

**SURFACE MOUNT**  
**GLASS PASSIVATED ZENER SILICON RECTIFIER**  
**VOLTAGE RANGE 6.2 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

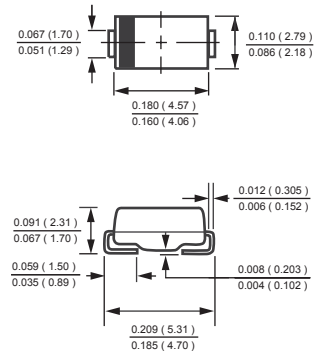
**MECHANICAL DATA**

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

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.

**DO-214AC**



**MAXIMUN RATINGS** ( @ TA = 25°C unless otherwise noted )

| CHARACTERISTICS            | SYMBOL            | Ratings    | UNITS  |
|----------------------------|-------------------|------------|--------|
| Power Dissipation          | PTOT              | 1          | W      |
| Thermal Resis              | R <sub>thJA</sub> | 170        | K / mW |
| Tolerance                  | -                 | see note1  | %      |
| Forward Voltage@If = 100mA | Vf                | 1.0        | V      |
| Junction Temp              | T <sub>J</sub>    | 150        | °C     |
| Storage Temp               | T <sub>stg</sub>  | -55 to 150 | °C     |

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

| TYPE     | NOMINAL<br>ZENER<br>VOLTAGE   |      |       | TEST<br>CURRENT | MAXIMUM<br>DYNAMIC<br>IMPEDANCE |                      |                      | MAXIMUM DC<br>REVERSE<br>LEAKAGE CURRENT |            | MAXIMUM<br>SURGE<br>CURRENT | MAXIMUM<br>FORWARD<br>VOLTAGE |                        |
|----------|-------------------------------|------|-------|-----------------|---------------------------------|----------------------|----------------------|------------------------------------------|------------|-----------------------------|-------------------------------|------------------------|
|          | VZ at IZT (NOTE 1)<br>(Volts) |      |       |                 | IZT<br>(mA)                     | ZZT at IZT<br>(ohms) | ZZK at IZK<br>(ohms) | (NOTE 1) IZK<br>(mA)                     | IR<br>(uA) | VR<br>(Volts)               | (NOTE 2) IRM<br>(mApk)        | VF at 200mA<br>(Volts) |
|          | Min.                          | Typ. | Max.  |                 |                                 |                      |                      |                                          |            |                             |                               |                        |
| FM4735W  | 4.96                          | 6.2  | 7.34  | 41.0            | 2.0                             | 700                  | 1.00                 | 50.0                                     | 3.0        | 730.0                       | 1.2                           |                        |
| FM4735WA | 5.58                          | 6.2  | 6.82  | 41.0            | 2.0                             | 700                  | 1.00                 | 50.0                                     | 3.0        | 730.0                       | 1.2                           |                        |
| FM4736W  | 5.44                          | 6.8  | 8.16  | 37.0            | 3.5                             | 700                  | 1.00                 | 10.0                                     | 4.0        | 660.0                       | 1.2                           |                        |
| FM4736WA | 6.12                          | 6.8  | 7.48  | 37.0            | 3.5                             | 700                  | 1.00                 | 10.0                                     | 4.0        | 660.0                       | 1.2                           |                        |
| FM4737W  | 6.0                           | 7.5  | 9.0   | 34.0            | 4.0                             | 700                  | 0.50                 | 10.0                                     | 5.0        | 605.0                       | 1.2                           |                        |
| FM4737WA | 6.75                          | 7.5  | 8.25  | 34.0            | 4.0                             | 700                  | 0.50                 | 10.0                                     | 5.0        | 605.0                       | 1.2                           |                        |
| FM4738W  | 6.56                          | 8.2  | 9.84  | 31.0            | 4.5                             | 700                  | 0.50                 | 10.0                                     | 6.0        | 550.0                       | 1.2                           |                        |
| FM4738WA | 7.38                          | 8.2  | 9.02  | 31.0            | 4.5                             | 700                  | 0.50                 | 10.0                                     | 6.0        | 550.0                       | 1.2                           |                        |
| FM4739W  | 7.28                          | 9.1  | 10.92 | 28.0            | 5.0                             | 700                  | 0.50                 | 10.0                                     | 7.0        | 500.0                       | 1.2                           |                        |
| FM4739WA | 8.19                          | 9.1  | 10.01 | 28.0            | 5.0                             | 700                  | 0.50                 | 10.0                                     | 7.0        | 500.0                       | 1.2                           |                        |
| FM4740W  | 8.0                           | 10.0 | 12.0  | 25.0            | 7.0                             | 700                  | 0.25                 | 10.0                                     | 7.6        | 454.0                       | 1.2                           |                        |
| FM4740WA | 9.0                           | 10.0 | 11.0  | 25.0            | 7.0                             | 700                  | 0.25                 | 10.0                                     | 7.6        | 454.0                       | 1.2                           |                        |

