

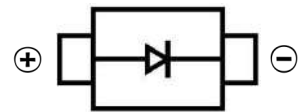
## GENERAL PURPOSE RECTIFIER DIODE

### FEATURES

- Diffused junction
- 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
- Moisture Sensitivity: Level 1 per J-STD-020
- 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                    |
| Thermal Resistance From Junction To Ambient                      | $R_{\theta JA}$ | 30        | $^{\circ}\text{C/W}$ |
| Junction Temperature                                             | $T_J$           | 125       | $^{\circ}\text{C}$   |
| 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   | $V_F$  |     |     | 1.1 | V             | $I_F=1\text{A}$                |
| Reverse current   | $I_R$  |     |     | 5   | $\mu\text{A}$ | $V_R=1000\text{V}$             |
| Diode capacitance | $C_D$  |     | 10  |     | pF            | $V_R=4\text{V}, f=1\text{MHz}$ |

## GENERAL PURPOSE RECTIFIER DIODE

### Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

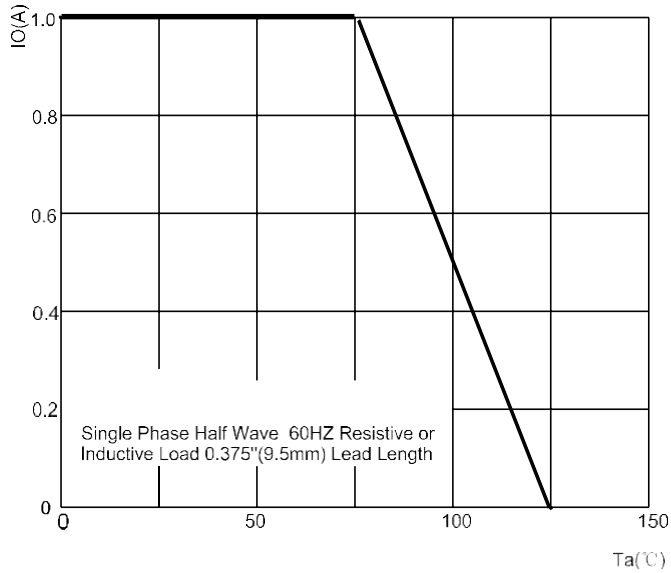


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

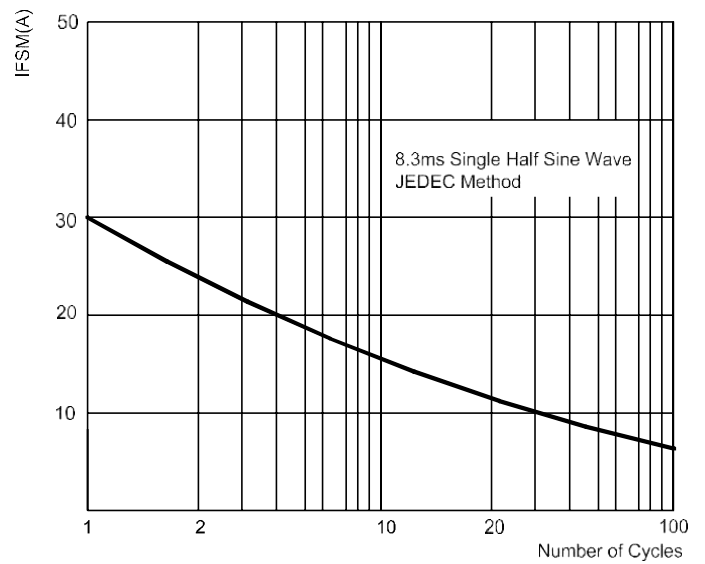


FIG.3: TYPICAL FORWARD CHARACTERISTICS

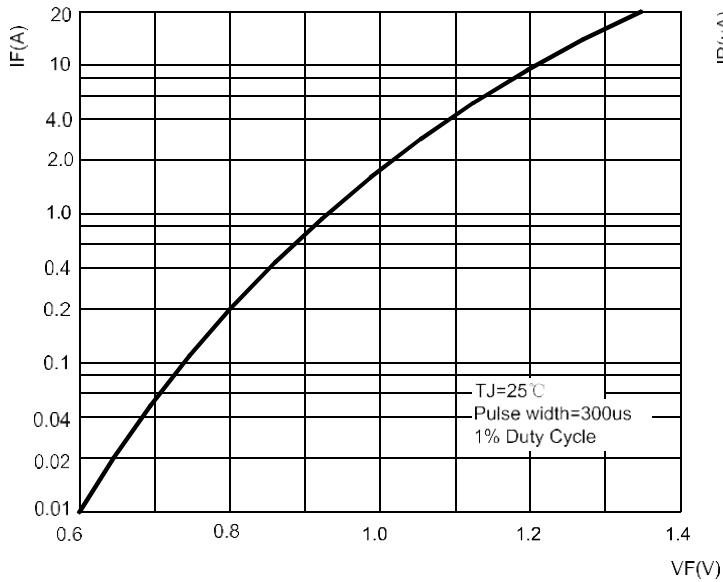
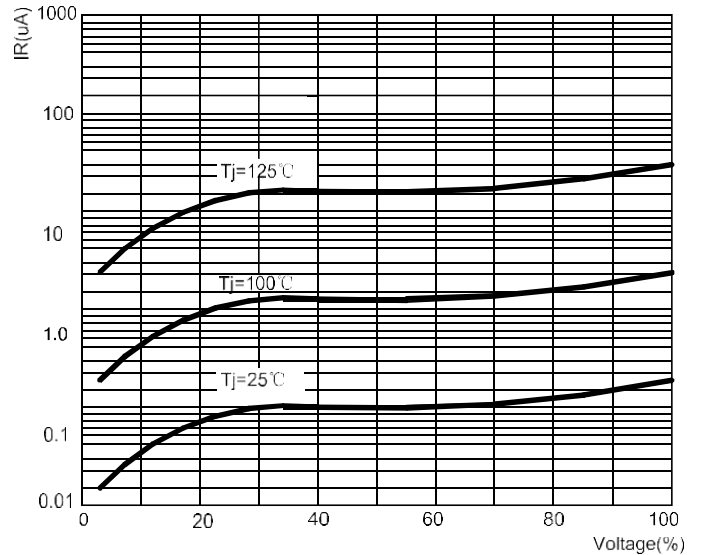
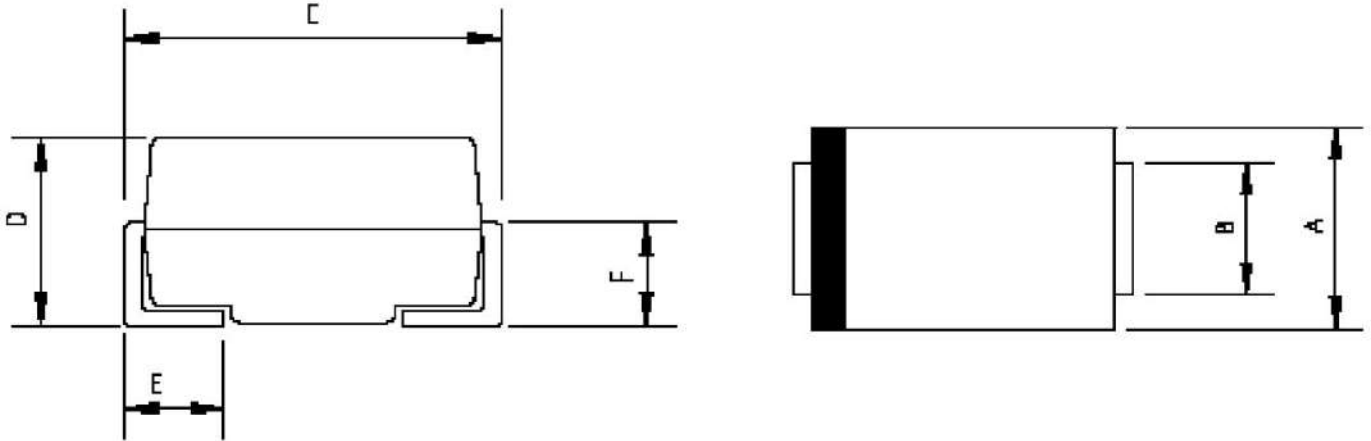


