



US1D SERIES

SURFACE MOUNT ULTRAFAST RECTIFIER

VOLTAGE 200 to 1000 Volt **CURRENT** 1 Ampere

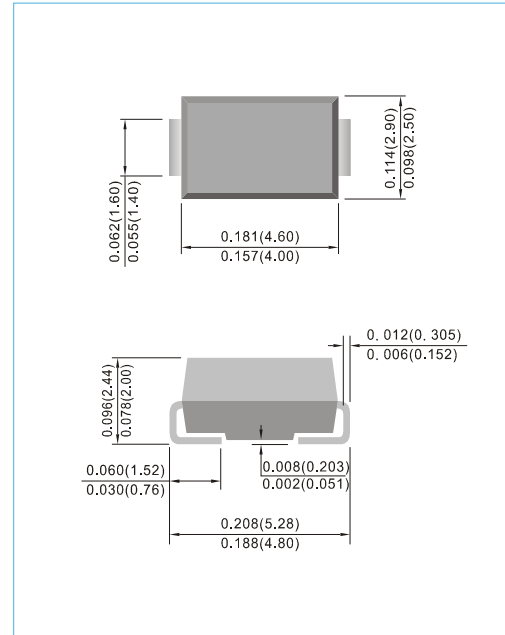
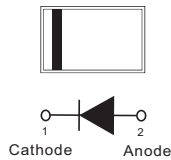
SMA / DO-214AC Unit : inch(mm)

FEATURES

- For surface mounted applications in order to optimize board space
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

MECHANICAL DATA

- Case: JEDEC DO-214AC molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard packaging: 12mm tape (EIA-481)
- Weight: 0.0023 ounces, 0.0679 grams
- Marking : Part number



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, derate current by 20%.

| PARAMETER | SYMBOL | US1D | US1G | US1J | US1K | US1M | UNITS |
|---|-----------------|-------------|------|------|------|------|-----------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | V_{RMS} | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Current | $I_{F(AV)}$ | 1 | | | | | A |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 30 | | | | | A |
| Maximum Forward Voltage at 1A | V_F | 1 | 1.3 | 1.7 | | V | |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=25^{\circ}C$ $T_J=125^{\circ}C$ | I_R | 1 100 | | | | | μA |
| Typical Junction Capacitance (Note 2) | C_J | 17 | | | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JL}$ | 30 | | | | | $^{\circ}C / W$ |
| Typical Thermal Resistance (Note 4) | $R_{\theta JC}$ | 28 | | | | | $^{\circ}C / W$ |
| Maximum Reverse Recovery Time (Note 1) | T_{RR} | 50 | 100 | | | ns | |
| Operating Junction and Storage Temperature Range | T_J, T_{STG} | -55 to +150 | | | | | $^{\circ}C$ |

- NOTES: 1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=-1A$, $I_{rr}=-0.25A$
 2. Measured at 1 MHz and applied $V_r = 4$ volts.
 3. $8mm^2$ (0.013mm thick) land areas.
 4. Mounted on $100cm^2$ FR4 PCB.



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RATING AND CHARACTERISTIC CURVES

