

1N4139-1N4146

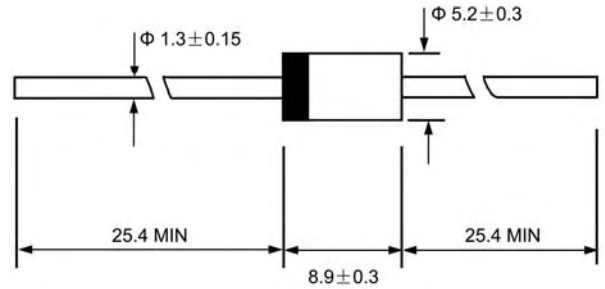
Plastic Silicon Rectifiers

VOLTAGE RANGE: 50 --- 1200 V

CURRENT: 3.0 A



DO - 27



Dimensions in millimeters

Features

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Free, Alcohol, Isopropanol and similar solvents

Mechanical Data

- ◇ Case: JEDEC DO-27, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 50 Hz, resistive or inductive load. For capacitive load, derate by 20%.

| | | 1N 4139 | 1N 4140 | 1N 4141 | 1N 4142 | 1N 4143 | 1N 4144 | 1N 4145 | 1N 4146 | UNITS |
|--|-----------------|-----------------|------------|------------|------------|------------|------------|------------|------------|--------------|
| Maximum recurrent peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | 1200 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | 840 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | 1200 | V |
| Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ C$ | $I_{F(AV)}$ | 3.0 | | | | | | | | A |
| Peak forward surge current 10ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$ | I_{FSM} | 300.0 | | | | | | | | A |
| Maximum instantaneous forward voltage @ 3.0 A | V_F | 1.0 | | | | | | | | V |
| Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$ | I_R | 10.0 100.0 | | | | | | | | μA |
| Typical junction capacitance (Note1) | C_J | 35 | | | | | | | | pF |
| Typical thermal resistance (Note2) | $R_{\theta JA}$ | 20 | | | | | | | | $^\circ C/W$ |
| Operating junction temperature range | T_J | - 55 ---- + 150 | | | | | | | | $^\circ C$ |
| Storage temperature range | T_{STG} | - 55 ---- + 150 | | | | | | | | $^\circ C$ |

Note: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

2. Thermal resistance from junction to ambient.

Ratings AND Characteristic Curves

FIG.1 – TYPICAL FORWARD CHARACTERISTIC

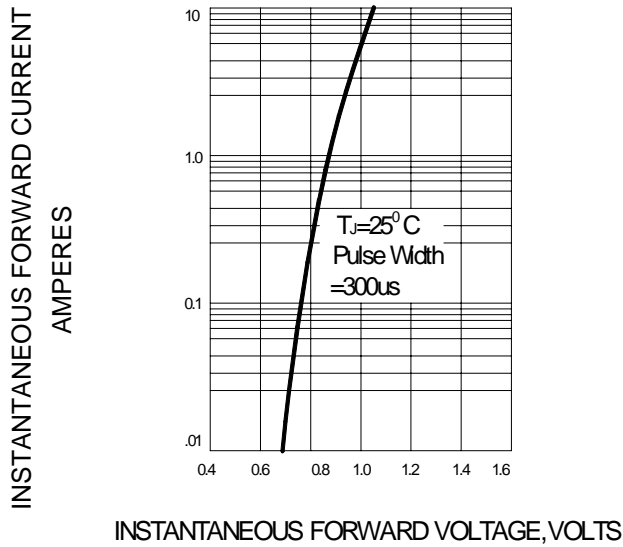


FIG.2 – TYPICAL JUNCTION CAPACITANCE

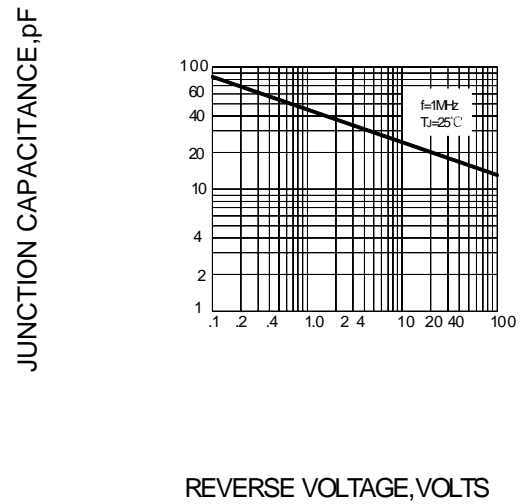


FIG.3 – PEAK FORWARD SURGE CURRENT

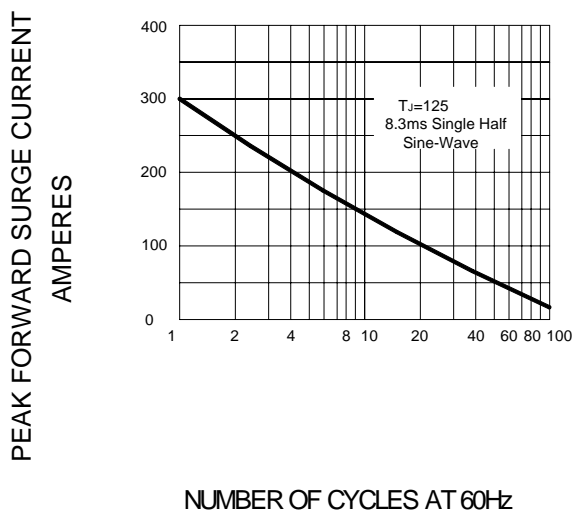


FIG.4 – FORWARD DEATING CURVE

