

# HS1A THRU HS1M

## High Efficient Rectifier Diode

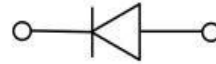
### Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High frequency
- High forward surge capability
- Meets MSL level 1, per J-STD-020,LF maximum peak of 260 °C



### Typical Application

For use in high frequency rectification of power supply, inverters, converters, and freewheeling diodes for consumer and telecommunication.



### Mechanical Data

- Package: DO-214AC(SMA)  
Molding compound meets UL 94 V-0 flammability rating,RoHS-compliant
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Cathode line denotes the cathode end

### Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER                            | Symbol      | Unit | Conditions                       | HS1        |     |     |     |     |     |     |      |
|--------------------------------------|-------------|------|----------------------------------|------------|-----|-----|-----|-----|-----|-----|------|
|                                      |             |      |                                  | A          | B   | D   | F   | G   | J   | K   | M    |
| Repetitive Peak Reverse Voltage      | $V_{RRM}$   | V    |                                  | 50         | 100 | 200 | 300 | 400 | 600 | 800 | 1000 |
| Average Forward Current              | $I_{F(AV)}$ | A    |                                  | 1.0        |     |     |     |     |     |     |      |
| Surge(Non-repetitive)Forward Current | $I_{FSM}$   | A    | 60HZ sine wave, 1 cycle, Ta=25°C | 30         |     |     |     |     |     |     |      |
| Storage Temperature                  | $T_{stg}$   | °C   |                                  | -55 ~ +150 |     |     |     |     |     |     |      |
| Junction Temperature                 | $T_j$       | °C   |                                  | -55 ~ +150 |     |     |     |     |     |     |      |

### Electrical Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER                     | Symbol           | Unit    | Conditions                                  | HS1              |   |     |   |     |   |
|-------------------------------|------------------|---------|---|------------------|---|-----|---|-----|---|
|                               |                  |         |   | A                | B | D   | F | G   | J |
| Peak Forward Voltage          | $V_{FM}$         | V       | $I_F = 1.0A$                                | 1.0              |   | 1.3 |   | 1.7 |   |
| Peak Reverse Current          | $I_{RRM1}$       | $\mu A$ | $V_{RM} = V_{RRM}$                          | 10               |   |     |   |     |   |
|                               | $I_{RRM2}$       |         |   | 100              |   |     |   |     |   |
| Maximum reverse recovery time | $T_{rr}$         | ns      | $I_F = 0.5A$ $I_R = 1A$<br>$I_{RR} = 0.25A$ | 50               |   |     |   | 75  |   |
| Thermal Resistance(Typical)   | $R_{\theta J-A}$ | °C/W    | Between junction and ambient                | 75 <sup>1)</sup> |   |     |   |     |   |
|                               | $R_{\theta J-L}$ |         | Between junction and terminal               | 27 <sup>1)</sup> |   |     |   |     |   |

### Notes:

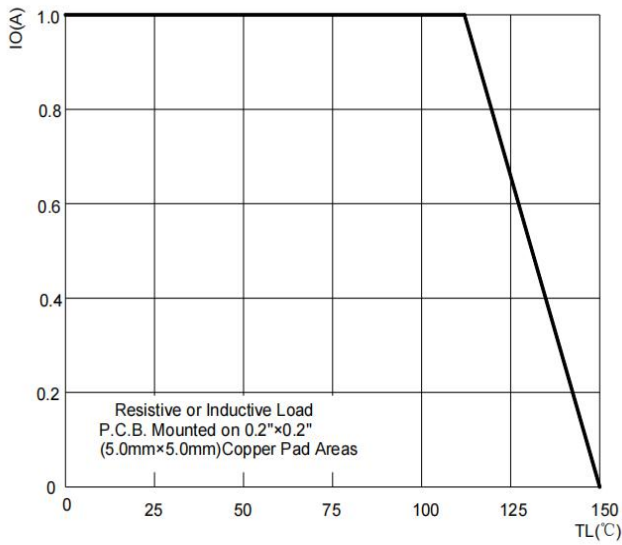
1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas.



