

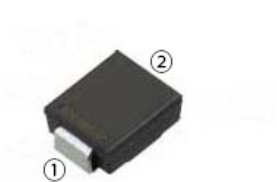
M3FE60  
General Rectifying Diodes  
600V, 3.0A

Feature

- Small SMD
- High ESD Capability
- Based on AEC-Q101
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): M2F  
Package (JEDEC Code): DO-214AA similar



Equivalent circuit



Absolute Maximum Ratings (unless otherwise specified : Tl=25°C)

| Item                            | Symbol      | Conditions                                                           | Ratings    | Unit |
|---------------------------------|-------------|----------------------------------------------------------------------|------------|------|
| Storage temperrature            | $T_{stg}$   |                                                                      | -55 to 150 | °C   |
| Junction temperature            | $T_j$       |                                                                      | -55 to 150 | °C   |
| Repetitive peak reverse voltage | $V_{RRM}$   |                                                                      | 600        | V    |
| Average forward current         | $I_{F(AV)}$ | 50Hz sine wave, Resistance load, Tl=76°C                             | 3          | A    |
| Average forward current         | $I_{F(AV)}$ | 50Hz sine wave, Resistance load, Tl=90°C                             | 2.5        | A    |
| Average forward current         | $I_{F(AV)}$ | 50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25°C ※ | 1.3        | A    |
| Surge forward current           | $I_{FSM}$   | 50Hz sine wave, Non-repetitive 1 cycle peak value, Tj=25°C           | 90         | A    |
| Surge forward current           | $I_{FSM1}$  | tp=1ms, sine wave, Non-repetitive, peak value, Tj=25°C               | 230        | A    |

※ :See the original Specifications

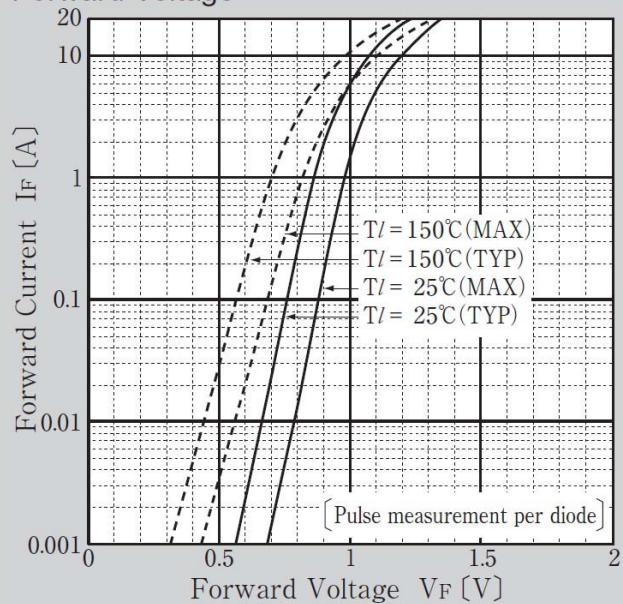
**Electrical Characteristics** (unless otherwise specified : Tl=25°C)

| Item                                | Symbol        | Conditions                                      | Ratings |     |      | Unit |
|-------------------------------------|---------------|-------------------------------------------------|---------|-----|------|------|
|                                     |               |                                                 | MIN     | TYP | MAX  |      |
| Forward voltage                     | $V_F$         | IF=3A, Pulse measurement                        |         |     | 1.05 | V    |
| Reverse current                     | $I_R$         | VR=600V, Pulse measurement                      |         |     | 10   | μA   |
| Electro static discharge Capability | $V_{ESD}$     | C=330pF, R=330Ω, Polarity±, Aerial discharge    |         | 25  |      | kV   |
| Thermal resistance                  | $R_{th(j-l)}$ | Junction to lead                                |         |     | 25   | °C/W |
| Thermal resistance                  | $R_{th(j-a)}$ | Junction to ambient, On glass-epoxy substrate ※ |         |     | 110  | °C/W |