FIG.4: TYPICAL REVERSE CHARACTERISTICS



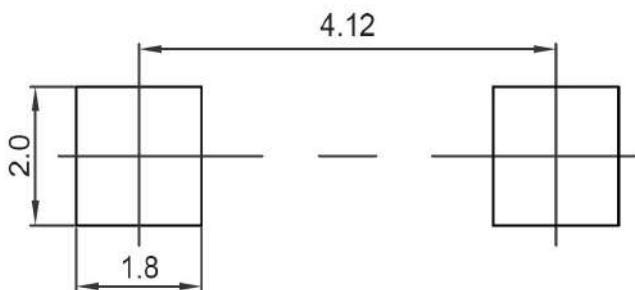
## GENERAL PURPOSE RECTIFIER DIODE

### 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



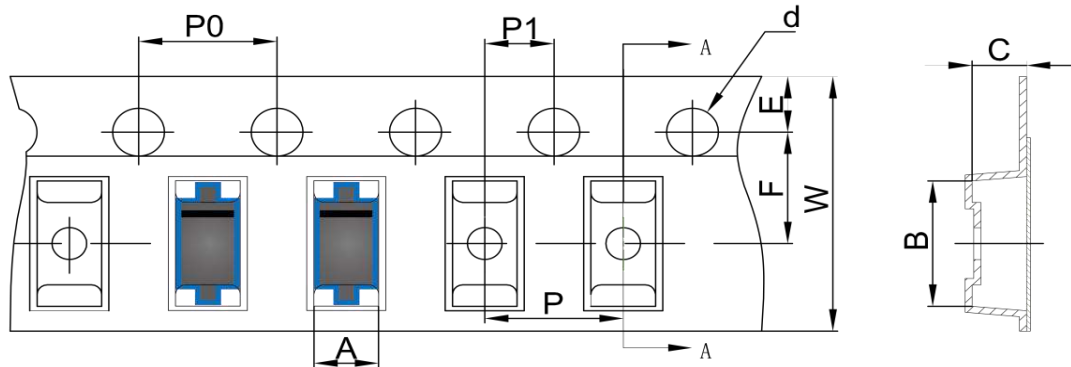
#### Note:

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

## GENERAL PURPOSE RECTIFIER DIODE

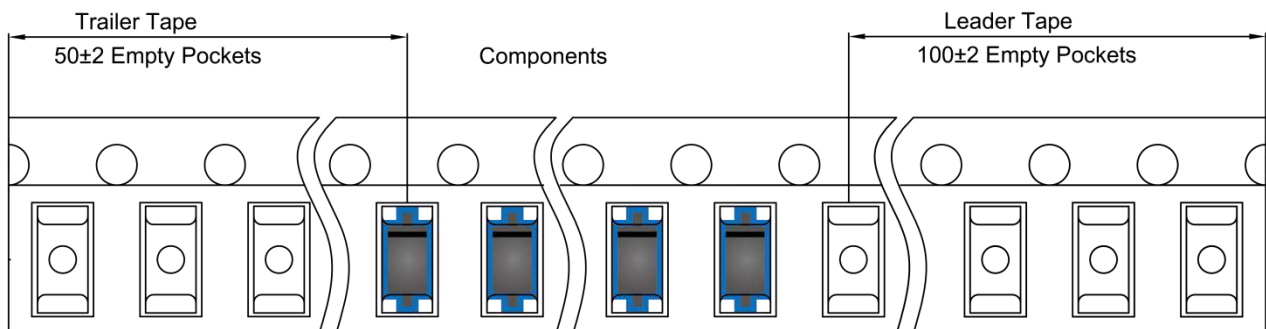
### SMA Tape and Reel

#### SMA Embossed Carrier Tape

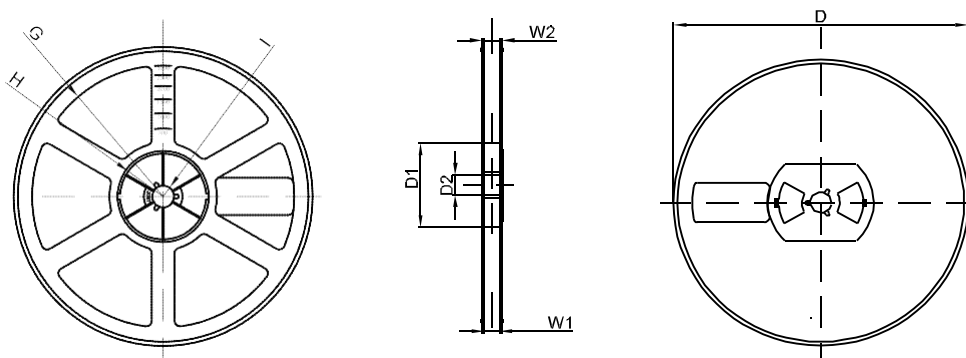


| DIMENSIONS ARE IN MILLIMETER |      |      |      |       |      |      |      |      |      |       |
|------------------------------|------|------|------|-------|------|------|------|------|------|-------|
| TYPE                         | A    | B    | C    | d     | E    | F    | P0   | P    | P1   | 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    |