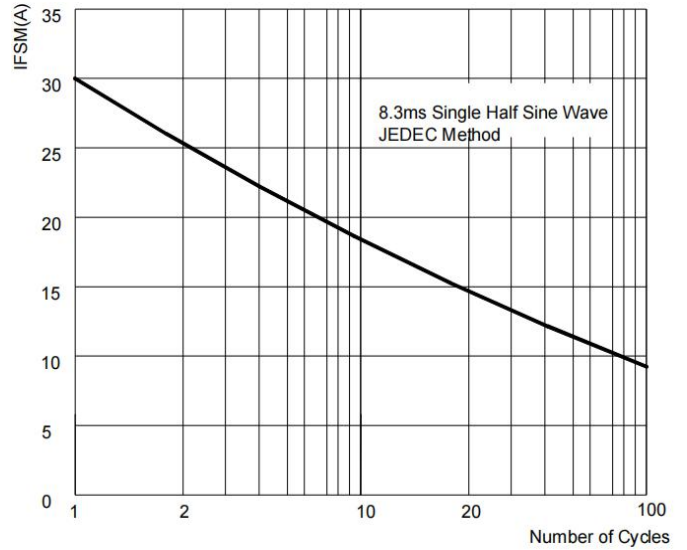
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## ■ Characteristics (Typical)

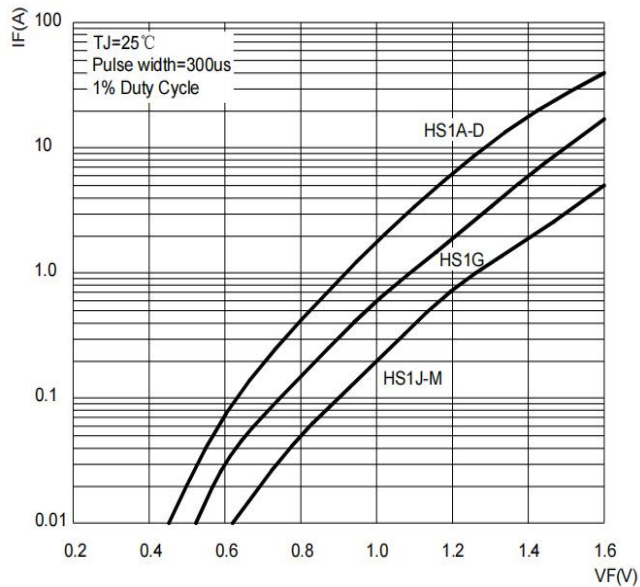
**FIG1: Forward Current Derating Curve**



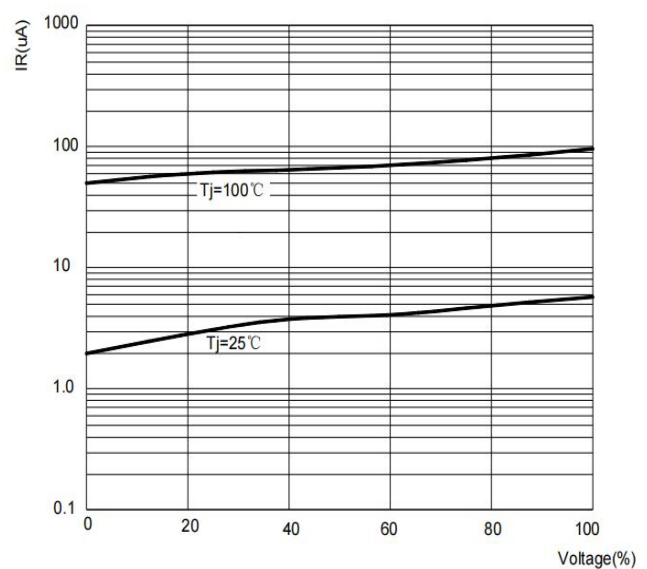
**FIG2: Surge Forward Current Capability**



