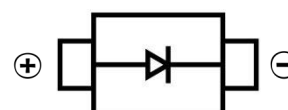


**ULTRA FAST RECOVERY RECTIFIER DIODE**
**FEATURES**

- Glass Passivated Die Construction
- Low reverse leakage current
- Low forward voltage drop
- High current capability
- Surface Mount device


**SMA**

**MECHANICAL DATA**

- Case: SMA(DO-214AC)
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.065 grams (approximate)

**MAXIMUM RATINGS AND CHARACTERISTICS( $T_A = 25^{\circ}\text{C}$  unless otherwise noted)**

| Parameter                                                                               | Symbol          | Value     | Unit                 |
|-----------------------------------------------------------------------------------------|-----------------|-----------|----------------------|
| Maximum Recurrent Peak Reverse Voltage                                                  | $V_{RRM}$       | 1000      | V                    |
| DC Blocking Reverse Voltage                                                             | $V_R$           | 1000      | V                    |
| RMS Reverse Voltage                                                                     | $V_{R(RMS)}$    | 700       | V                    |
| Maximum Average Forward Rectified Current                                               | $I_F$           | 1         | A                    |
| Non-Repetitive Peak Forward Surge Current @ $t_@=8.3\text{ms}$                          | $I_{FSM}$       | 30        | A                    |
| Reverse Recovery Time(@ $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{RR}=0.25\text{A}$ ) | $t_{rr}$        | 50        | nS                   |
| Thermal Resistance From Junction To Ambient                                             | $R_{\theta JA}$ | 30        | $^{\circ}\text{C/W}$ |
| Junction Temperature                                                                    | $T_J$           | -55 ~+150 | $^{\circ}\text{C}$   |
| Storage Temperature                                                                     | $T_{STG}$       | -55 ~+150 | $^{\circ}\text{C}$   |

**ELECTRICAL CHARACTERISTICS ( $T_A = 25^{\circ}\text{C}$  unless otherwise specified)**

| Parameter         | Symbol | Min | Typ | Max | Unit          | Conditions                        |
|-------------------|--------|-----|-----|-----|---------------|-----------------------------------|
| Forward voltage   | $V_F$  |     |     | 1.7 | V             | $I_F=1\text{A}$                   |
| Reverse current   | $I_R$  |     |     | 5   | $\mu\text{A}$ | $V_R=1000\text{V}$                |
| Diode capacitance | $C_D$  |     | 15  |     | pF            | $V_R=4\text{V}$ , $f=1\text{MHz}$ |

