

## Features

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

## Typical Applications

For use in high frequency rectification of power supplies, 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, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

## ■Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                                                                     | SYMBOL           | UNIT             | HS2AA      | HS2BA | HS2DA | HS2FA | HS2GA | HS2JA | HS2KA | HS2MA |
|-----------------------------------------------------------------------------------------------|------------------|------------------|------------|-------|-------|-------|-------|-------|-------|-------|
| Device marking code                                                                           |                  |                  | HS2AA      | HS2BA | HS2DA | HS2FA | HS2GA | HS2JA | HS2KA | HS2MA |
| Maximum Repetitive Peak Reverse Voltage                                                       | VRRM             | V                | 50         | 100   | 200   | 300   | 400   | 600   | 800   | 1000  |
| Maximum RMS Voltage                                                                           | VRMS             | V                | 35         | 70    | 140   | 210   | 280   | 420   | 560   | 700   |
| Maximum DC blocking Voltage                                                                   | VDC              | V                | 50         | 100   | 200   | 300   | 400   | 600   | 800   | 1000  |
| Average rectified output current<br>@60Hz sine wave, Resistance load, TL (FIG.1)              | IO               | A                | 2.0        |       |       |       |       |       |       |       |
| Forward Surge Current (Non-repetitive)<br>@60Hz Half-sine wave, 1 cycle, T <sub>j</sub> =25°C | I <sub>FSM</sub> | A                | 50         |       |       |       |       |       |       |       |
| Forward Surge Current (Non-repetitive)<br>@1ms, square wave, 1 cycle, T <sub>j</sub> =25°C    |                  |                  | 100        |       |       |       |       |       |       |       |
| Current squared time<br>@1ms≤t≤8.3ms T <sub>j</sub> =25°C                                     | I <sup>2</sup> t | A <sup>2</sup> s | 10.375     |       |       |       |       |       |       |       |
| Storage temperature                                                                           | T <sub>stg</sub> | °C               | -55 ~ +150 |       |       |       |       |       |       |       |
| Junction temperature                                                                          | T <sub>j</sub>   | °C               | -55 ~ +150 |       |       |       |       |       |       |       |

## ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                               | SYMBOL          | UNIT | TEST CONDITIONS                                                    | HS2AA | HS2BA | HS2DA | HS2FA | HS2GA | HS2JA | HS2KA | HS2MA |
|---------------------------------------------------------|-----------------|------|--------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum instantaneous forward voltage                   | V <sub>F</sub>  | V    | I <sub>FM</sub> =2.0A                                              | 1.0   |       |       | 1.3   |       | 1.7   |       |       |
| Maximum reverse recovery time                           | t <sub>rr</sub> | ns   | I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A | 50    |       |       |       |       | 75    |       |       |
| Maximum DC reverse current at rated DC blocking voltage | I <sub>R</sub>  | μA   | T <sub>J</sub> =25°C                                               | 5     |       |       |       |       |       |       |       |
|                                                         |                 |      | T <sub>J</sub> =125°C                                              | 100   |       |       |       |       |       |       |       |
| Typical junction capacitance                            | C <sub>J</sub>  | pF   | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C          | 32    |       |       | 17    |       | 12    |       |       |

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                  | SYMBOL            | UNIT | HS2AA             | HS2BA | HS2DA | HS2FA | HS2GA | HS2JA | HS2KA | HS2MA |
|----------------------------|-------------------|------|-------------------|-------|-------|-------|-------|-------|-------|-------|
| Typical Thermal Resistance | R <sub>θJ-A</sub> | °C/W | 75 <sup>(1)</sup> |       |       |       |       |       |       |       |
|                            | R <sub>θJ-L</sub> | °C/W | 25 <sup>(1)</sup> |       |       |       |       |       |       |       |
|                            | R <sub>θJ-C</sub> | °C/W | 20 <sup>(1)</sup> |       |       |       |       |       |       |       |