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

| TYPE     | NOMINAL<br>ZENER<br>VOLTAGE   |      |      | TEST<br>CURRENT | MAXIMUM<br>DYNAMIC<br>IMPEDANCE |                      |                      | MAXIMUM DC<br>REVERSE<br>LEAKAGE CURRENT |                                     | MAXIMUM<br>SURGE<br>CURRENT | MAXIMUM<br>FORWARD<br>VOLTAGE |  |
|----------|-------------------------------|------|------|-----------------|---------------------------------|----------------------|----------------------|------------------------------------------|-------------------------------------|-----------------------------|-------------------------------|--|
|          | VZ at IZT (NOTE 1)<br>(Volts) |      |      |                 | ZZT at IZT<br>(ohms)            | ZZK at IZK<br>(ohms) | (NOTE 1) IZK<br>(mA) | IR<br>(uA)                               | VR<br>(Volts)                       |                             |                               |  |
|          | Min.                          | Typ. | Max. |                 |                                 |                      |                      |                                          | (NOTE 2) IRM<br>(mA <sub>pk</sub> ) | VF at 200mA<br>(Volts)      |                               |  |
| FM4741W  | 8.8                           | 11.0 | 13.2 | 23.0            | 8.0                             | 700                  | 0.25                 | 5.0                                      | 8.4                                 | 414.0                       | 1.2                           |  |
| FM4741WA | 9.9                           | 11.0 | 12.1 | 23.0            | 8.0                             | 700                  | 0.25                 | 5.0                                      | 8.4                                 | 414.0                       | 1.2                           |  |
| FM4742W  | 9.6                           | 12.0 | 14.4 | 21.0            | 9.0                             | 700                  | 0.25                 | 5.0                                      | 9.1                                 | 380.0                       | 1.2                           |  |
| FM4742WA | 10.8                          | 12.0 | 13.2 | 21.0            | 9.0                             | 700                  | 0.25                 | 5.0                                      | 9.1                                 | 380.0                       | 1.2                           |  |
| FM4743W  | 10.4                          | 13.0 | 15.6 | 19.0            | 10.0                            | 700                  | 0.25                 | 5.0                                      | 9.9                                 | 344.0                       | 1.2                           |  |
| FM4743WA | 11.7                          | 13.0 | 14.3 | 19.0            | 10.0                            | 700                  | 0.25                 | 5.0                                      | 9.9                                 | 344.0                       | 1.2                           |  |
| FM4744W  | 12.0                          | 15.0 | 18.0 | 17.0            | 14.0                            | 700                  | 0.25                 | 5.0                                      | 11.4                                | 305.0                       | 1.2                           |  |
| FM4744WA | 13.5                          | 15.0 | 16.5 | 17.0            | 14.0                            | 700                  | 0.25                 | 5.0                                      | 11.4                                | 305.0                       | 1.2                           |  |
| FM4745W  | 12.8                          | 16.0 | 19.2 | 15.5            | 16.0                            | 700                  | 0.25                 | 5.0                                      | 12.2                                | 285.0                       | 1.2                           |  |
| FM4745WA | 14.4                          | 16.0 | 17.6 | 15.5            | 16.0                            | 700                  | 0.25                 | 5.0                                      | 12.2                                | 285.0                       | 1.2                           |  |
| FM4746W  | 14.4                          | 18.0 | 21.6 | 14.0            | 20.0                            | 750                  | 0.25                 | 5.0                                      | 13.7                                | 250.0                       | 1.2                           |  |
| FM4746WA | 16.2                          | 18.0 | 19.8 | 14.0            | 20.0                            | 750                  | 0.25                 | 5.0                                      | 13.7                                | 250.0                       | 1.2                           |  |
| FM4747W  | 16.0                          | 20.0 | 24.0 | 12.5            | 22.0                            | 750                  | 0.25                 | 5.0                                      | 15.2                                | 225.0                       | 1.2                           |  |
| FM4747WA | 18.0                          | 20.0 | 22.0 | 12.5            | 22.0                            | 750                  | 0.25                 | 5.0                                      | 15.2                                | 225.0                       | 1.2                           |  |
| FM4748W  | 17.6                          | 22.0 | 26.4 | 11.5            | 23.0                            | 750                  | 0.25                 | 5.0                                      | 16.7                                | 205.0                       | 1.2                           |  |
| FM4748WA | 19.8                          | 22.0 | 24.2 | 11.5            | 23.0                            | 750                  | 0.25                 | 5.0                                      | 16.7                                | 205.0                       | 1.2                           |  |
| FM4749W  | 23.2                          | 24.0 | 28.8 | 10.5            | 25.0                            | 750                  | 0.25                 | 5.0                                      | 18.2                                | 190.0                       | 1.2                           |  |
