

US3AC-AT THRU US3MC-AT

SURFACE ULTRAFAST RECOVERY RECTIFIERS

Forward Current-3.0A

Reverse Voltage-50V to 1000V

FEATURES

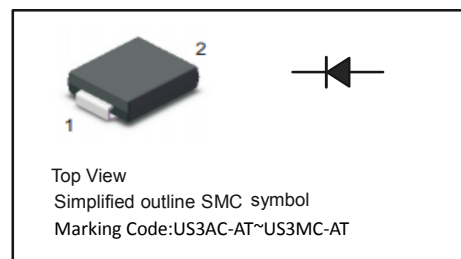
- ◆ For surface mount applications
- ◆ Glass passivated chip junction
- ◆ Low profile package
- ◆ Easy to pick and place
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- ◆ Case: SMC molded plastic body
- ◆ Terminals: Solderable per MIL-STD- 750, Method 2026
- ◆ Approx Weight: 0.22g/0.0077oz

PINING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

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

| PARAMETER | SYMBOL | US3AC -AT | US3BC -AT | US3DC -AT | US3GC -AT | US3JC -AT | US3KC -AT | US3MC -AT | UNIT |
|---|--------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------|
| 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°C | I _{F(AV)} | 3.0 | | | | | | | A |
| Peak Forward Surge Current (Note1) | I _{FSM} | 90 | | | | | | | A |
| Maximum Forward Voltage at 3.0 A | V _F | 1.0 | | | 1.3 | 1.68 | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage T _A =25°C T _A =125°C | I _R | 5 100 | | | | | | | uA |
| Maximum Reverse Recovery Time (Note2) | T _{rr} | 50 | | | | 75 | | | nS |
| Typical Thermal Resistance (Note3) | R _{θJA} R _{θJC} | 45 15 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | | | | | | | °C |

Notes: 1. Measured at 8.3 ms single half sine wave superimposed on rated load (JEDEC Method).

2. Measured at with $I_F=0.5A$, $I_R=1A$, $I_{rr}=0.25A$.

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

Dated: 06/2016

Rev:1.0

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RATINGS AND CHARACTERISTIC CURVES

Fig.1 Maximum Average Forward Current Rating

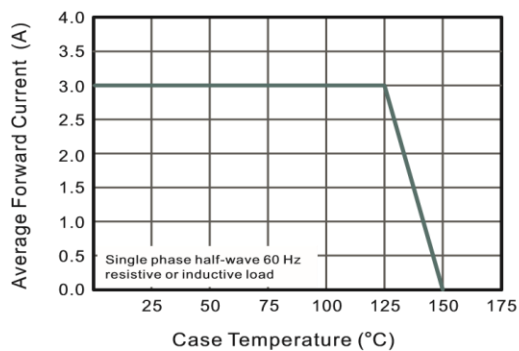


Fig.2 Typical Reverse Characteristics

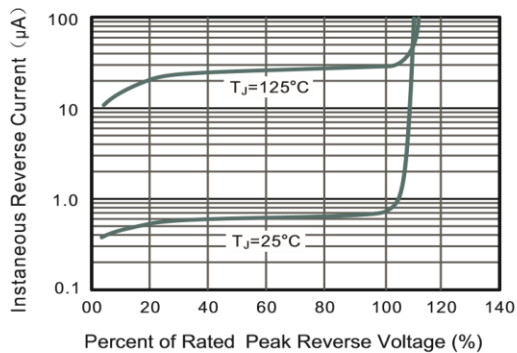


Fig.3 Typical Forward Characteristics

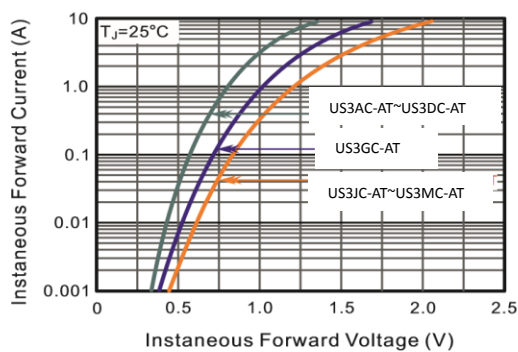
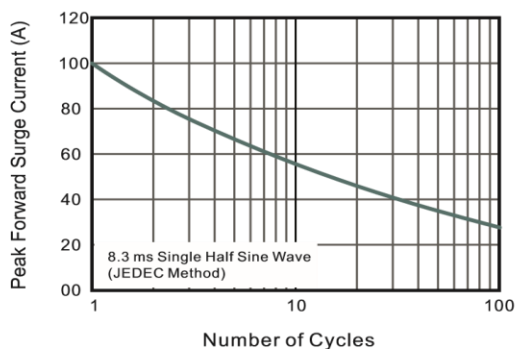