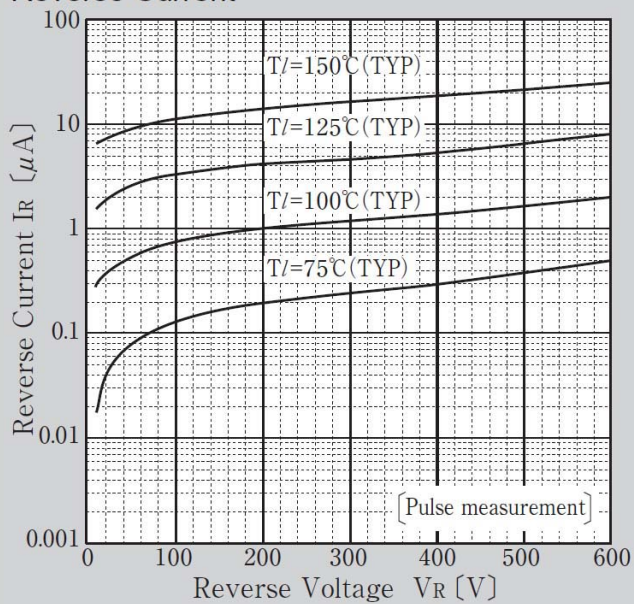
※ : See the original Specifications

## CHARACTERISTIC DIAGRAMS

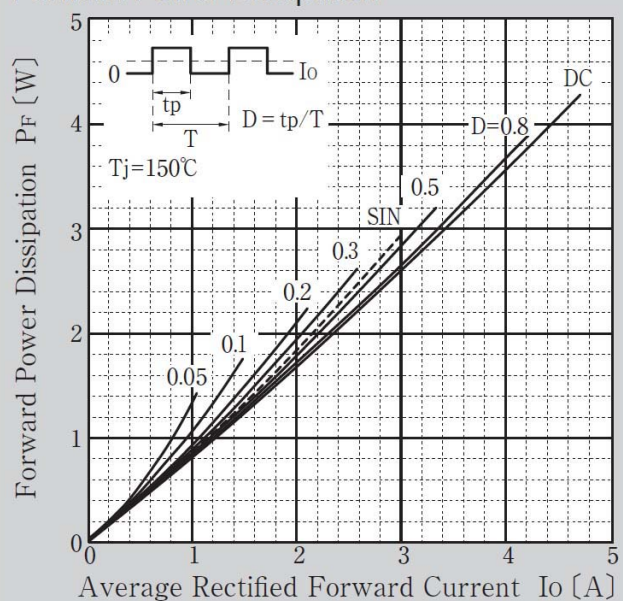
Forward Voltage



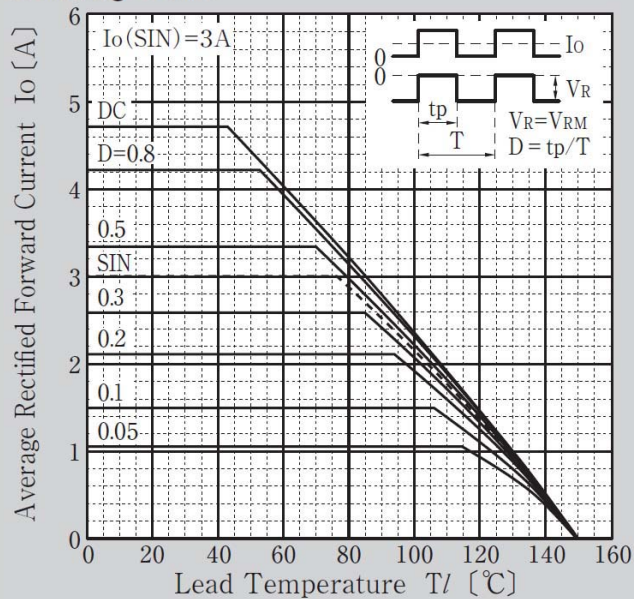
Reverse Current



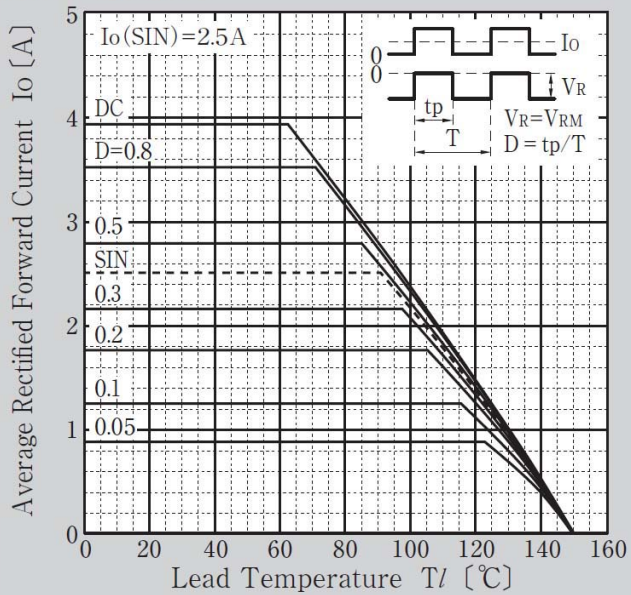
Forward Power Dissipation



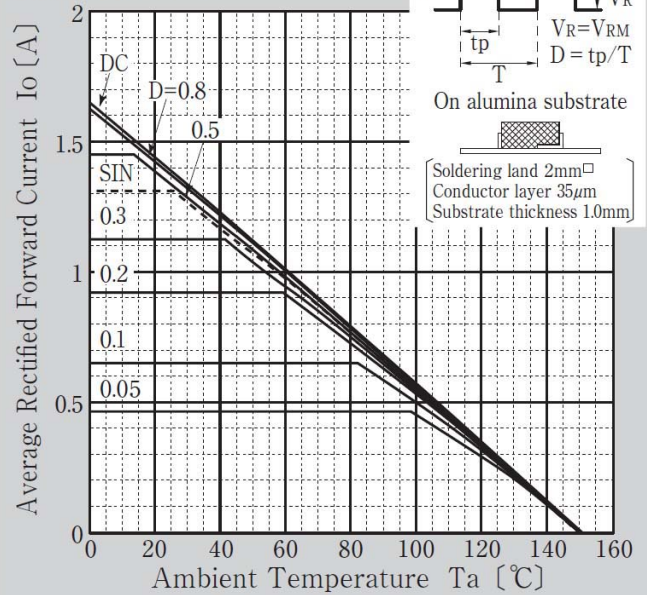
Derating Curve



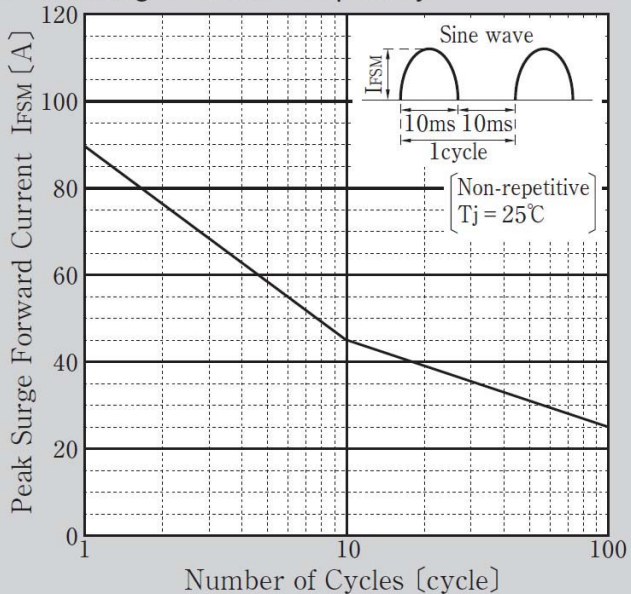