ULTRA FAST RECOVERY RECTIFIER DIODE

Typical Characteristics

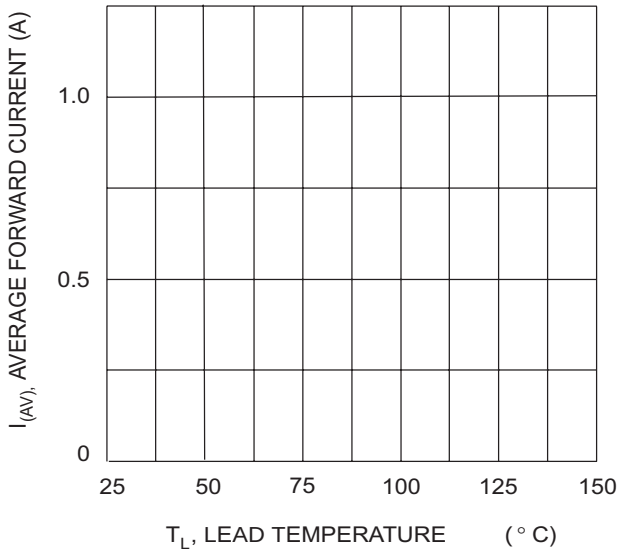


Fig. 1 Forward Current Derating Curve

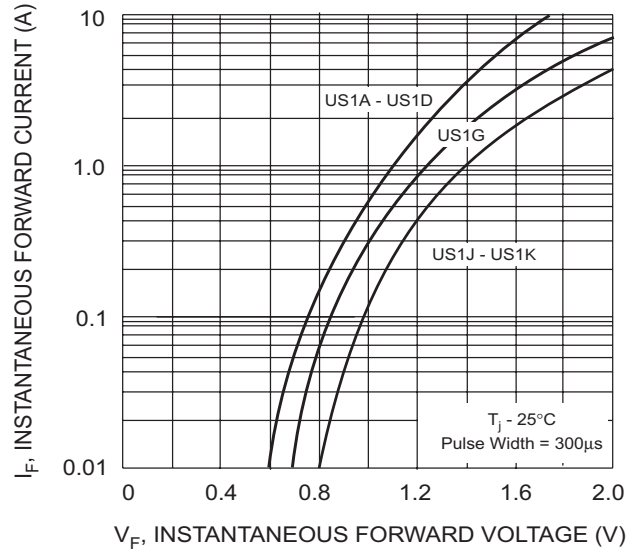


Fig. 2 Typical Forward Characteristics

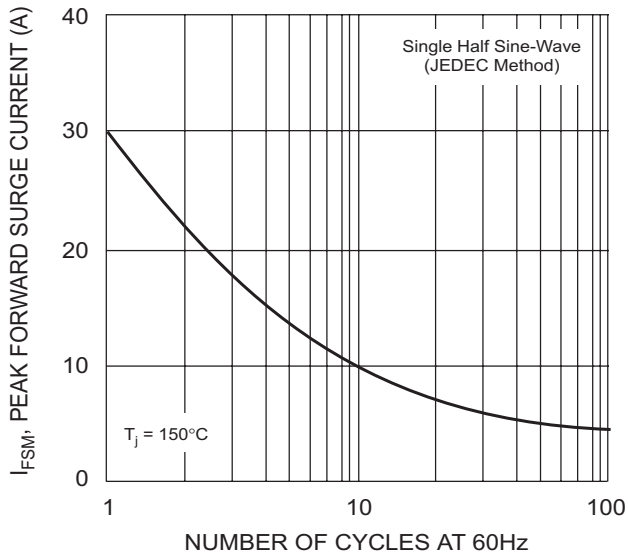


Fig. 3 Forward Surge Current Derating Curve

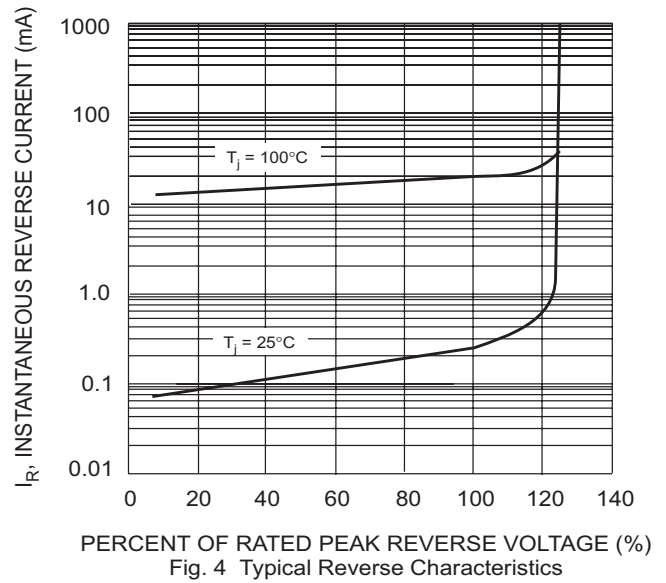
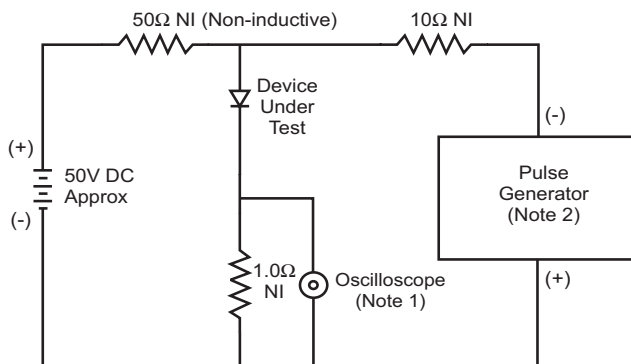


Fig. 4 Typical Reverse Characteristics



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50Ω.

