

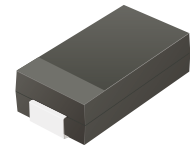
# AS1D-HF Thru. AS1M-HF

Reverse Voltage: 200 to 1000 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free

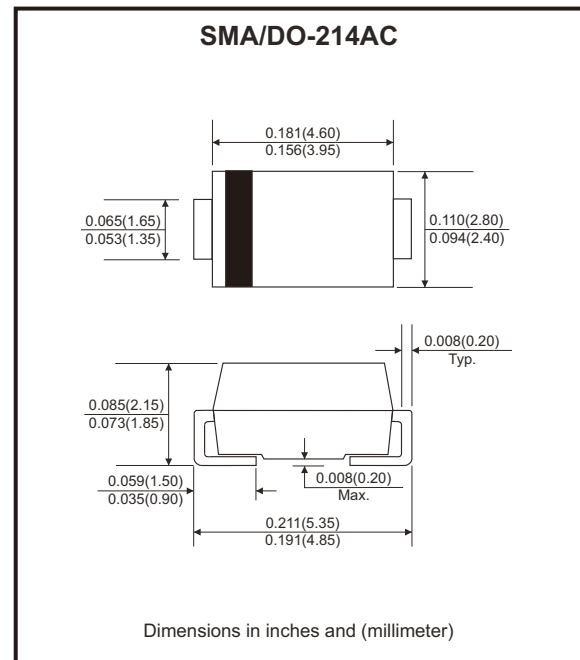


## Features

- For surface mounted applications.
- Ideal for automated placement.
- Low forward voltage drop.
- High surge current capability.
- AEC-Q101 Qualified

## Mechanical data

- Case: SMA/DO-214AC, molded plastic.
- Epoxy: UL 94V-0 rate flame retardant.
- Terminals: Solderable per MIL-STD-202, method 208.
- Polarity: Color band denotes cathode end.



## Circuit Diagram



## Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

| Parameter                                                                        | Symbol                                                   | AS1D-HF        | AS1G-HF | AS1J-HF | AS1K-HF | AS1M-HF | Unit |
|----------------------------------------------------------------------------------|----------------------------------------------------------|----------------|---------|---------|---------|---------|------|
| Peak repetitive reverse voltage                                                  | V <sub>RRM</sub>                                         | 200            | 400     | 600     | 800     | 1000    | V    |
| RMS reverse voltage                                                              | V <sub>RMS</sub>                                         | 140            | 280     | 420     | 560     | 700     | V    |
| DC blocking voltage                                                              | V <sub>DC</sub>                                          | 200            | 400     | 600     | 800     | 1000    | V    |
| Max. average forward output current                                              | I <sub>F(AV)</sub>                                       | 1              |         |         |         |         | A    |
| Peak forward surge current, 8.3ms single half-sine-wave<br>@T <sub>J</sub> =25°C | I <sub>FSM</sub>                                         | 30             |         |         |         |         | A    |
| Typical thermal resistance (Note 1)                                              | R <sub>θJA</sub><br>R <sub>θJC</sub><br>R <sub>θJL</sub> | 70<br>25<br>30 |         |         |         |         | °C/W |
| Operating junction temperature range                                             | T <sub>J</sub>                                           | -55 to +150    |         |         |         |         | °C   |
| Storage temperature range                                                        | T <sub>STG</sub>                                         | -55 to +150    |         |         |         |         | °C   |

Notes: 1. Device mounted on PCB with 10mm x 20mm x 0.1mm copper pad areas.

Electrical Characteristics (TA=25°C unless otherwise noted)

| Parameter                             | Symbol | Test conditions | Typ       | Max | Unit    |
|---------------------------------------|--------|-----------------|-----------|-----|---------|
| Maximum instantaneous forward voltage | $V_F$  | $I_F = 1.0A$    |           | 1.1 | V       |
| Maximum reverse current               | $I_R$  | Rated $V_R$     | @TA=25°C  | 5   | $\mu A$ |
|                                       |        |                 | @TA=125°C | 50  |         |

Rating and Characteristic Curves (AS1D-HF Thru. AS1M-HF)