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



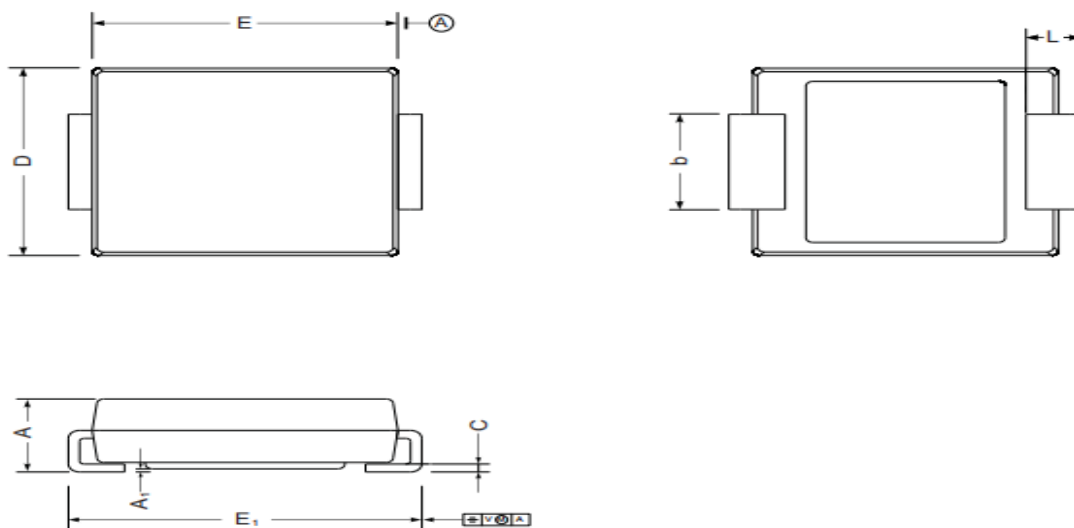
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PACKAGE OUTLINE

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Plastic surface mounted package; 2 leads

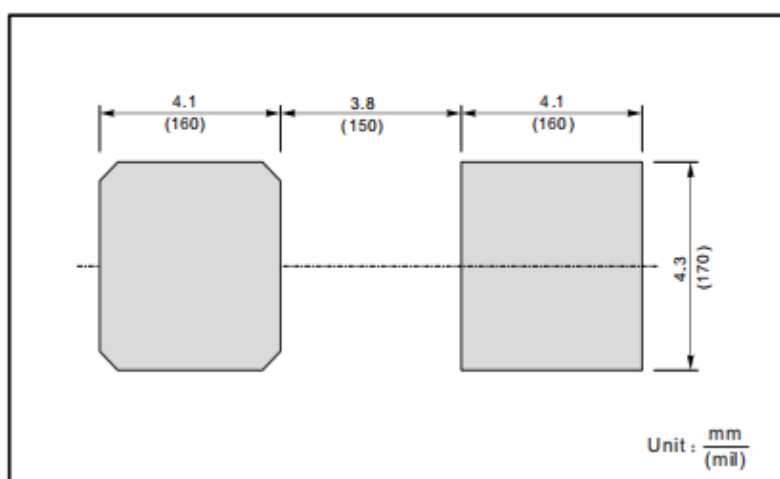
SMC



SMC mechanical data

| UNIT | | A | E | D | E ₁ | A ₁ | C | L | b |
|------|-----|------|-----|-----|----------------|----------------|------|-----|------|
| mm | max | 2.62 | 7.0 | 6.2 | 8.0 | 0.21 | 0.31 | 1.6 | 3.25 |
| | min | 2.00 | 6.5 | 5.6 | 7.6 | 0.05 | 0.15 | 0.9 | 2.75 |
| mil | max | 103 | 276 | 244 | 315 | 8.3 | 12 | 63 | 128 |
| | min | 79 | 256 | 220 | 299 | 2.0 | 5.9 | 35 | 108 |

The recommended mounting pad size



Marking

| Type number | Marking code |
|-------------|--------------|
| US3AC-AT | US3A |
| US3BC-AT | US3B |
| US3DC-AT | US3D |
| US3GC-AT | US3G |
| US3JC-AT | US3J |
| US3KC-AT | US3K |
| US3MC-AT | US3M |

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