| FM4749WA | 21.6                          | 24.0 | 26.4 | 10.5            | 25.0                            | 750                  | 0.25                 | 5.0                                      | 18.2                                | 190.0                       | 1.2                           |  |
| FM4750W  | 21.6                          | 27.0 | 32.4 | 9.5             | 35.0                            | 750                  | 0.25                 | 5.0                                      | 20.6                                | 170.0                       | 1.2                           |  |
| FM4750WA | 24.3                          | 27.0 | 29.7 | 9.5             | 35.0                            | 750                  | 0.25                 | 5.0                                      | 20.6                                | 170.0                       | 1.2                           |  |
| FM4751W  | 24.0                          | 30.0 | 36.0 | 8.5             | 40.0                            | 1000                 | 0.25                 | 5.0                                      | 22.8                                | 150.0                       | 1.2                           |  |
| FM4751WA | 27.0                          | 30.0 | 33.0 | 8.5             | 40.0                            | 1000                 | 0.25                 | 5.0                                      | 22.8                                | 150.0                       | 1.2                           |  |
| FM4752W  | 26.4                          | 33.0 | 39.6 | 7.5             | 45.0                            | 1000                 | 0.25                 | 5.0                                      | 25.1                                | 135.0                       | 1.2                           |  |
| FM4752WA | 29.7                          | 33.0 | 36.3 | 7.5             | 45.0                            | 1000                 | 0.25                 | 5.0                                      | 25.1                                | 135.0                       | 1.2                           |  |
| FM4753W  | 28.8                          | 36.0 | 43.2 | 7.0             | 50.0                            | 1000                 | 0.25                 | 5.0                                      | 27.4                                | 125.0                       | 1.2                           |  |
| FM4753WA | 32.4                          | 36.0 | 39.6 | 7.0             | 50.0                            | 1000                 | 0.25                 | 5.0                                      | 27.4                                | 125.0                       | 1.2                           |  |
| FM4754W  | 31.2                          | 39.0 | 46.8 | 6.5             | 60.0                            | 1000                 | 0.25                 | 5.0                                      | 29.7                                | 115.0                       | 1.2                           |  |
| FM4754WA | 35.1                          | 39.0 | 42.9 | 6.5             | 60.0                            | 1000                 | 0.25                 | 5.0                                      | 29.7                                | 115.0                       | 1.2                           |  |
| FM4755W  | 34.4                          | 43.0 | 51.6 | 6.0             | 70.0                            | 1500                 | 0.25                 | 5.0                                      | 32.7                                | 110.0                       | 1.2                           |  |
| FM4755WA | 38.7                          | 43.0 | 47.3 | 6.0             | 70.0                            | 1500                 | 0.25                 | 5.0                                      | 32.7                                | 110.0                       | 1.2                           |  |
| FM4756W  | 37.6                          | 47.0 | 56.4 | 5.5             | 80.0                            | 1500                 | 0.25                 | 5.0                                      | 35.8                                | 95.0                        | 1.2                           |  |
| FM4756WA | 42.3                          | 47.0 | 51.7 | 5.5             | 80.0                            | 1500                 | 0.25                 | 5.0                                      | 35.8                                | 95.0                        | 1.2                           |  |
| FM4757W  | 40.8                          | 51.0 | 61.2 | 5.0             | 95.0                            | 1500                 | 0.25                 | 5.0                                      | 38.8                                | 90.0                        | 1.2                           |  |
| FM4757WA | 45.9                          | 51.0 | 56.1 | 5.0             | 95.0                            | 1500                 | 0.25                 | 5.0                                      | 38.8                                | 90.0                        | 1.2                           |  |
| FM4758W  | 44.8                          | 56.0 | 67.2 | 4.5             | 110.0                           | 2000                 | 0.25                 | 5.0                                      | 42.6                                | 80.0                        | 1.2                           |  |
| FM4758WA | 50.4                          | 56.0 | 61.6 | 4.5             | 110.0                           | 2000                 | 0.25                 | 5.0                                      | 42.6                                | 80.0                        | 1.2                           |  |
| FM4759W  | 49.6                          | 62.0 | 74.4 | 4.0             | 125.0                           | 2000                 | 0.25                 | 5.0                                      | 47.1                                | 70.0                        | 1.2                           |  |
| FM4759WA | 55.8                          | 62.0 | 68.2 | 4.0             | 125.0                           | 2000                 | 0.25                 | 5.0                                      | 47.1                                | 70.0                        | 1.2                           |  |