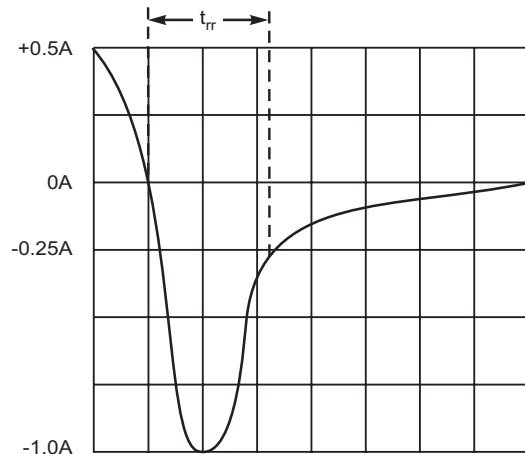
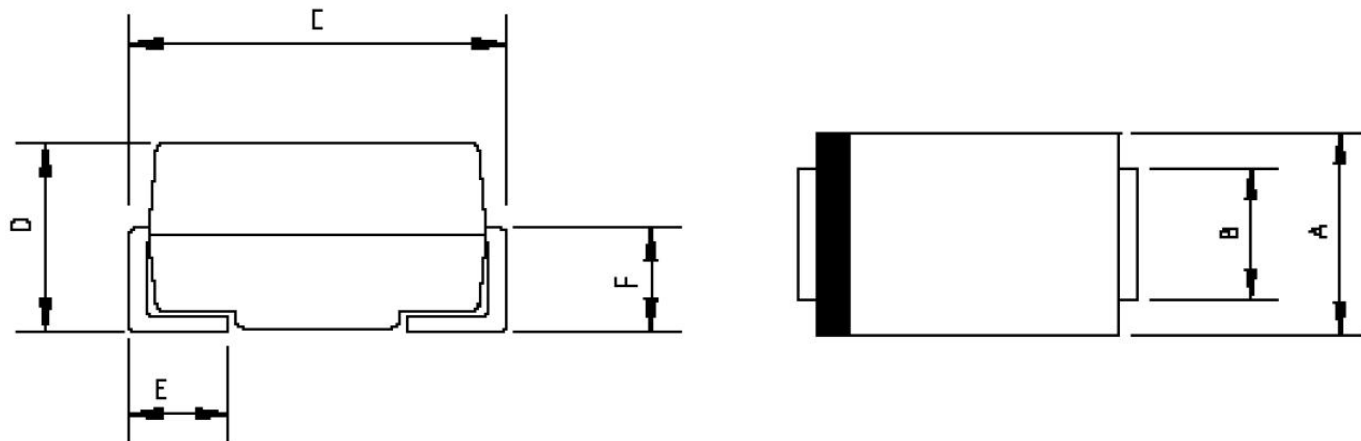


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

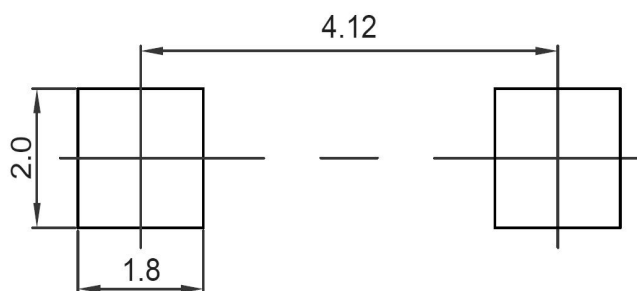
ULTRA FAST RECOVERY RECTIFIER DIODE

**SMA Package Outline Dimensions**



| Symbol | Dimensions In Millimeters |      | Dimensions In Inches |       |
|--------|---------------------------|------|----------------------|-------|
|        | Min.                      | Max. | Min.                 | Max.  |
| A      | 2.20                      | 2.80 | 0.086                | 0.110 |
| B      | 1.30                      | 1.70 | 0.051                | 0.067 |
| C      | 4.70                      | 5.30 | 0.185                | 0.209 |
| D      | 1.70                      | 2.55 | 0.067                | 0.100 |
| E      | 0.90                      | 1.50 | 0.035                | 0.059 |
| F      | 0.90                      | 1.50 | 0.035                | 0.059 |