Note

(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

## ■ Characteristics (Typical)

FIG.1: I<sub>o</sub>-T<sub>L</sub> Cure

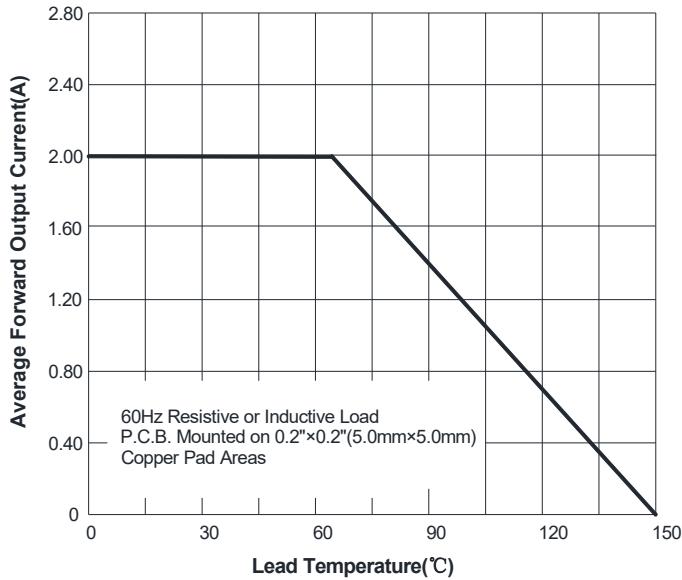


FIG.2: Forward Surge Current Capability