Fig.1 - Forward Current Derating Curve

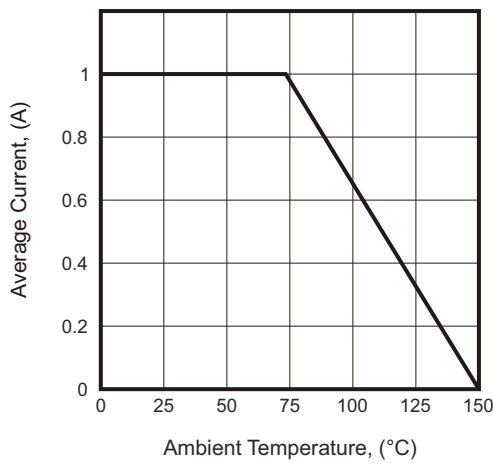


Fig.2 - Surge Current Derating Curve

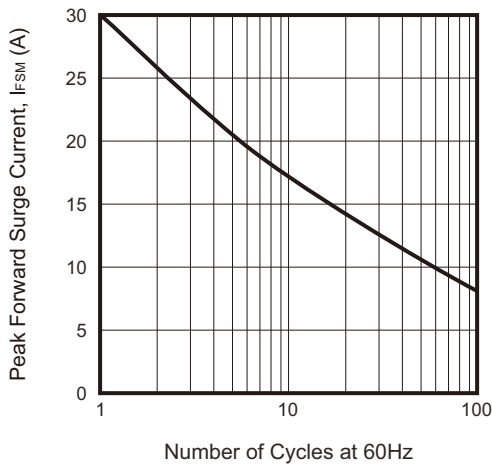


Fig.3 - Typical Forward Characteristics

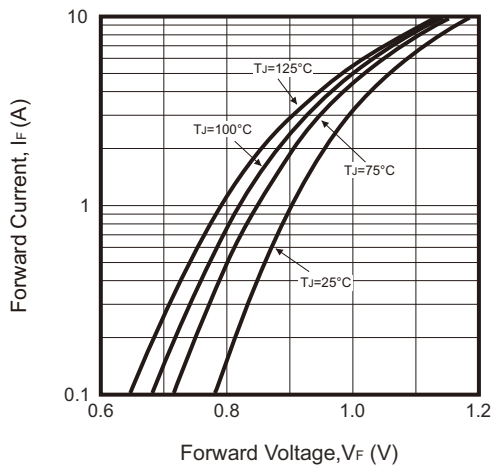
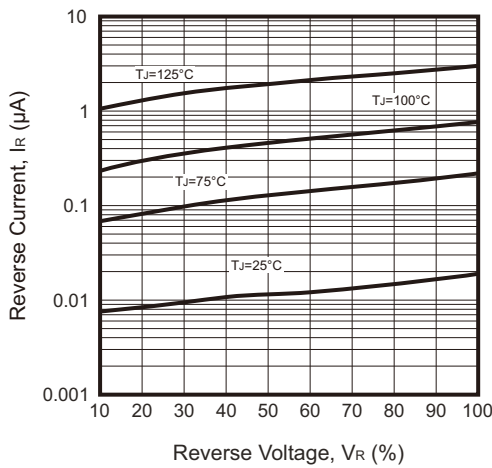
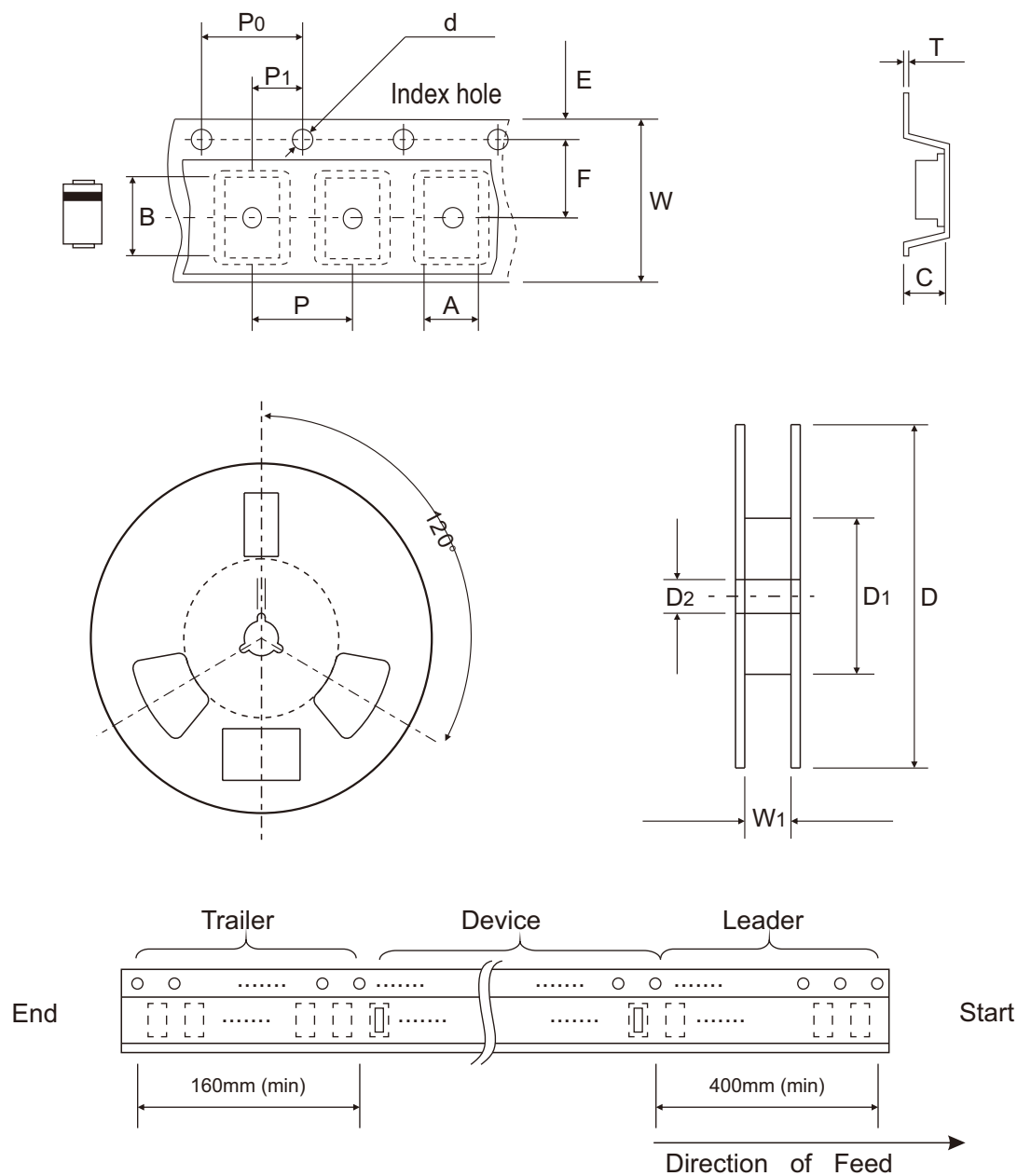


