



## FAST RECOVERY GLASS PASSIVATED RECTIFIERS

1N4942GTHRU 1N4948G

VOLTAGE RANGE

200 to 1000 Volts

CURRENT

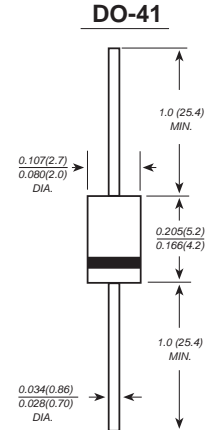
1.0 Ampere

### FEATURES

- The plastic package carries Underwriters Laboratory
- Flammability Classification 94V-0
- Fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### MECHANICAL DATA

- Case : JEDEC DO-41 molded plastic body
- Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Mounting Position: Any
- Weight : 0.012 ounce, 0.33 grams



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified.
- Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

	SYMBOLS	1N 4942G	1N 4944G	1N 4946G	1N 4947G	1N 4948G	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	400	600	800	1000	VOLTS
Maximum RMS voltage	$V_{RMS}$	140	280	420	560	700	VOLTS
Maximum DC blocking voltage	$V_{DC}$	200	400	600	800	1000	VOLTS
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=75^\circ\text{C}$	$I_{(AV)}$	1.0					Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30.0					Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.3					Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	5.0 50.0					$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	150		250		500	ns
Typical junction capacitance (NOTE 2)	$C_J$	15.0					pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	50.0					$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +150					$^\circ\text{C}$

**Note:** 1. Reverse recovery condition  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



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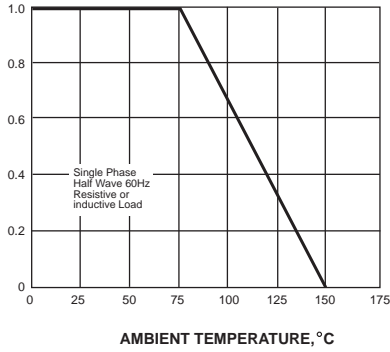
200 to 1000 Volts

CURRENT

1.0 Ampere

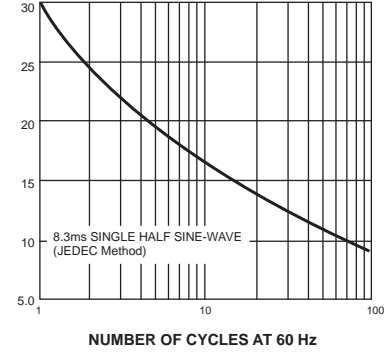
AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



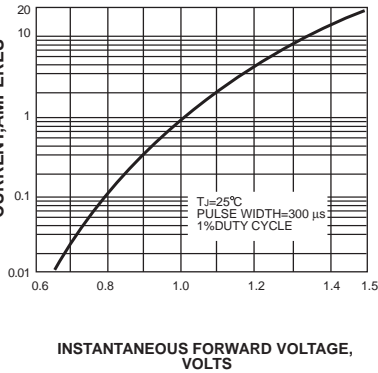
PEAK FORWARD SURGE CURRENT,  
AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



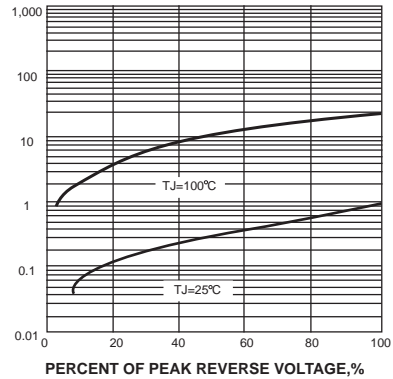
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



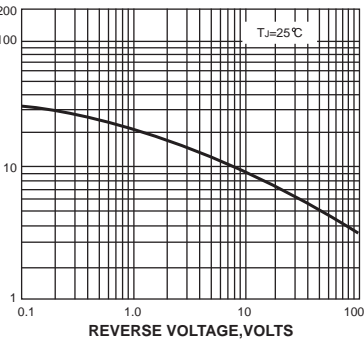
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

