

**SURFACE MOUNT GLASS PASSIVATED  
ZENER SILICON RECTIFIER**  
VOLTAGE RANGE 3.3 TO 91.0 Volts STEADY STATE POWER 1.0 WATT

**FEATURES**

- \* Plastic package has underwriters laboratory
- \* Excellent clamping capability
- \* Low zener impedance
- \* Low regulation factor
- \* Operating and Storage Temperature Range:-55 to + 150°C
- \* P/N suffix V means AEC-Q101 qualified, e.g.FM4728WV
- \* P/N suffix V means Halogen-free

**MECHANICAL DATA**

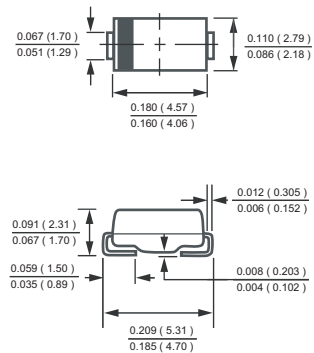
- \* Epoxy : Device has UL flammability classification 94V-0

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



**DO-214AC**



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

**ELECTRICAL CHARACTERISTICS ( At  $T_A = 25^\circ\text{C}$  unless otherwise noted)**

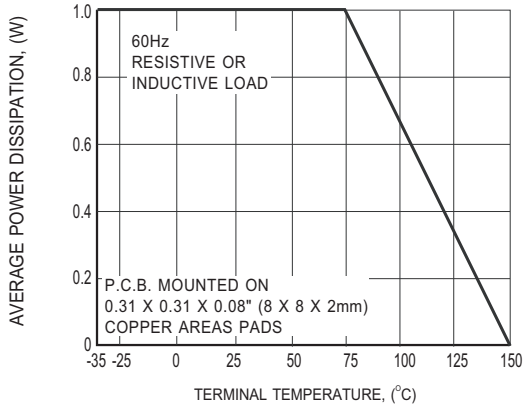
| TYPE    | NOMINAL ZENER VOLTAGE                       | TEST CURRENT     | MAXIMUM DYNAMIC IMPEDANCE         |                       |                              | MAXIMUM DC REVERSE LEAKAGE CURRENT |                  | MAXIMUM SURGE CURRENT          | MAXIMUM FORWARD VOLTAGE      |
|---------|---|------------------|-----------------------------------|-----------------------|------------------------------|------------------------------------|------------------|--------------------------------|------------------------------|
|         | at $I_{ZT}$<br>$V_Z$<br>(NOTE 1)<br>(Volts) | $I_{ZT}$<br>(mA) | $Z_{ZT}$ at<br>$I_{ZT}$<br>(ohms) | $Z_{ZK}$ at<br>(ohms) | (NOTE 1)<br>$I_{ZK}$<br>(mA) | $I_R$<br>( $\mu\text{A}$ )         | $V_R$<br>(Volts) | (NOTE 2)<br>$I_{RM}$<br>(mApk) | at 200mA<br>$V_F$<br>(Volts) |
| FM4728W | 3.3   | 76.0             | 10                                | 700                   | 1.00                         | 100.0                              | 1.0              | 1380                           | 1.2                          |
| FM4729W | 3.6   | 69.0             | 10                                | 700                   | 1.00                         | 100.0                              | 1.0              | 1260                           | 1.2                          |
| FM4730W | 3.9   | 64.0             | 9.0                               | 700                   | 1.00                         | 50.0                               | 1.0              | 1190                           | 1.2                          |
| FM4731W | 4.3   | 58.0             | 9.0                               | 700                   | 1.00                         | 10.0                               | 1.0              | 1070                           | 1.2                          |
| FM4732W | 4.7   | 53.0             | 8.0                               | 700                   | 1.00                         | 10.0                               | 1.0              | 970                            | 1.2                          |
| FM4733W | 5.1   | 49.0             | 7.0                               | 700                   | 1.00                         | 10.0                               | 1.0              | 890                            | 1.2                          |
| FM4734W | 5.6   | 45.0             | 5.0                               | 700                   | 1.00                         | 10.0                               | 2.0              | 810                            | 1.2                          |
| FM4735W | 6.2   | 41.0             | 2.0                               | 700                   | 1.00                         | 10.0                               | 3.0              | 730                            | 1.2                          |
| FM4736W | 6.8   | 37.0             | 3.5                               | 700                   | 1.00                         | 50.0                               | 4.0              | 660.0                          | 1.2                          |

