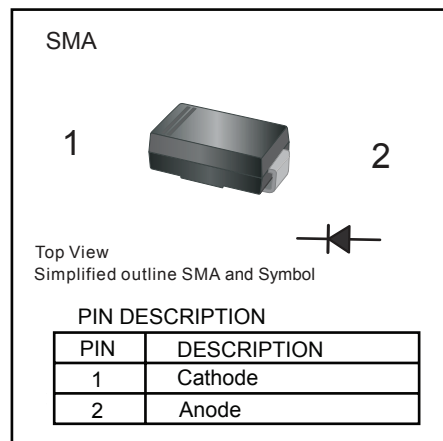


## Ultra Fast Rectifier

## US1A ~ US1M

## ■ Features

- For surface mounted applications
- Ultra fast switching for high efficiency
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed  
250°C/10 seconds at terminals



## ■ Maximum Ratings and Electrical Characteristics

Rating 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          | US1A       | US1B | US1D | US1G | US1J | US1K | US1M | Unit |              |
|---|-----------------|------------|------|------|------|------|------|------|------|--------------|
| 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  |      |              |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 50         | 100  | 200  | 400  | 600  | 800  | 1000 |      |              |
| Instantaneous Forward Voltage at $I_F=1.0A$   | $V_F$           | 1.0        |      |      | 1.3  | 1.7  |      |      | A    |              |
| Maximum Average Forward Rectified Current @ $T_A = 55^\circ C$                                | $I_{F(AV)}$     | 1.0        |      |      |      |      |      |      |      |              |
| Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load            | $I_{FSM}$       | 30         |      |      |      |      |      |      |      |              |
| Maximum DC Reverse Current $T_A=25^\circ C$<br>at rated DC blocking voltage $T_A=100^\circ C$ | $I_R$           | 5          |      |      |      |      | 50   |      |      | $\mu A$      |
| Reverse Recovery Time *1  | $t_{rr}$        | 50         |      |      |      | 75   |      |      |      | ns           |
| Typical Junction Capacitance *2   | $C_j$           | 15         |      |      |      |      |      |      |      | pF           |
| Typical Thermal Resistance *3   | $R_{\theta JA}$ | 50         |      |      |      |      |      |      |      | $^\circ C/W$ |
| Junction Temperature  | $T_j$           | 150        |      |      |      |      |      |      |      | $^\circ C$   |
| Storage Temperature   | $T_{stg}$       | -55 to 150 |      |      |      |      |      |      |      |              |

\* 1 Reverse recovery test condition:  $I_F = 0.5 A$ ,  $I_R = 1 A$ ,  $I_{rr} = 0.25 A$

