

GLASS PASSIVATED RECTIFIERS

VOLTAGE RANGE: 50 --- 600 V

CURRENT: 2.0 A

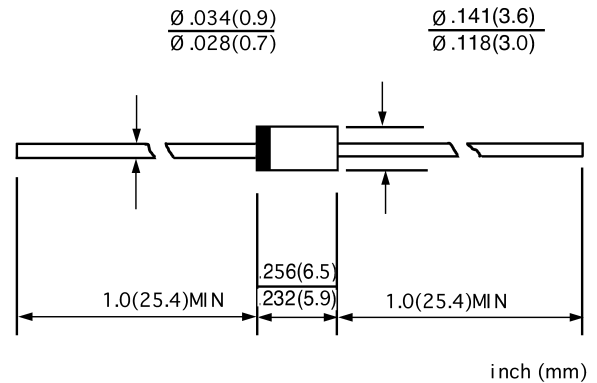
FEATURES

- ◇ Low cost
- ◇ Glass passivated junction
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

MECHANICAL DATA

- ◇ Case: JEDEC DO--15, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.014 ounces, 0.39 grams
- ◇ Mounting position: Any

DO - 15



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		SF21 G	SF22 G	SF23 G	SF24 G	SF25 G	SF26 G	SF27 G	SF28 G	UNITS
Maximum recurrent peak reverse voltage	V _{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current 9.5mm lead length, @T _A =75°C	I _{F(AV)}	2.0								A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @T _J =125°C	I _{FSM}	50								A
Maximum instantaneous forward voltage @ 2.0A	V _F	0.95				1.3		1.7		V
Maximum reverse current @T _A =25°C at rated DC blocking voltage @T _A =125°C	I _R	5.0 50.0								μA
Maximum reverse recovery time (Note1)	t _{rr}	35								ns
Typical junction capacitance (Note2)	C _J	60				30				pF
Typical thermal resistance (Note3)	R _{θJA}	20								°C/W
Operating junction temperature range	T _J	- 55 ----- + 175								°C
Storage temperature range	T _{STG}	- 55 ----- + 175								°C

NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.

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Instantaneous Forward Current (Amperes) vs. Time (Seconds) for SF71G-SF78G LEDs.

Curves shown for:

- SF71G-SF78G
- SF72G-SF73G
- SF74G-SF78G

Conditions: $T_J = 25^\circ\text{C}$, Pulse Width = 300 μs , 1% Duty Cycle.

Single Phase
Half Wave 60Hz
Resistive or
Inductive Load
0.375"(9.5mm) Lead Length

Lead Length (inches)	Average Forward Current (Amperes)
0	2.0
0.75	2.0
1.75	0.0

Figure 1 is a line graph showing Junction Capacitance (pF) on the Y-axis versus Frequency (Hz) on the X-axis. The Y-axis is logarithmic, ranging from 1 to 200 pF. The X-axis is also logarithmic, ranging from 0.1 to 100 Hz. Two curves are plotted, both at $T_j = 25^\circ\text{C}$.

- The upper curve is labeled SF21G-SF24G. It starts at approximately 150 pF at 0.1 Hz and decreases to about 20 pF at 100 Hz.
- The lower curve is labeled SF25G-SF28G. It starts at approximately 50 pF at 0.1 Hz and decreases to about 10 pF at 100 Hz.

Both curves show a decreasing trend of junction capacitance as frequency increases.

The graph shows the relationship between the peak forward surge current (in amperes) and the pulse width (in milliseconds) for a 1N4001 diode. The y-axis is labeled 'PEAK FORWARD SURGE CURRENT AMPERES' and ranges from 0 to 70. The x-axis is labeled 'PULSE WIDTH MILLISECONDS' and is a logarithmic scale ranging from 1 to 100. A single curve is plotted, labeled '8.3ms Single Half Sine-Wave'. The curve starts at 50 amperes for a 1 ms pulse width and decreases as the pulse width increases, reaching approximately 7 amperes at 100 ms.

Pulse Width (ms)	Peak Forward Surge Current (A)
1	50
5	30
10	20
50	8
100	7

2.