ELECTRICAL CHARACTERISTICS ( At T<sub>A</sub> = 25°C unless otherwise noted)

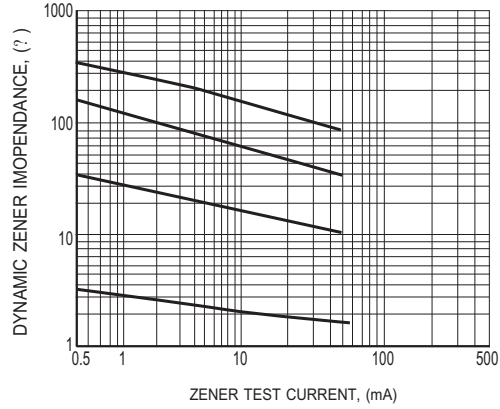
| TYPE    | NOMINAL ZENER VOLTAGE                                       | TEST CURRENT            | MAXIMUM DYNAMIC IMPEDANCE                       |                              |                                     | MAXIMUM DC REVERSE LEAKAGE CURRENT |                           | MAXIMUM SURGE CURRENT                 | MAXIMUM FORWARD VOLTAGE               |
|---------|---|-------------------------|---|------------------------------|-------------------------------------|------------------------------------|---------------------------|---------------------------------------|---------------------------------------|
|         | at I <sub>ZT</sub><br>V <sub>Z</sub><br>(NOTE 1)<br>(Volts) | I <sub>ZT</sub><br>(mA) | Z <sub>ZT</sub> at<br>I <sub>ZT</sub><br>(ohms) | Z <sub>ZK</sub> at<br>(ohms) | (NOTE 1)<br>I <sub>ZK</sub><br>(mA) | I <sub>R</sub><br>(uA)             | V <sub>R</sub><br>(Volts) | (NOTE 2)<br>I <sub>RM</sub><br>(mApk) | at 200mA<br>V <sub>F</sub><br>(Volts) |
| FM4737W | 7.5   | 34.0                    | 4.0   | 700                          | 0.50                                | 50.0                               | 5.0                       | 605.0                                 | 1.2                                   |
| FM4738W | 8.2   | 31.0                    | 4.5   | 700                          | 0.50                                | 50.0                               | 6.0                       | 550.0                                 | 1.2                                   |
| FM4739W | 9.1   | 28.0                    | 5.0   | 700                          | 0.50                                | 50.0                               | 7.0                       | 500.0                                 | 1.2                                   |
| FM4740W | 10.0  | 25.0                    | 7.0   | 700                          | 0.25                                | 50.0                               | 7.6                       | 454.0                                 | 1.2                                   |
| FM4741W | 11.0  | 23.0                    | 8.0   | 700                          | 0.25                                | 5.0                                | 8.4                       | 414.0                                 | 1.2                                   |
| FM4742W | 12.0  | 21.0                    | 9.0   | 700                          | 0.25                                | 5.0                                | 9.1                       | 380.0                                 | 1.2                                   |
| FM4743W | 13.0  | 19.0                    | 10.0  | 700                          | 0.25                                | 5.0                                | 9.9                       | 344.0                                 | 1.2                                   |
| FM4744W | 15.0  | 17.0                    | 14.0  | 700                          | 0.25                                | 5.0                                | 11.4                      | 305.0                                 | 1.2                                   |
| FM4745W | 16.0  | 15.5                    | 16.0  | 700                          | 0.25                                | 5.0                                | 12.2                      | 285.0                                 | 1.2                                   |
| FM4746W | 18.0  | 14.0                    | 20.0  | 750                          | 0.25                                | 5.0                                | 13.7                      | 250.0                                 | 1.2                                   |
| FM4747W | 20.0  | 12.5                    | 22.0  | 750                          | 0.25                                | 5.0                                | 15.2                      | 225.0                                 | 1.2                                   |
| FM4748W | 22.0  | 11.5                    | 23.0  | 750                          | 0.25                                | 5.0                                | 16.7                      | 205.0                                 | 1.2                                   |
| FM4749W | 24.0  | 10.5                    | 25.0  | 750                          | 0.25                                | 5.0                                | 18.2                      | 190.0                                 | 1.2                                   |
| FM4750W | 27.0  | 9.5                     | 35.0  | 750                          | 0.25                                | 5.0                                | 20.6                      | 170.0                                 | 1.2                                   |
| FM4751W | 30.0  | 8.5                     | 40.0  | 1000                         | 0.25                                | 5.0                                | 22.8                      | 150.0                                 | 1.2                                   |
| FM4752W | 33.0  | 7.5                     | 45.0  | 1000                         | 0.25                                | 5.0                                | 25.1                      | 135.0                                 | 1.2                                   |
| FM4753W | 36.0  | 7.0                     | 50.0  | 1000                         | 0.25                                | 5.0                                | 27.4                      | 125.0                                 | 1.2                                   |
| FM4754W | 39.0  | 6.5                     | 60.0  | 1000                         | 0.25                                | 5.0                                | 29.7                      | 115.0                                 | 1.2                                   |
| FM4755W | 43.0  | 6.0                     | 70.0  | 1500                         | 0.25                                | 5.0                                | 32.7                      | 110.0                                 | 1.2                                   |
| FM4756W | 47.0  | 5.5                     | 80.0  | 1500                         | 0.25                                | 5.0                                | 35.8                      | 95.0                                  | 1.2                                   |
| FM4757W | 51.0  | 5.0                     | 95.0  | 1500                         | 0.25                                | 5.0                                | 38.8                      | 90.0                                  | 1.2                                   |
| FM4758W | 56.0  | 4.5                     | 110.0   | 2000                         | 0.25                                | 5.0                                | 42.6                      | 80.0                                  | 1.2                                   |
| FM4759W | 62.0  | 4.0                     | 125.0   | 2000                         | 0.25                                | 5.0                                | 47.1                      | 70.0                                  | 1.2                                   |
| FM4760W | 68.0  | 3.7                     | 150.0   | 2000                         | 0.25                                | 5.0                                | 51.7                      | 65.0                                  | 1.2                                   |
| FM4761W | 75.0  | 3.3                     | 175.0   | 2000                         | 0.25                                | 5.0                                | 56.0                      | 60.0                                  | 1.2                                   |
| FM4762W | 82.0  | 3.0                     | 200.0   | 3000                         | 0.25                                | 5.0                                | 62.2                      | 55.0                                  | 1.2                                   |
| FM4763W | 91.0  | 2.0                     | 250.0   | 3000                         | 0.25                                | 5.0                                | 69.2                      | 50.0                                  | 1.2                                   |