\* 2 Measured at 1MHz and applied reverse voltage of 4V D.C

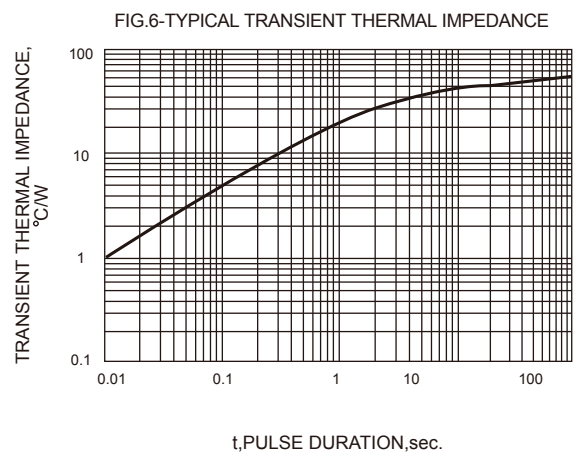
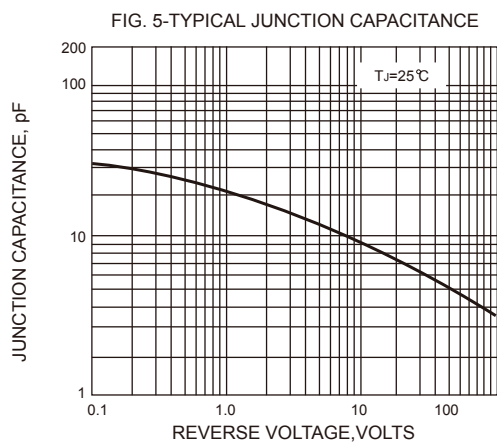
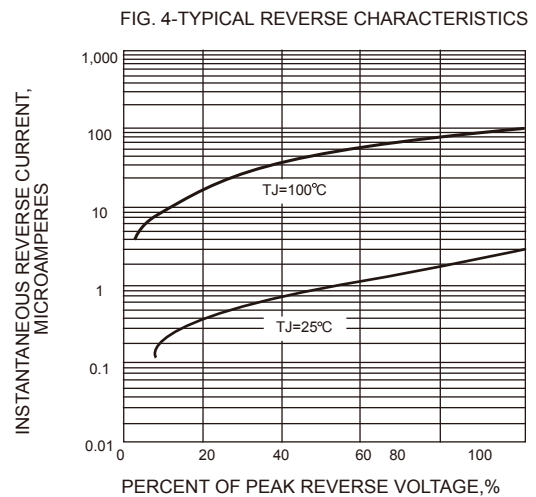
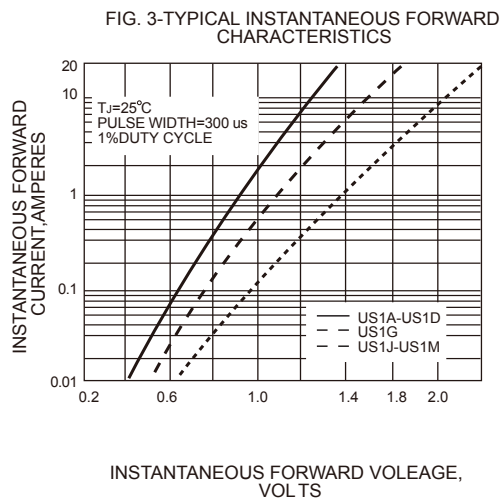
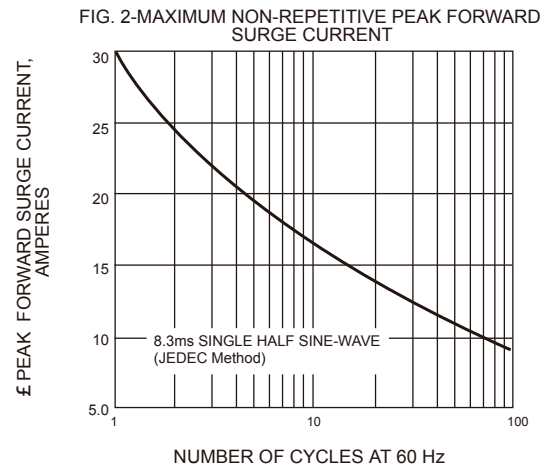
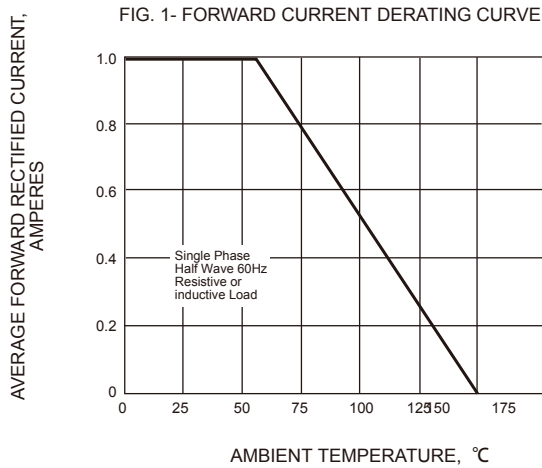
\* 3 P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas.