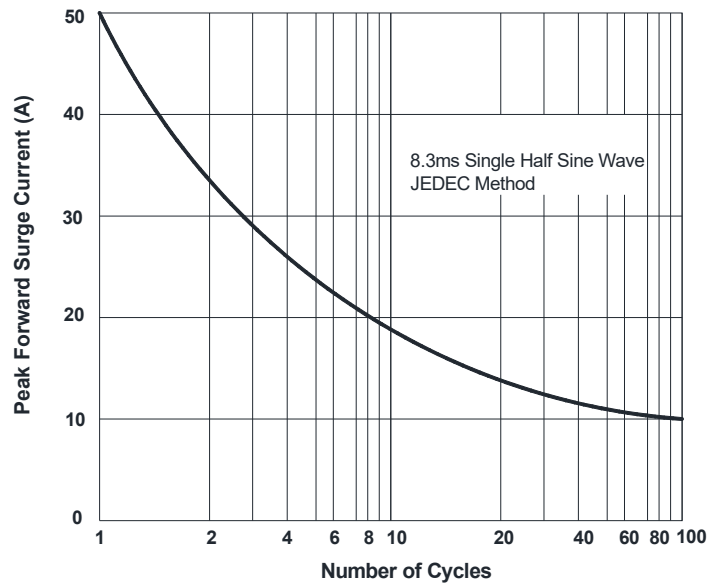


FIG.3: Typical Forward Characteristics

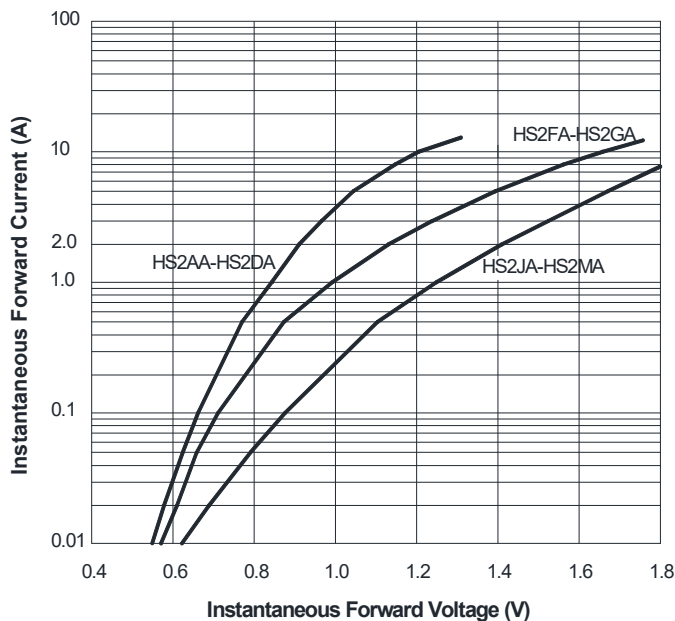


FIG.4: Typical Reverse Characteristics

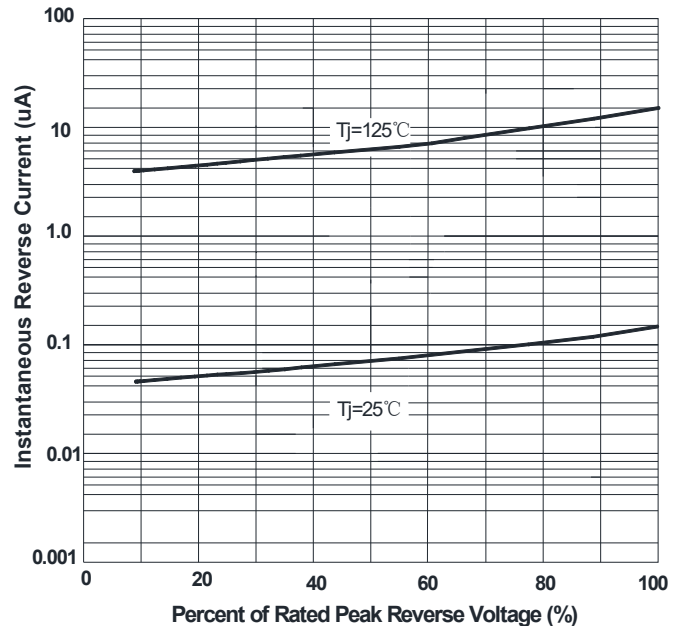
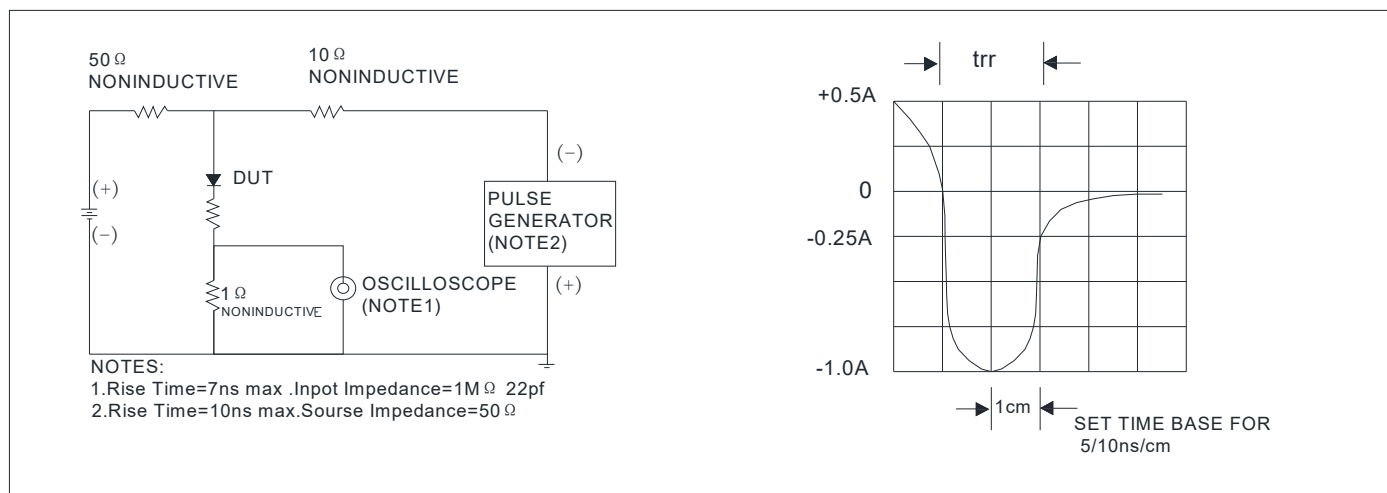