Fig.4 - Typical Reverse Characteristic



Reel Taping Specification

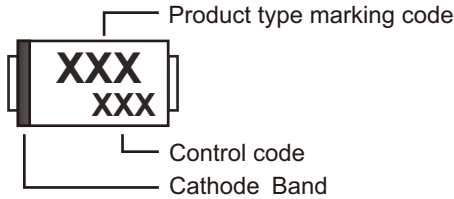


| DO-214AC<br>(SMA) | SYMBOL | A             | B             | C             | d             | D              | D1            | D2            |
|-------------------|--------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|
|                   | (mm)   | 2.72 ± 0.10   | 5.27 ± 0.10   | 2.27 ± 0.10   | 1.55 ± 0.10   | 330 ± 1.00     | 75.00 ± 1.00  | 13.50 ± 0.50  |
|                   | (inch) | 0.107 ± 0.004 | 0.207 ± 0.004 | 0.089 ± 0.004 | 0.061 ± 0.004 | 12.992 ± 0.039 | 2.953 ± 0.039 | 0.531 ± 0.020 |

| DO-214AC<br>(SMA) | SYMBOL | E             | F             | P             | P0            | P1            | T             | W             | W1            |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                   | (mm)   | 1.75 ± 0.10   | 5.50 ± 0.05   | 4.00 ± 0.10   | 4.00 ± 0.10   | 2.00 ± 0.10   | 0.25 ± 0.05   | 12.00 ± 0.10  | 13.50 ± 1.00  |
|                   | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.010 ± 0.002 | 0.472 ± 0.004 | 0.531 ± 0.039 |

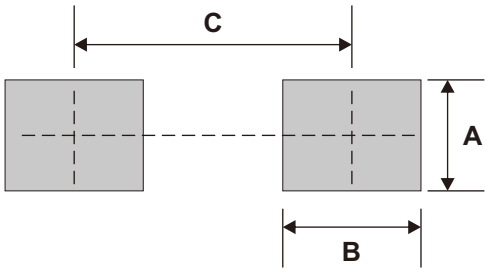
Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| AS1D-HF     | S1D          |
| AS1G-HF     | S1G          |
| AS1J-HF     | S1J          |
| AS1K-HF     | S1K          |
| AS1M-HF     | S1M          |



Suggested P.C.B. PAD Layout

| SIZE | DO-214AC (SMA) |        |
|------|----------------|--------|
|      | (mm)           | (inch) |
| A    | 1.67           | 0.066  |
| B    | 2.08           | 0.082  |
| C    | 4.18           | 0.165  |



Note: 1. The pad layout is for reference purpose only.

Standard Packaging

| Case Type         | REEL PACK       |                     |
|-------------------|-----------------|---------------------|
|                   | REEL<br>( pcs ) | Reel Size<br>(inch) |
| DO-214AC<br>(SMA) | 5,000           | 13                  |