**SMA Suggested Pad Layout**



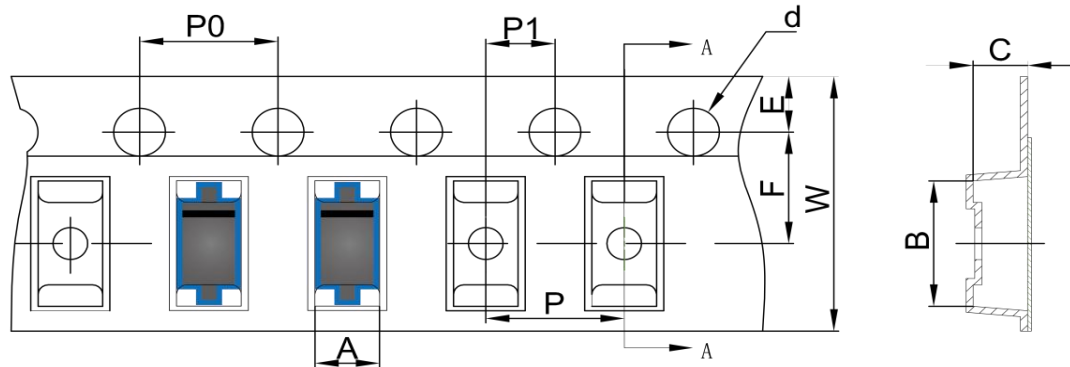
**Note:**

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

ULTRA FAST RECOVERY RECTIFIER DIODE

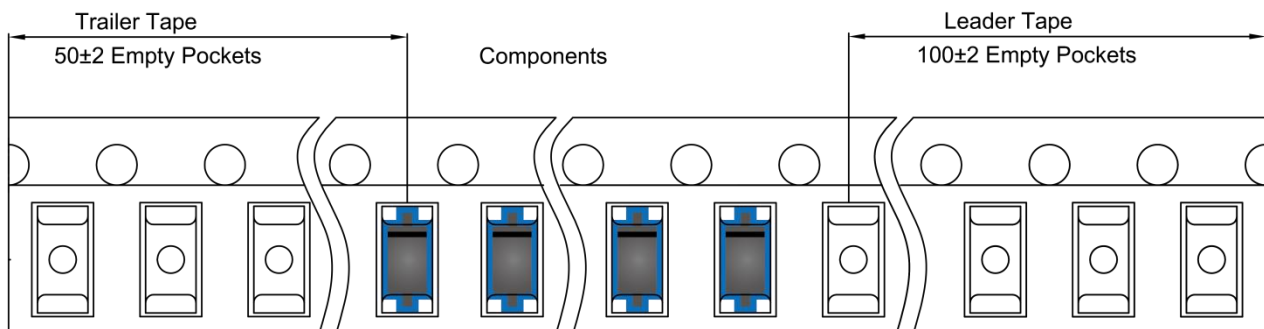
**SMA Tape and Reel**

**SMA Embossed Carrier Tape**

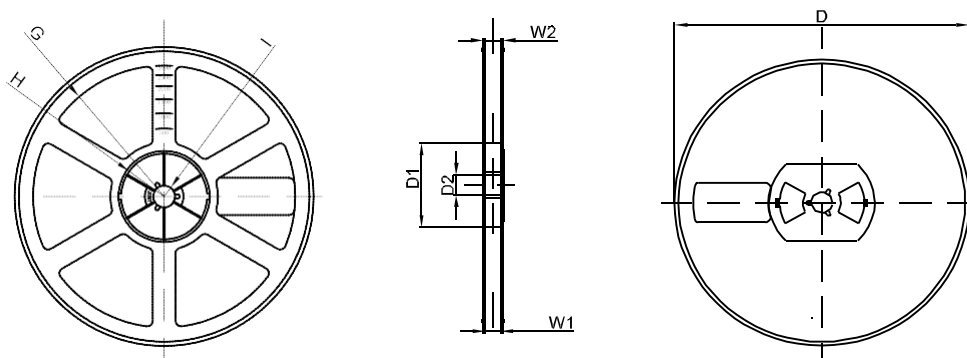


| DIMENSIONS ARE IN MILLIMETER |      |      |      |       |      |      |      |      |      |       |
|------------------------------|------|------|------|-------|------|------|------|------|------|-------|
| TYPE                         | A    | B    | C    | d     | E    | F    | P0   | P    | P1   | W     |
| SMA                          | 2.89 | 5.35 | 2.68 | Ø1.50 | 1.75 | 5.50 | 4.00 | 4.00 | 2.00 | 12.00 |
| TOLERANCE                    | ±0.1 | ±0.1 | ±0.1 | ±0.1  | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1  |

**SMA Tape Leader and Trailer**



**SMA Reel**



| DIMENSIONS ARE IN MILLIMETER |      |       |       |     |        |       |       |       |
|------------------------------|------|-------|-------|-----|--------|-------|-------|-------|
| REEL OPTION                  | D    | D1    | D2    | G   | H      | I     | W1    | W2    |
| 7" DIA                       | Ø178 | 54.40 | 13.00 | R78 | R25.60 | R6.50 | 12.40 | 17.60 |
| TOLERANCE                    | ±2   | ±1    | ±1    | ±1  | ±1     | ±1    | ±1    | ±1    |