- Notes :
1. Standard Voltage Tolerance : +/- 20% , Suffix A : +/- 10% , Suffix B : +/- 5% .
  2. Surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on I<sub>ZT</sub> per JEDEC Method.
  3. Maximum steady state power dissipation is 1.0 watt at T<sub>L</sub> = 75°C.
  4. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

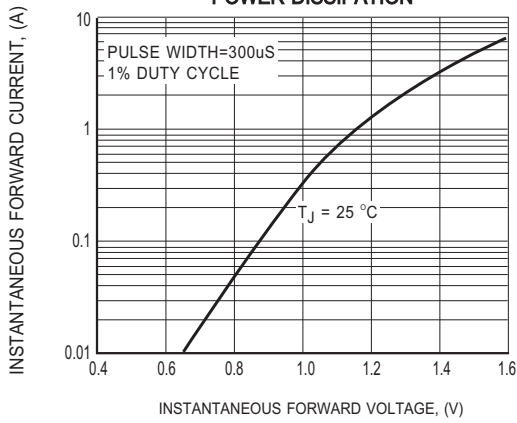
# RATING AND CHARACTERISTICS CURVES ( FM4728W THRU FM4763W )



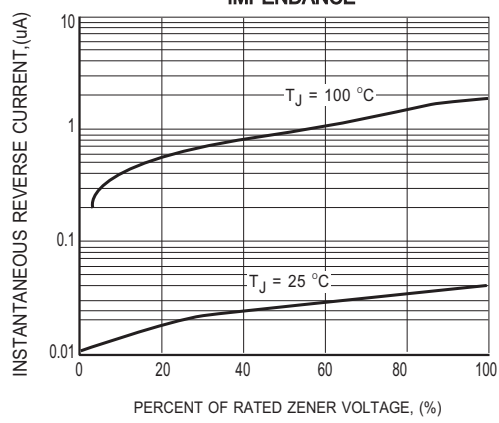
**FIG.1 MAXIMUM CONTINUOUS POWER DISSIPATION**



