

### PLASTIC SILICON RECTIFIERS

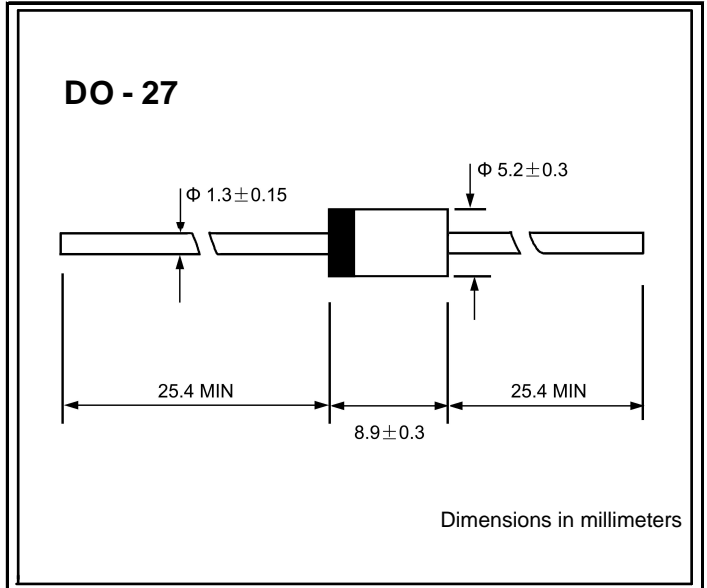
VOLTAGE RANGE: 50 --- 1200 V  
CURRENT: 3.0 A

#### 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.

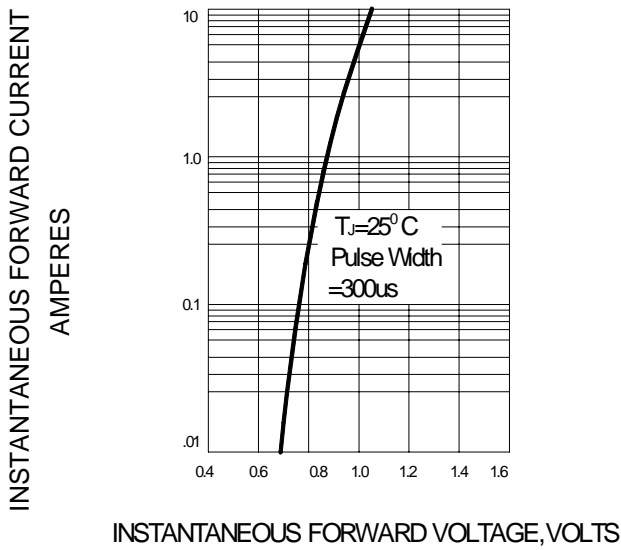
Single phase, half wave, 50 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		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								$\mu A$
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								$^\circ C$

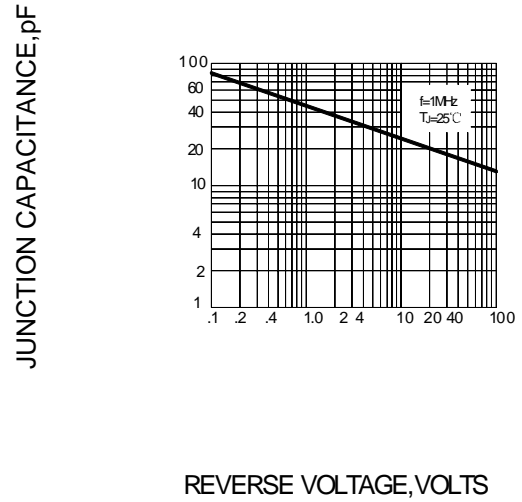
Note: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

2. Thermal resistance from junction to ambient.

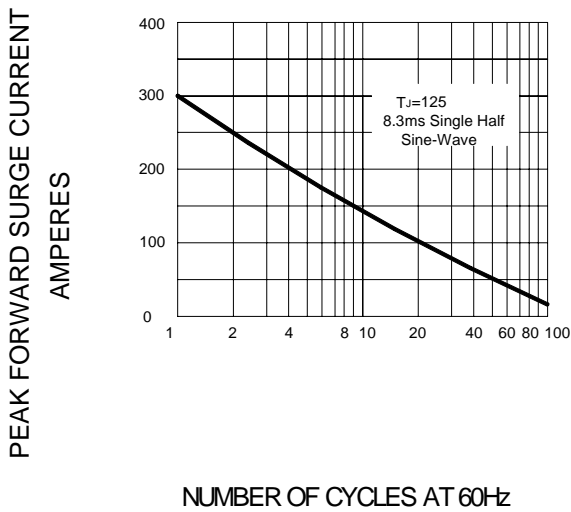
**FIG.1 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.2 – TYPICAL JUNCTION CAPACITANCE**



**FIG.3 – PEAK FORWARD SURGE CURRENT**



**FIG.4 – FORWARD DEATING CURVE**

