

Surface Mount Ultrafast Recovery Rectifier

Reverse Voltage - 50 to 1000 V

Forward Current - 2 A

FEATURES

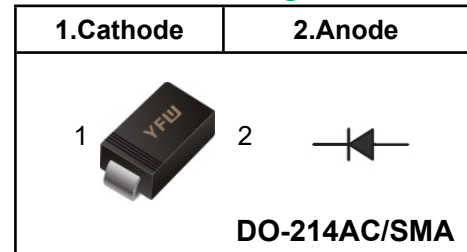
- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Glass Passivated Chip Junction
- ◆ High efficiency
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives



MECHANICAL DATA

- ◆ Case: DO214AC/SMA
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 0.07g / 0.002oz

Pinning



Marking Code

| | |
|------|------|
| US2A | US2A |
| US2B | US2B |
| US2D | US2D |
| US2G | US2G |
| US2J | US2J |
| US2K | US2K |
| US2M | US2M |

Maximum Ratings and characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

| Parameter | Symbols | US2A | US2B | US2D | US2G | US2J | US2K | US2M | Units |
|---|---------------------------------|------------|------|------|------|------|------|------|--------------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current at $T_c = 125\text{ }^\circ\text{C}$ | $I_{F(AV)}$ | 2 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | I_{FSM} | 50 | | | | | | | A |
| Maximum Instantaneous Forward Voltage at 2 A | V_F | 0.95 | | 1.25 | | 1.65 | | V | |
| Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$ | I_R | 5 100 | | | | | | | μA |
| Maximum Reverse Recovery Time ⁽¹⁾ | T_{rr} | 50 | | | | 75 | | | nS |
| Typical Thermal Resistance ⁽²⁾ | $R_{\theta JA} / R_{\theta JC}$ | 65/20 | | | | | | | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | | | | | | | $^\circ\text{C}$ |

(1) Measured with $I_F=0.5\text{A}, I_R=1\text{A}, I_n=0.25\text{A}$

(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

Fig.1 Forward Current Derating Curve

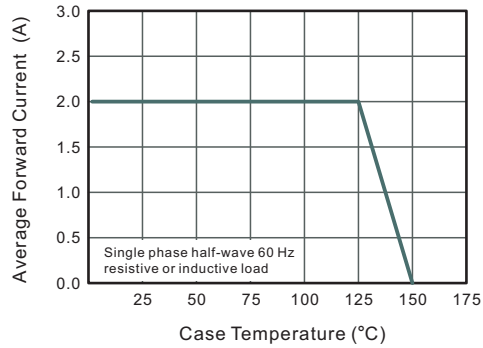


Fig.2 Typical Reverse Characteristics

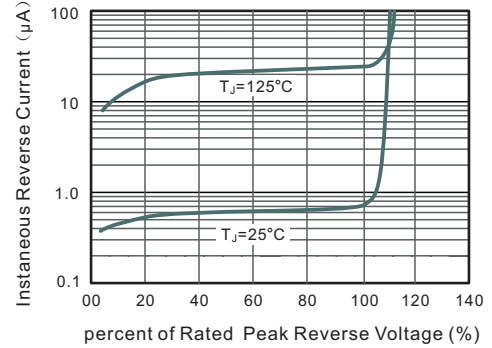


Fig.3 Typical Forward Characteristics

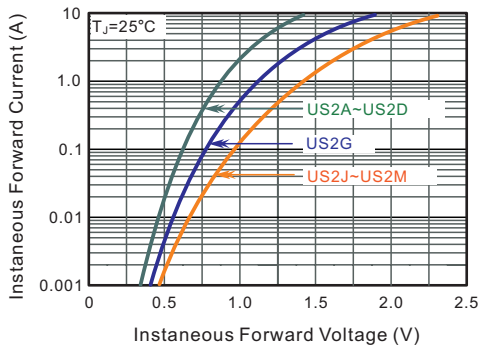
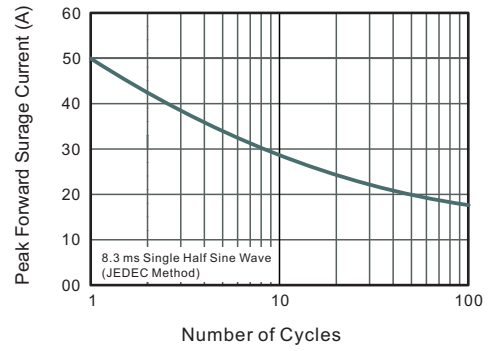


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



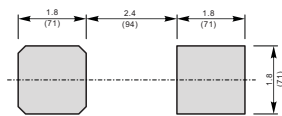
Package Outline DO-214AC SMA

Plastic surface mounted package; 2 leads



| UNIT | | A | D | E | H _E | c | e | g | a |
|------|-----|------|-----|------|----------------|------|-----|-----|-----|
| mm | max | 2.42 | 4.5 | 2.80 | 5.2 | 0.31 | 1.6 | 1.5 | 0.3 |
| | min | 1.98 | 4.0 | 2.54 | 4.7 | 0.15 | 1.3 | 0.9 | |
| mil | max | 96 | 181 | 110 | 205 | 12 | 63 | 59 | 12 |
| | min | 78 | 157 | 100 | 185 | 6 | 51 | 35 | |

The recommended mounting pad size



Unit : $\frac{\text{mm}}{\text{(mil)}}$

Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|--------------|---------------------|------------------|-------------------|
| DO-214AC SMA | Tape/Reel, 11" reel | 5000 | EIA-481-1 |
| | Tape/Reel, 7" reel | 2000 | EIA-481-1 |

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