### Derating Curve



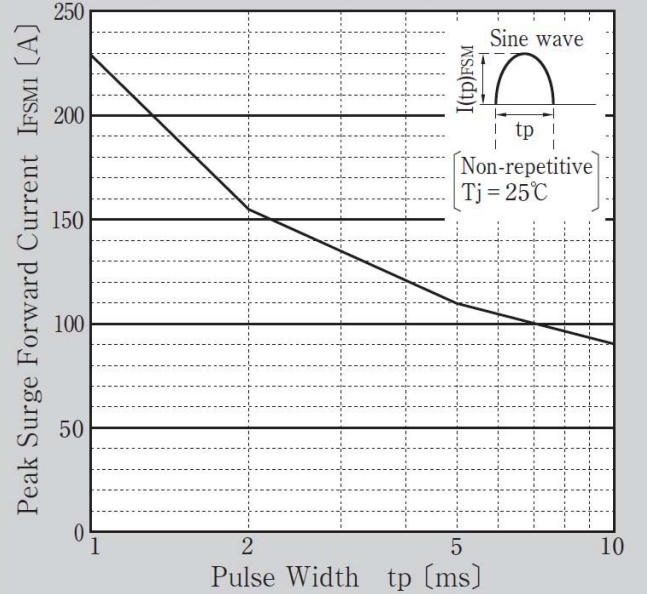
### Derating Curve



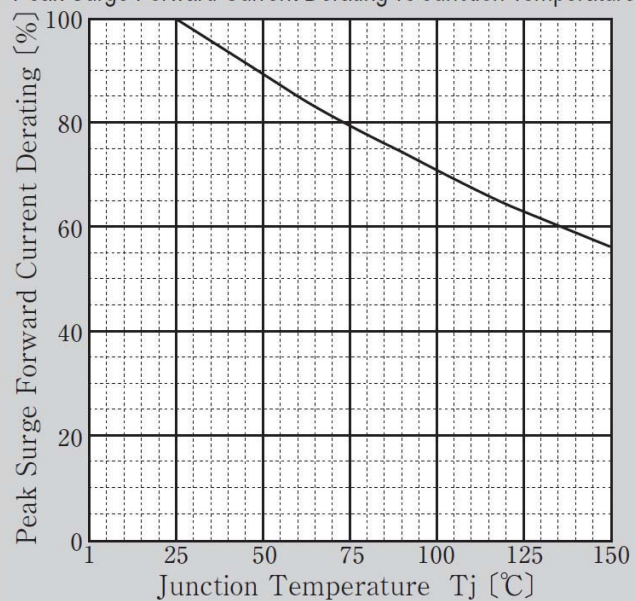
### Peak Surge Forward Capability



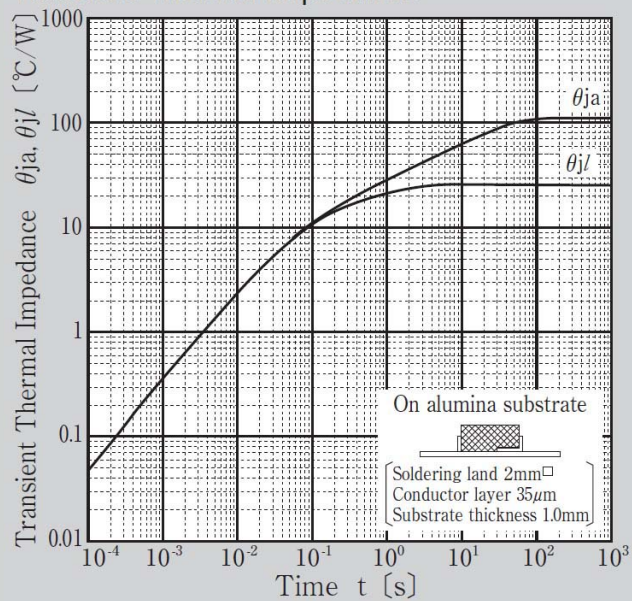
### Peak Surge Forward Capability



Peak Surge Forward Current Derating vs Junction Temperature

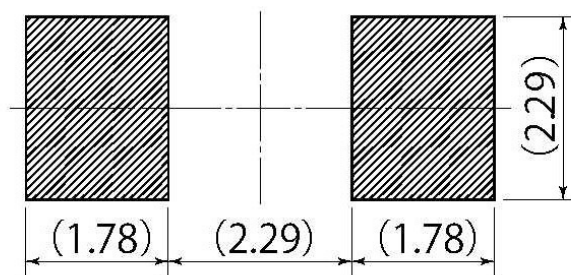
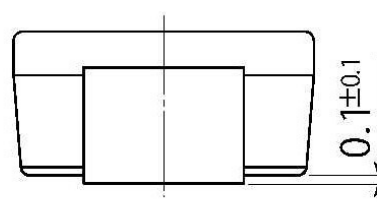
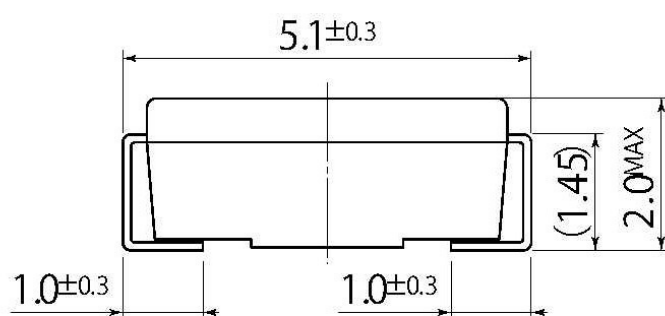
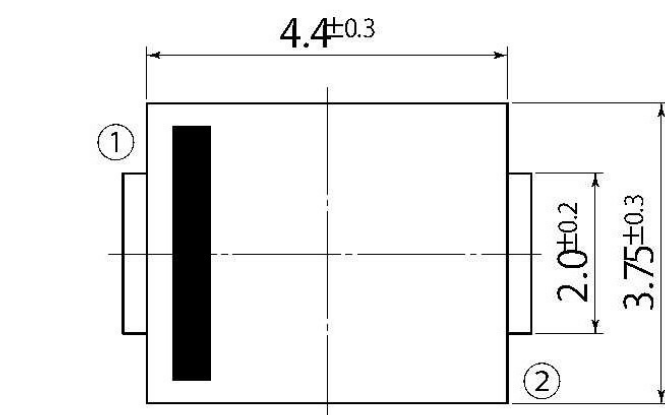


Transient Thermal Impedance



B6

|            |                  |
|------------|------------------|
| JEDEC Code | DO-214AA similar |
| JEITA Code | —                |
| House Name | M2F              |



Referential Soldering Pad

• Optimize soldering pad to the board design and soldering condition.

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