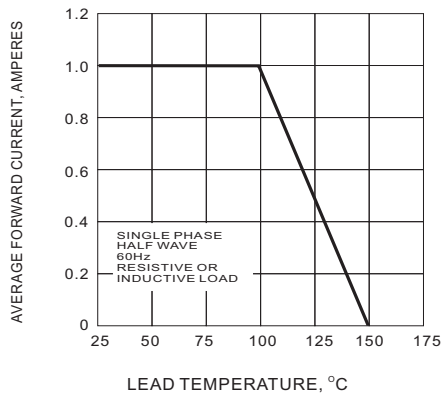


Fig.1 FORWARD CURRENT DERATING CURVE

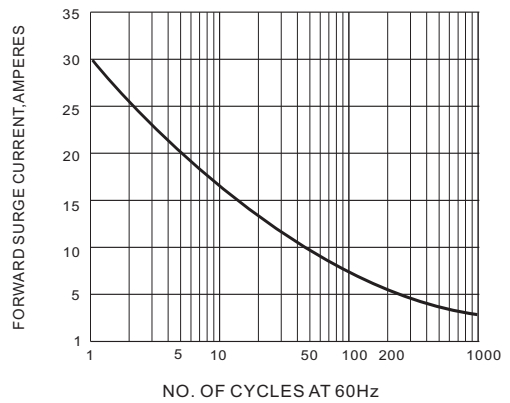


Fig.2 PEAK FORWARD SURGE CURRENT

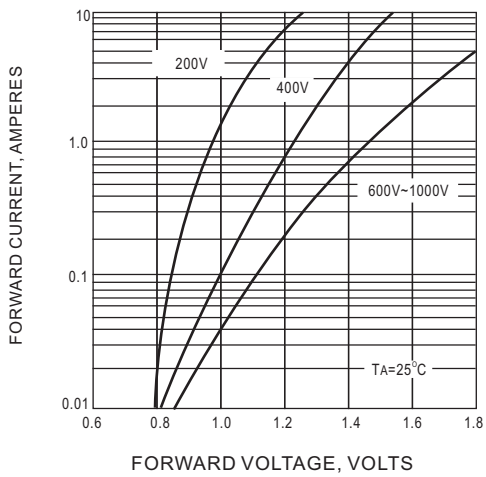


Fig.3 FORWARD CHARACTERISTICS

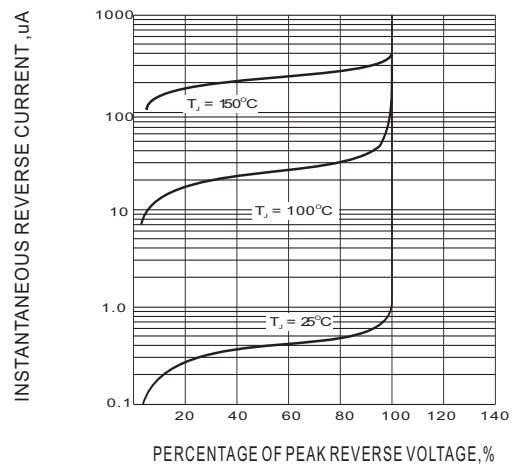


Fig.4-TYPICAL REVERSE CHARACTERISTIC

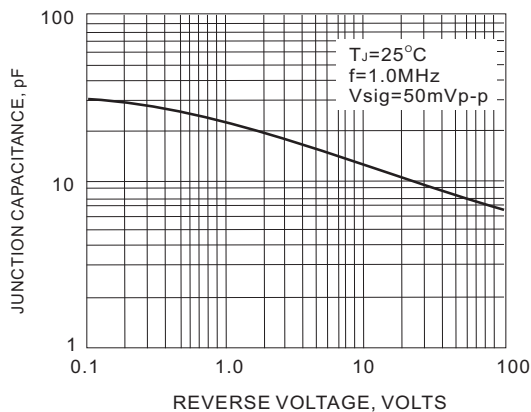


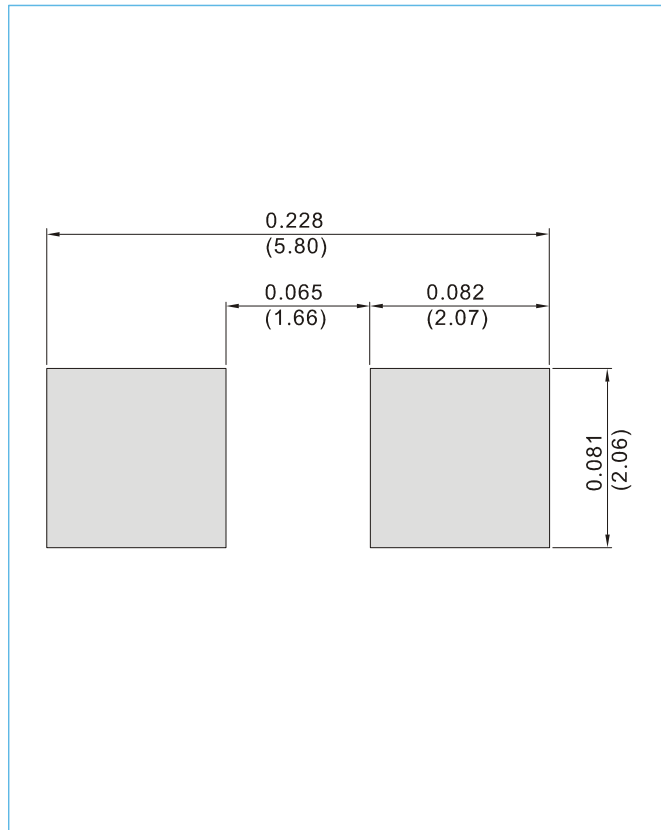
Fig.5 TYPICAL JUNCTION CAPACITANCE



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MOUNTING PAD LAYOUT

SMA / DO-214AC Unit : inch(mm)



ORDER INFORMATION

- Packing information
T/R - 7.5K per 13" plastic Reel
T/R - 1.8K per 7" plastic Reel



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Part No._packing code_Version

- US1D_R1_00101
- US1D_R2_00101
- US1G_R1_00101
- US1G_R2_00101
- US1J_R1_00101
- US1J_R2_00101
- US1K_R1_00101
- US1K_R2_00101
- US1M_R1_00101
- US1M_R2_00101

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |



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[CRF02\(T5L,TEMQ\)](#) [ACGRB207-HF](#) [CLH07\(TE16L,Q\)](#) [CLH03\(TE16L,Q\)](#) [1N5395-TP](#) [UES1302](#) [ACGRC307-HF](#) [ACEFC304-HF](#) [DZ-](#)
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