

## DO-27 Plastic-Encapsulate Diodes

### General Purpose Rectifier

#### Features

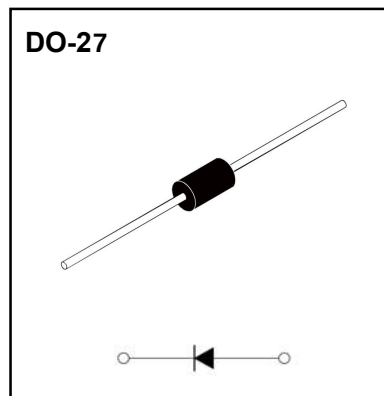
- $I_O$  3.0A
- $V_{RRM}$  50V-1000V
- High surge current capability
- Polarity: Color band denotes cathode

#### Applications

- Rectifier

#### Marking

- 1N54XX  
XX:From 00 to 08



#### Limiting Values (Absolute Maximum Rating)

| Item                                 | Symbol             | Unit | Conditions                                   | 1N54       |     |     |     |     |     |     |     |      |  |
|--------------------------------------|--------------------|------|----------------------------------------------|------------|-----|-----|-----|-----|-----|-----|-----|------|--|
|                                      |                    |      |                                              | 00         | 01  | 02  | 03  | 04  | 05  | 06  | 07  | 08   |  |
| Repetitive Peak Reverse Voltage      | V <sub>RRM</sub>   | V    |                                              | 50         | 100 | 200 | 300 | 400 | 500 | 600 | 800 | 1000 |  |
| Maximum RMS Voltage                  | V <sub>RMS</sub>   | V    |                                              | 35         | 70  | 140 | 210 | 280 | 350 | 420 | 560 | 700  |  |
| Average Forward Current              | I <sub>F(AV)</sub> | A    | 60Hz Half-sine wave, Resistance load, Ta=75℃ | 3          |     |     |     |     |     |     |     |      |  |
| Surge(Non-repetitive)Forward Current | I <sub>FSM</sub>   | A    | 60Hz Half-sine wave,1 cycle, Ta=25℃          | 150        |     |     |     |     |     |     |     |      |  |
| Junction Temperature                 | T <sub>j</sub>     | ℃    |                                              | -55 ~ +150 |     |     |     |     |     |     |     |      |  |
| Storage Temperature                  | T <sub>stg</sub>   | ℃    |                                              | -55 ~ +150 |     |     |     |     |     |     |     |      |  |

#### Electrical Characteristics (T=25°C Unless otherwise specified)

| Item                        | Symbol           | Unit          | Test Condition               |                    | Max |
|-----------------------------|------------------|---------------|------------------------------|--------------------|-----|
| Peak Forward Voltage        | $V_{FM}$         | V             | $I_{FM}=3.0A$                |                    | 1.1 |
| Peak Reverse Current        | $I_{RRM1}$       | $\mu A$       | $V_{RM}=V_{RRM}$             | $T_a=25^{\circ}C$  | 5   |
|                             | $I_{RRM2}$       |               |                              | $T_a=125^{\circ}C$ | 50  |
| Thermal Resistance(Typical) | $R_{\theta J-A}$ | $^{\circ}C/W$ | Between junction and ambient |                    | 20  |
|                             | $R_{\theta J-L}$ |               | Between junction and lead    |                    | 10  |

## Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

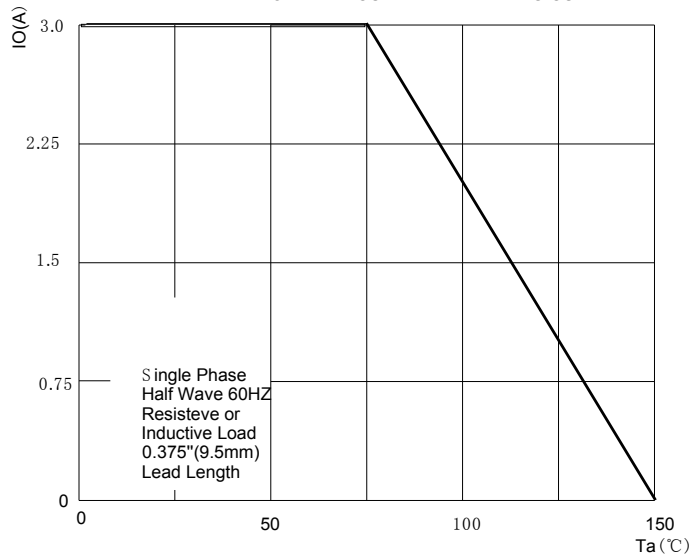


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

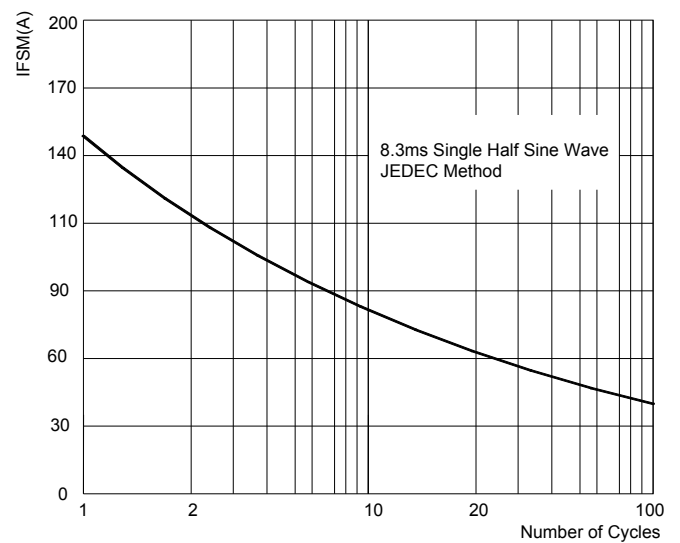


FIG.3: TYPICAL FORWARD CHARACTERISTICS

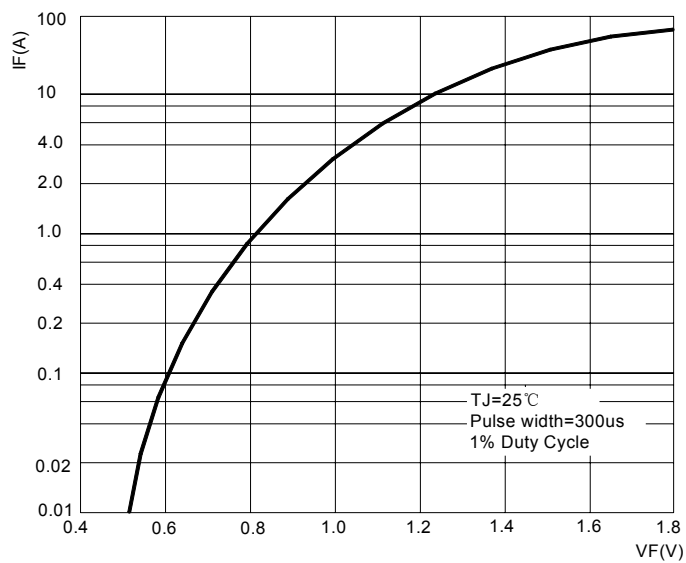
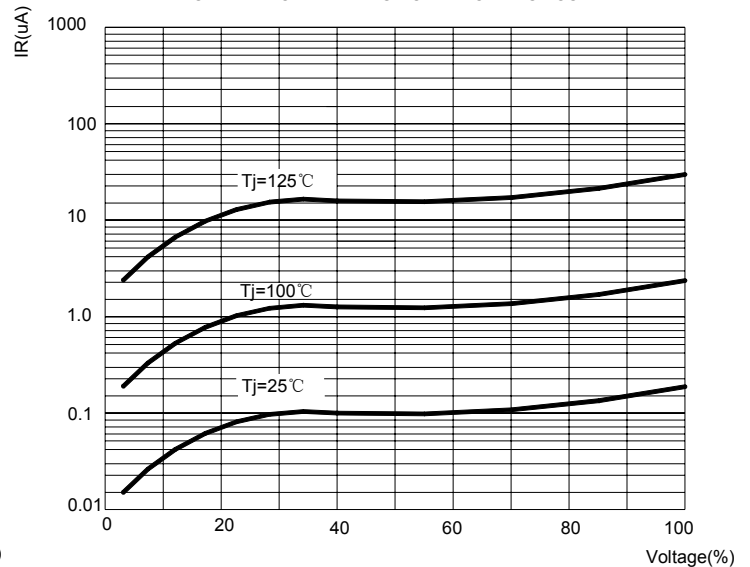
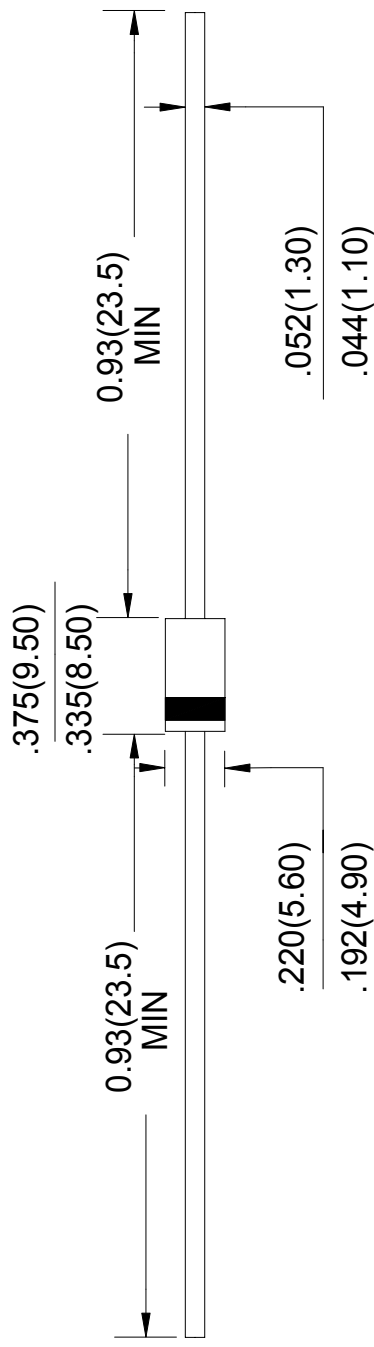


FIG.4: TYPICAL REVERSE CHARACTERISTICS





Unit: in inches (millimeters)

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