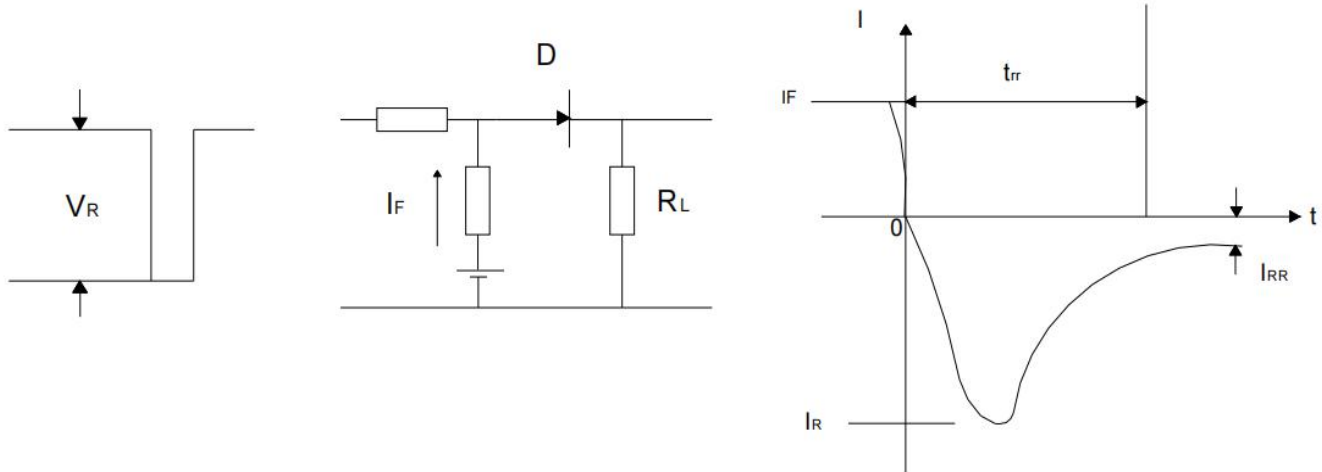
**FIG3: Instantaneous Forward Voltage**



**FIG4: Typical Reverse Characteristics**



**FIG5: Diagram of circuit and Testing wave form of reverse recovery time**

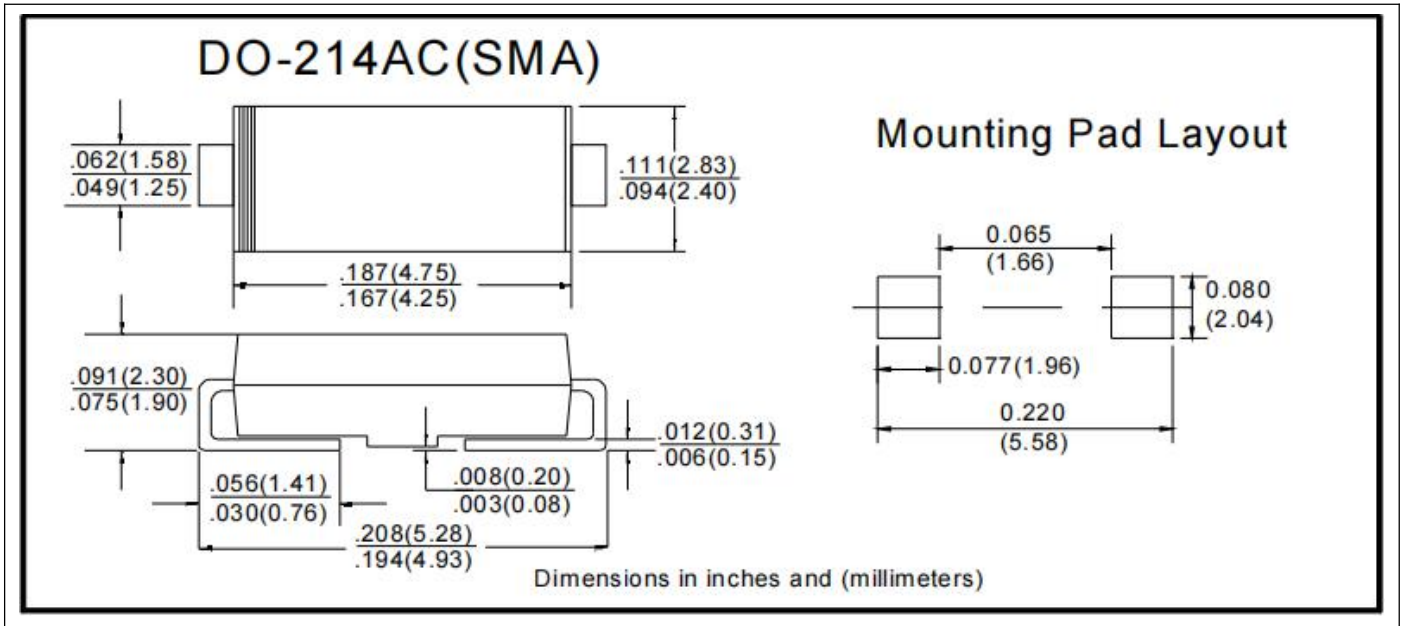


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## Ordering Information (Example)

| PREFERED    | PACKAGE CODE  | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|-------------|---------------|----------------------|-------------------------|----------------------------|---------------|
| HS1A ~ HS1M | DO-214AC(SMA) | 5000                 | 10000                   | 80000                      | 13" reel      |
| HS1A ~ HS1M | DO-214AC(SMA) | 7500                 | 15000                   | 120000                     | 13" reel      |

## Outline Dimensions



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