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

| TYPE     | NOMINAL<br>ZENER<br>VOLTAGE   |      |       | TEST<br>CURRENT | MAXIMUM<br>DYNAMIC<br>IMPEDANCE |                      |                      | MAXIMUM DC<br>REVERSE<br>LEAKAGE CURRENT |            | MAXIMUM<br>SURGE<br>CURRENT | MAXIMUM<br>FORWARD<br>VOLTAGE |                        |
|----------|-------------------------------|------|-------|-----------------|---------------------------------|----------------------|----------------------|------------------------------------------|------------|-----------------------------|-------------------------------|------------------------|
|          | VZ at IZT (NOTE 1)<br>(Volts) |      |       |                 | IZT<br>(mA)                     | ZZT at IZT<br>(ohms) | ZZK at IZK<br>(ohms) | (NOTE 1) IZK<br>(mA)                     | IR<br>(uA) | VR<br>(Volts)               | (NOTE 2) IRM<br>(mApk)        | VF at 200mA<br>(Volts) |
|          | Min.                          | Typ. | Max.  |                 |                                 |                      |                      |                                          |            |                             |                               |                        |
| FM4760W  | 54.4                          | 68.0 | 81.6  | 3.7             | 150.0                           | 2000                 | 0.25                 | 5.0                                      | 51.7       | 65.0                        | 1.2                           |                        |
| FM4760WA | 61.2                          | 68.0 | 74.8  | 3.7             | 150.0                           | 2000                 | 0.25                 | 5.0                                      | 51.7       | 65.0                        | 1.2                           |                        |
| FM4761W  | 60.0                          | 75.0 | 90.0  | 3.3             | 175.0                           | 2000                 | 0.25                 | 5.0                                      | 56.0       | 60.0                        | 1.2                           |                        |
| FM4761WA | 67.5                          | 75.0 | 82.5  | 3.3             | 175.0                           | 2000                 | 0.25                 | 5.0                                      | 56.0       | 60.0                        | 1.2                           |                        |
| FM4762W  | 65.6                          | 82.0 | 98.4  | 3.0             | 200.0                           | 3000                 | 0.25                 | 5.0                                      | 62.2       | 55.0                        | 1.2                           |                        |
| FM4762WA | 73.8                          | 82.0 | 90.2  | 3.0             | 200.0                           | 3000                 | 0.25                 | 5.0                                      | 62.2       | 55.0                        | 1.2                           |                        |
| FM4763W  | 72.8                          | 91.0 | 109.2 | 2.0             | 250.0                           | 3000                 | 0.25                 | 5.0                                      | 69.2       | 50.0                        | 1.2                           |                        |
| FM4763WA | 81.9                          | 91.0 | 100.1 | 2.0             | 250.0                           | 3000                 | 0.25                 | 5.0                                      | 69.2       | 50.0                        | 1.2                           |                        |

- Notes :
1. Standard VZ Tolerance is 20% , Suffix " A " denotes 10% tolerance.
  2. Surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC Method.
  3. Maximum steady state power dissipation is 1.0 watt at  $T_L = 75^{\circ}\text{C}$ .
  4. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