## ■ Marking

|         |      |      |      |      |      |      |      |
|---------|------|------|------|------|------|------|------|
| NO.     | US1A | US1B | US1D | US1G | US1J | US1K | US1M |
| Marking | US1A | US1B | US1D | US1G | US1J | US1K | US1M |

## US1A ~ US1M

### ■ Typical Characteristics

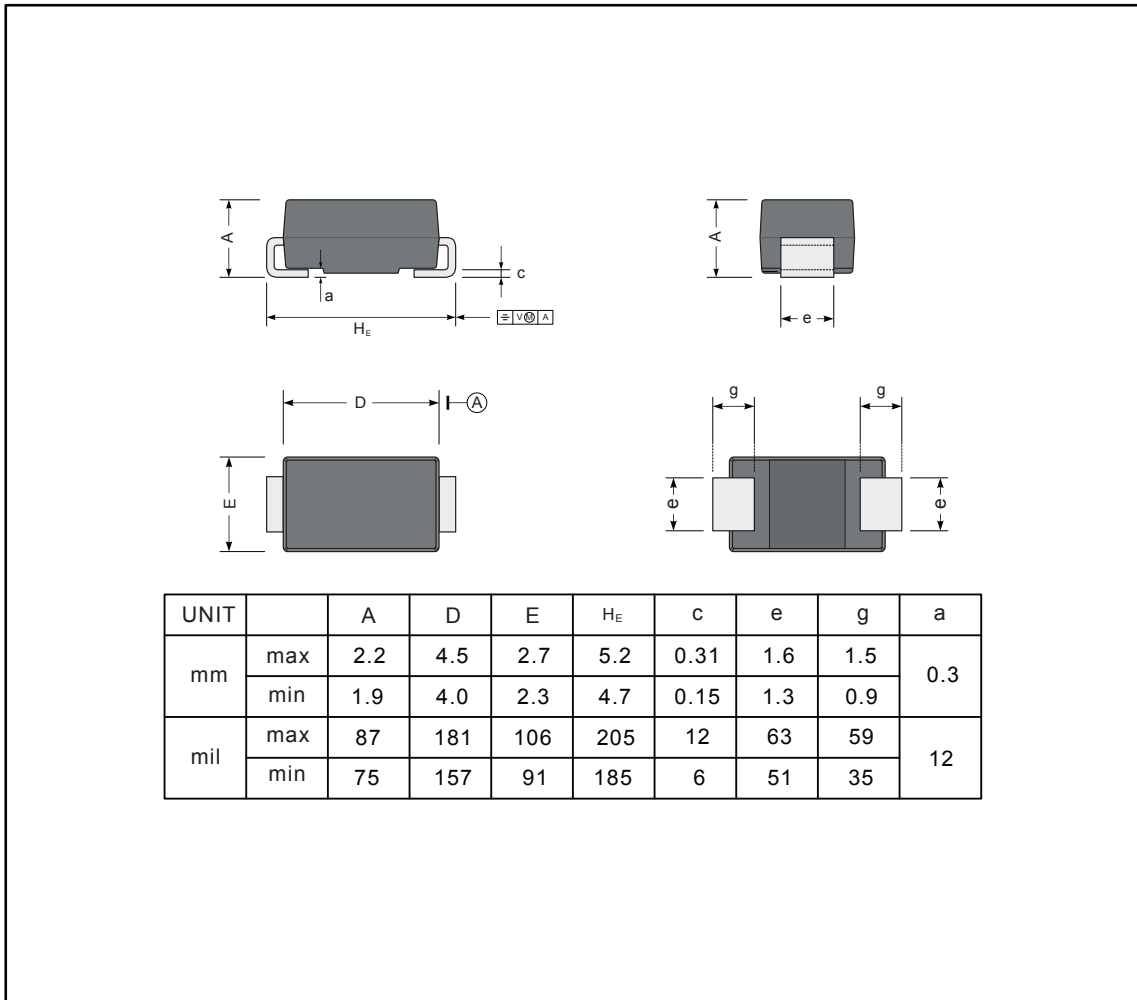


### US1A ~ US1M

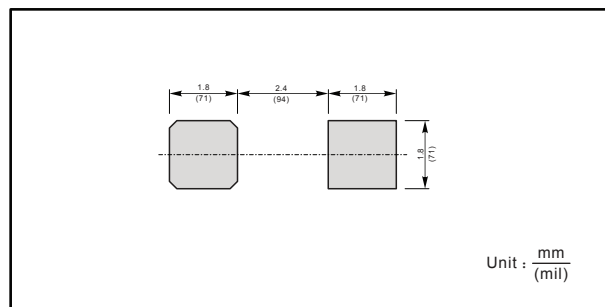
■ Package Outline Dimensions

Plastic surface mounted package; 2 leads

SMA



■ The recommended mounting pad size



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