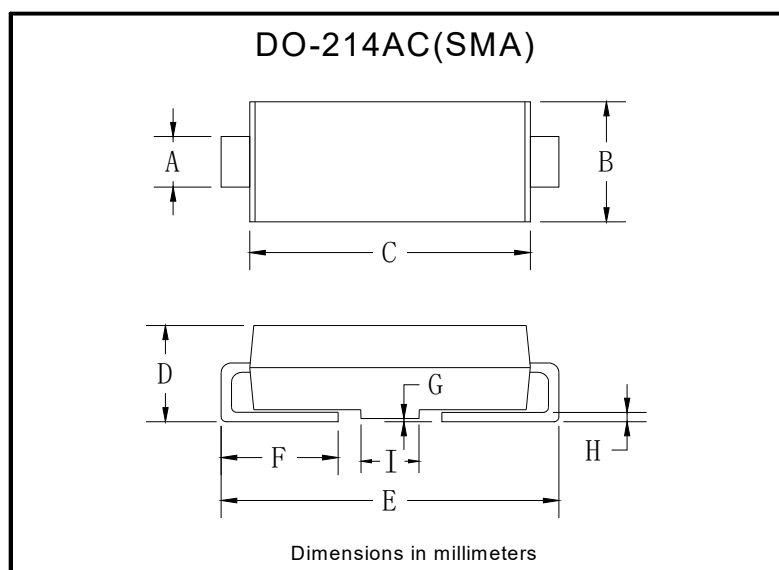
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



## ■ Ordering Information (Example)

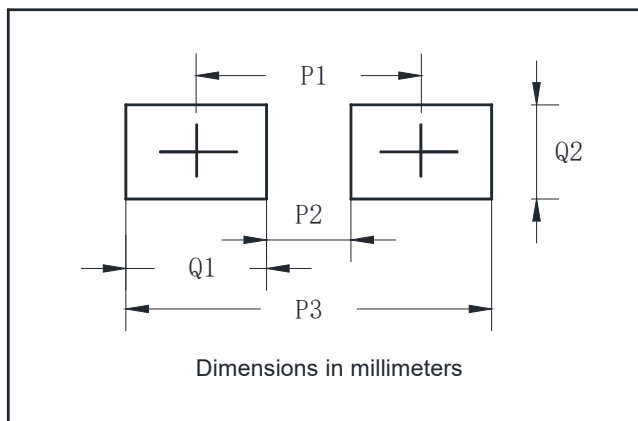
| PREFERRED P/N | PACKAGE CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| HS2AA-HS2MA   | F1           | Approximate 0.059 | 5000                 | /                       | 80000                      | 13" reel      |
| HS2AA-HS2MA   | F2           | Approximate 0.059 | 7500                 | /                       | 120000                     | 13" reel      |
| HS2AA-HS2MA   | F3           | Approximate 0.059 | 7500                 | /                       | 60000                      | 13" reel      |
| HS2AA-HS2MA   | F4           | Approximate 0.059 | 1800                 | 14400                   | 57600                      | 7" reel       |
| HS2AA-HS2MA   | F5           | Approximate 0.059 | 2000                 | 16000                   | 64000                      | 7" reel       |
| HS2AA-HS2MA   | F6           | Approximate 0.059 | 5000                 | /                       | 100000                     | 13" reel      |

## ■ Outline Dimensions



| DO-214AC(SMA) |      |      |
|---------------|------|------|
| Dim           | Min  | Max  |
| A             | 1.25 | 1.58 |
| B             | 2.40 | 2.83 |
| C             | 4.00 | 4.75 |
| D             | 1.90 | 2.30 |
| E             | 4.93 | 5.28 |
| F             | 0.76 | 1.41 |
| G             | 0.05 | 0.20 |
| H             | 0.15 | 0.31 |
| I             | 1.70 | 2.10 |

## ■Suggested Pad Layout



| DO-214AC(SMA) |             |
|---------------|-------------|
| Dim           | Millimeters |
| P1            | 4.00        |
| P2            | 1.50        |
| P3            | 6.50        |
| Q1            | 2.50        |
| Q2            | 1.70        |