2007-12

## RATING AND CHARACTERISTICS CURVES ( FM4735W(A) THRU FM4763W(A) )

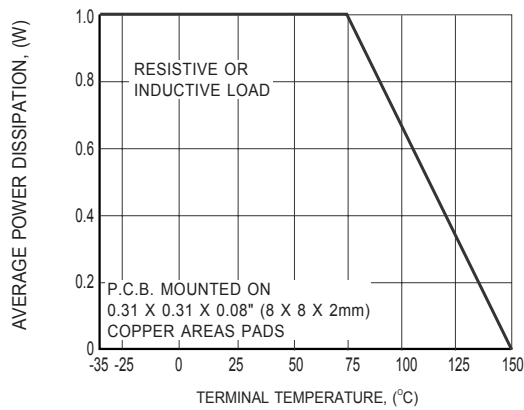


FIG.1 MAXIMUM CONTINUOUS POWER DISSIPATION

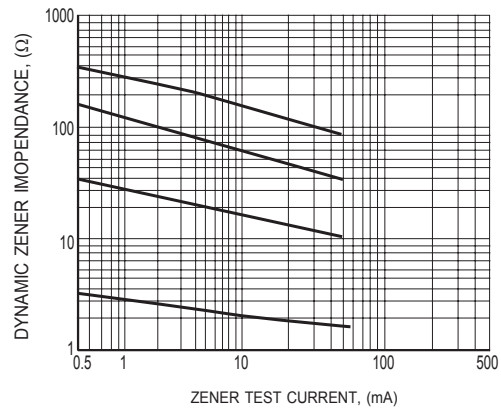


FIG.2 TYPICAL ZENER IMPEDANCE

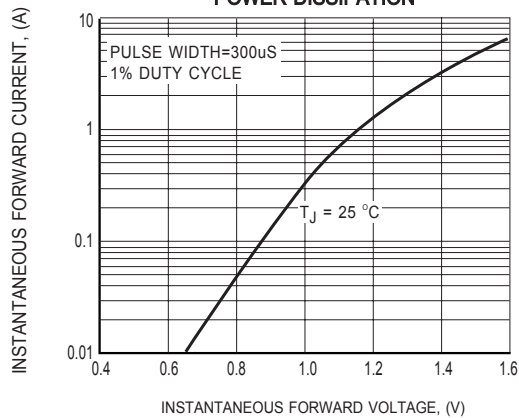


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS FOR FM4763W

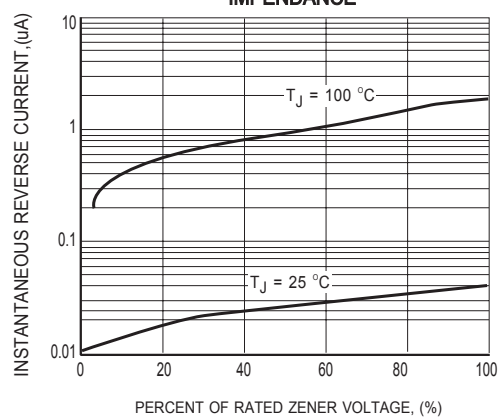


FIG.4 TYPICAL REVERSE CHARACTERISTICS

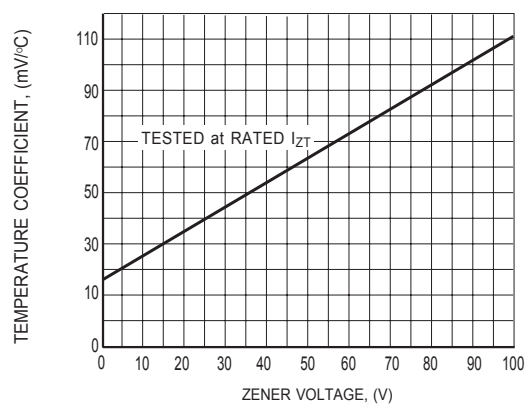


FIG.5 TYPICAL TEMPERATURE COEFFICIENTS

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|                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| <u><a href="#">FM4760W-W</a></u> | <u><a href="#">FM4752W-W</a></u> | <u><a href="#">FM4741W-W</a></u> | <u><a href="#">FM4743W-W</a></u> | <u><a href="#">FM4762W-W</a></u> | <u><a href="#">FM4745W-W</a></u> | <u><a href="#">FM4744W-W</a></u> | <u><a href="#">FM4763W-W</a></u> |
| <u><a href="#">FM4754W-W</a></u> | <u><a href="#">FM4761W-W</a></u> | <u><a href="#">FM4756W-W</a></u> | <u><a href="#">FM4735W-W</a></u> | <u><a href="#">FM4755W-W</a></u> | <u><a href="#">FM4739W-W</a></u> | <u><a href="#">FM4747W-W</a></u> | <u><a href="#">FM4746W-W</a></u> |
| <u><a href="#">FM4751W-W</a></u> | <u><a href="#">FM4737W-W</a></u> | <u><a href="#">FM4749W-W</a></u> | <u><a href="#">FM4736W-W</a></u> | <u><a href="#">FM4748W-W</a></u> | <u><a href="#">FM4750W-W</a></u> | <u><a href="#">FM4738W-W</a></u> | <u><a href="#">FM4758W-W</a></u> |
| <u><a href="#">FM4759W-W</a></u> | <u><a href="#">FM4753W-W</a></u> | <u><a href="#">FM4740W-W</a></u> | <u><a href="#">FM4742W-W</a></u> |                                  |                                  |                                  |                                  |