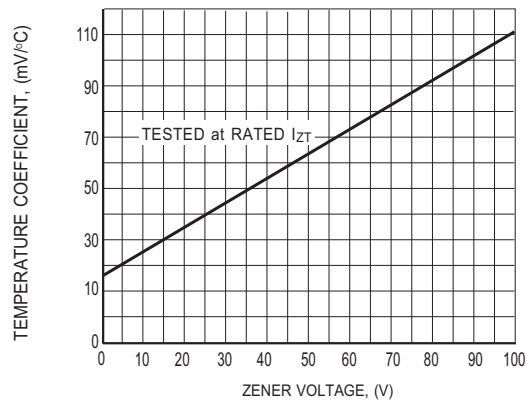
**FIG.2 TYPICAL ZENER IMPEDANCE**



**FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS FOR FM4763W**

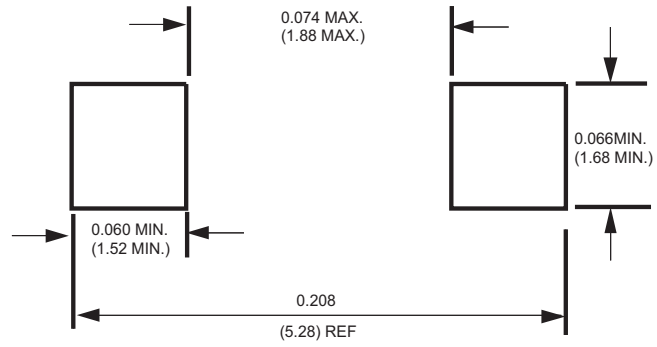


**FIG.4 TYPICAL REVERSE CHARACTERISTICS**



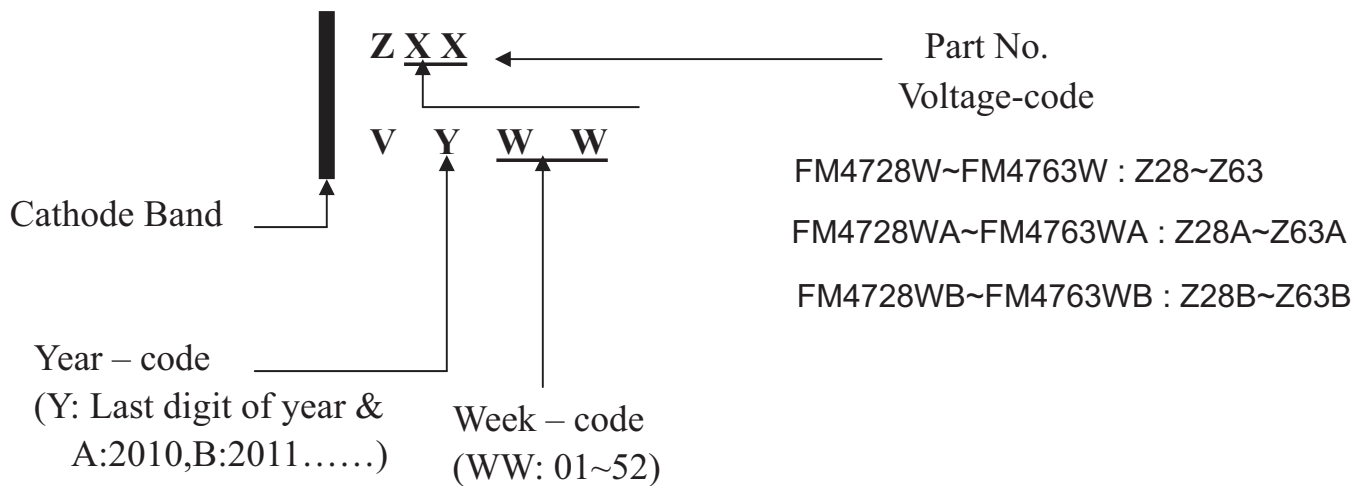
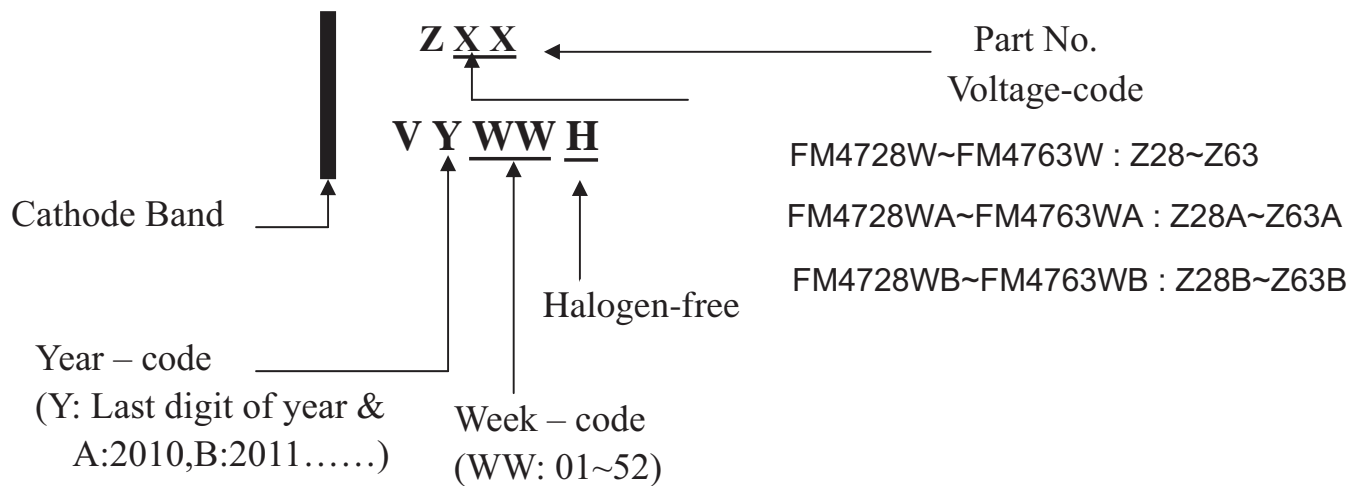
**FIG.5 TYPICAL TEMPERATURE COEFFICIENTS**

## Mounting Pad Layout



Dimensions in inches and (millimeters)

## Marking Description



## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

| PACKAGE | PACKING CODE | EA PER REEL | EA PER INNER BOX | COMPONENT SPACE (mm) | TAPE SPACE (mm) | REEL DIA (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|---------|--------------|-------------|------------------|----------------------|-----------------|---------------|------------------|---------------|------------------|
| SMA     | -W           | 7,500       | 15,000           | ---                  | ---             | 330           | 360*355*360      | 120,000       | 15.2             |

| PACKAGE | PACKING CODE | EA PER REEL | EA PER INNER BOX | COMPONENT SPACE (mm) | TAPE SPACE (mm) | REEL DIA (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|---------|--------------|-------------|------------------|----------------------|-----------------|---------------|------------------|---------------|------------------|
| SMA     | -T           | 2,000       | 8,000            | ---                  | ---             | 178           | 390*205*310      | 64,000        | 7.8              |