



FAST RECOVERY GLASS PASSIVATED RECTIFIER

1N4942G THRU 1N4948G

VOLTAGE RANGE

200 to 1000 Volts

CURRENT

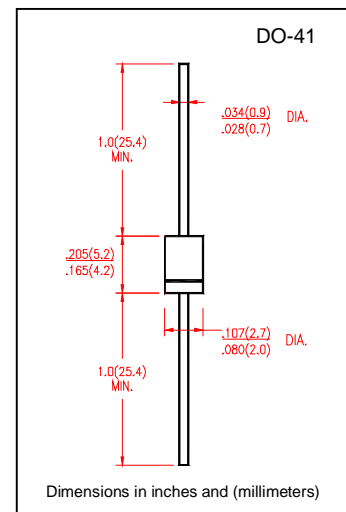
1.0 Ampere

FEATURES

- Fast switching for high efficiency
- Glass passivated chip junction
- High current surge capability
- Low leakage
- High temperature soldering guaranteed
260°C/10 seconds, 0.375" (9.5mm) lead length at 5 lbs (2.3kg) tension

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.012ounce, 0.33 gram



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 derate current by 20%

	SYMBOLS	1N4942G	1N4944G	1N4946G	1N4947G	1N4948G	UNIT
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 $T_A=55^\circ\text{C}$	$I_{(AV)}$	1.0					Amp
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30					Amps
Maximum Instantaneous Forward Voltage at 1.0A	V_F	1.3					Volts
Maximum DC Reverse Current at rated DC Blocking Voltage	$T_A = 25^\circ\text{C}$	5.0					μA
	$T_A = 125^\circ\text{C}$	200					
Maximum Reverse Recovery Time(NOTE 3)	t_{rr}	150		250	500		nS
Typical Junction Capacitance (NOTE 1)	C_J	15					pF
Typical Thermal Resistance (NOTE 2)	$R_{\theta JA}$	50					$^\circ\text{C}/\text{W}$
Operating Temperature Range	T_J	(-55 to +150)					$^\circ\text{C}$
Storage Temperature Range	T_{STG}	(-55 to +150)					$^\circ\text{C}$

Notes:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance from Junction to Ambient at 0.375" (9.5mm) lead length, P.C board mounted.
3. Test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$.



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CURRENT 1.0 Ampere

RATING AND CHARACTERISTIC CURVES 1N4942G THRU 1N4948G

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

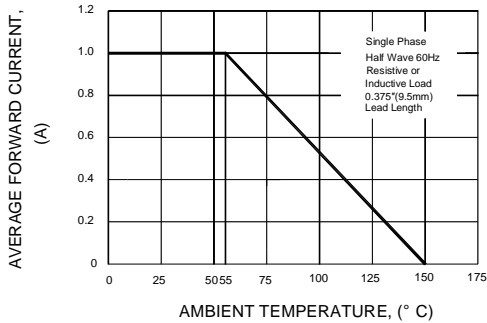


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

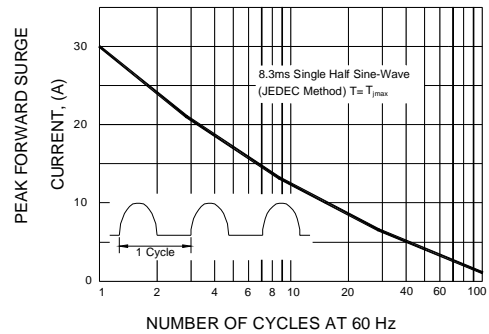


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

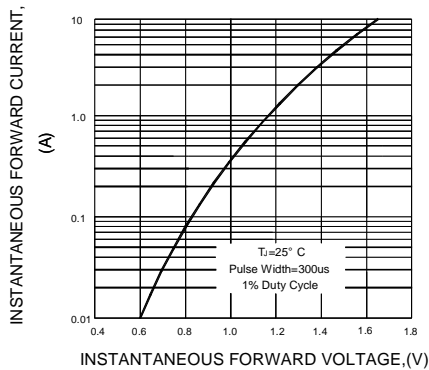


FIG.4-TYPICAL REVERSE CHARACTERISTICS

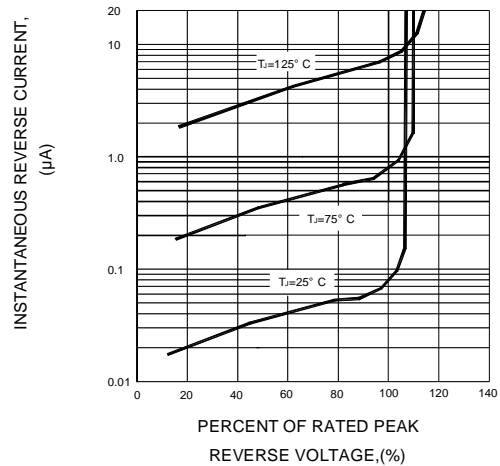


FIG.5-TYPICAL JUNCTION CAPACITANCE

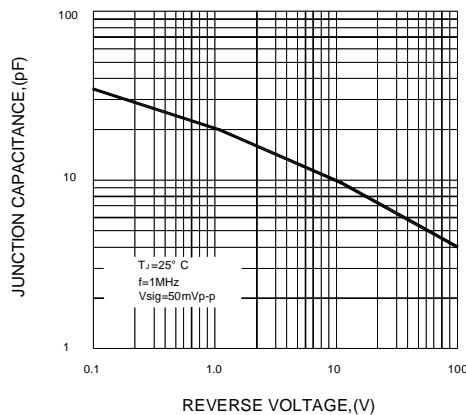
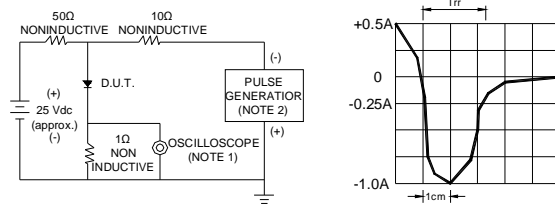


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES : 1. Rise Time = 7ns max. Input Impedance = 1 magohm, 22pF
2. Rise time = 10ns max. Source Impedance = 50 ohms

SET TIME BASE FOR 50/100ns/cm