F</sub>   | —    | —    | 1    | V     |

Valid provided that leads at a distance of 8mm from case are kept at ambient temperature.

| Part Number  | Nominal Zener Voltage |        |        | Max. Zener Impedance |     |          |     | Max Reverse Leakage Current |     | Marking code |
|--------------|-----------------------|--------|--------|----------------------|-----|----------|-----|-----------------------------|-----|--------------|
|              | Vz @ It               |        |        | Zzt @ It             |     | Zzk @ Ik |     | Ir @ VR                     |     |              |
|              | Nom. V                | Min. V | Max. V | $\Omega$             | mA  | $\Omega$ | mA  | uA                          | V   |              |
| ZMM 55-C 2V4 | 2.4                   | 2.28   | 2.56   | 85                   | 5   | 600      | 1.0 | 50                          | 1.0 | C 2V4        |
| ZMM 55-C 2V7 | 2.7                   | 2.5    | 2.9    | 85                   | 5   | 600      | 1.0 | 10                          | 1.0 | C 2V7        |
| ZMM 55-C 3V0 | 3.0                   | 2.8    | 3.2    | 85                   | 5   | 600      | 1.0 | 4                           | 1.0 | C 3V0        |
| ZMM 55-C 3V3 | 3.3                   | 3.1    | 3.5    | 85                   | 5   | 600      | 1.0 | 2                           | 1.0 | C 3V3        |
| ZMM 55-C 3V6 | 3.6                   | 3.4    | 3.8    | 85                   | 5   | 600      | 1.0 | 2                           | 1.0 | C 3V6        |
| ZMM 55-C 3V9 | 3.9                   | 3.7    | 4.1    | 85                   | 5   | 600      | 1.0 | 2                           | 1.0 | C 3V9        |
| ZMM 55-C 4V3 | 4.3                   | 4.0    | 4.6    | 75                   | 5   | 600      | 1.0 | 1                           | 1.0 | C 4V3        |
| ZMM 55-C 4V7 | 4.7                   | 4.4    | 5.0    | 60                   | 5   | 600      | 1.0 | 0.5                         | 1.0 | C 4V7        |
| ZMM 55-C 5V1 | 5.1                   | 4.8    | 5.4    | 35                   | 5   | 550      | 1.0 | 0.1                         | 1.0 | C 5V1        |
| ZMM 55-C 5V6 | 5.6                   | 5.2    | 6.0    | 25                   | 5   | 450      | 1.0 | 0.1                         | 1.0 | C 5V6        |
| ZMM 55-C 6V2 | 6.2                   | 5.8    | 6.6    | 10                   | 5   | 200      | 1.0 | 0.1                         | 2.0 | C 6V2        |
| ZMM 55-C 6V8 | 6.8                   | 6.4    | 7.2    | 8                    | 5   | 150      | 1.0 | 0.1                         | 3.0 | C 6V8        |
| ZMM 55-C 7V5 | 7.5                   | 7.0    | 7.9    | 7                    | 5   | 50       | 1.0 | 0.1                         | 5.0 | C 7V5        |
| ZMM 55-C 8V2 | 8.2                   | 7.7    | 8.7    | 7                    | 5   | 50       | 1.0 | 0.1                         | 6.0 | C 8V2        |
| ZMM 55-C 9V1 | 9.1                   | 8.5    | 9.6    | 10                   | 5   | 50       | 1.0 | 0.1                         | 7.0 | C 9V1        |
| ZMM 55-C 10  | 10                    | 9.4    | 10.6   | 15                   | 5   | 70       | 1.0 | 0.1                         | 7.5 | C 10V        |
| ZMM 55-C 11  | 11                    | 10.4   | 11.6   | 20                   | 5   | 70       | 1.0 | 0.1                         | 8.5 | C 11V        |
| ZMM 55-C 12  | 12                    | 11.4   | 12.7   | 20                   | 5   | 90       | 1.0 | 0.1                         | 9.0 | C 12V        |
| ZMM 55-C 13  | 13                    | 12.4   | 14.1   | 26                   | 5   | 110      | 1.0 | 0.1                         | 10  | C 13V        |
| ZMM 55-C 15  | 15                    | 13.8   | 15.6   | 30                   | 5   | 110      | 1.0 | 0.1                         | 11  | C 15V        |
| ZMM 55-C 16  | 16                    | 15.3   | 17.1   | 40                   | 5   | 170      | 1.0 | 0.1                         | 12  | C 16V        |
| ZMM 55-C 18  | 18                    | 16.8   | 19.1   | 50                   | 5   | 170      | 1.0 | 0.1                         | 14  | C 18V        |
| ZMM 55-C 20  | 20                    | 18.8   | 21.2   | 55                   | 5   | 220      | 1.0 | 0.1                         | 15  | C 20V        |
| ZMM 55-C 22  | 22                    | 20.8   | 23.3   | 55                   | 5   | 220      | 1.0 | 0.1                         | 17  | C 22V        |
| ZMM 55-C 24  | 24                    | 22.8   | 25.6   | 80                   | 5   | 220      | 1.0 | 0.1                         | 18  | C 24V        |
| ZMM 55-C 27  | 27                    | 25.1   | 28.9   | 80                   | 5   | 220      | 1.0 | 0.1                         | 20  | C 27V        |
| ZMM 55-C 30  | 30                    | 28     | 32     | 80                   | 5   | 220      | 1.0 | 0.1                         | 22  | C 30V        |
| ZMM 55-C 33  | 33                    | 31     | 35     | 80                   | 5   | 220      | 1.0 | 0.1                         | 24  | C 33V        |
| ZMM 55-C 36  | 36                    | 34     | 38     | 80                   | 5   | 220      | 1.0 | 0.1                         | 27  | C 36V        |
| ZMM 55-C 39  | 39                    | 37     | 41     | 90                   | 2.5 | 500      | 1.0 | 0.1                         | 30  | C 39V        |
| ZMM 55-C 43  | 43                    | 40     | 46     | 90                   | 2.5 | 600      | 1.0 | 0.1                         | 33  | C 43V        |
| ZMM 55-C 47  | 47                    | 44     | 50     | 110                  | 2.5 | 700      | 1.0 | 0.1                         | 36  | C 47V        |

Notes.

STANDARD VOLTAGE TOLERANCE IS + 5% AND :

SUFFIX " A " FOR + 1%

SUFFIX " B " FOR + 2%

SUFFIX " C " FOR + 5%

SUFFIX " D " FOR + 20%

## RATING AND CHARACTERISTIC CURVES

