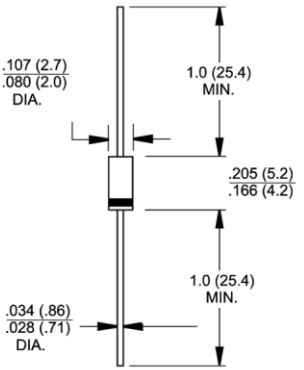
1N4942 thru 1N4948

1.0 Amp. Fast Recovery Rectifiers
Voltage Range 200 to 1000 Volts Forward Current 1.0 Ampere

Features

- ◆ High switching capability
- ◆ Low leakage
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High surge current capability

DO-204AL (DO-41)



Dimensions in inches and (millimeters)

Mechanical Data

- ◆ Case: Molded plastic
- ◆ Epoxy: UL 94V-O rate flame retardant
- ◆ Lead: MIL-STD-202E method 208C guaranteed
- ◆ Mounting position: Any
- ◆ Weight: 0.012 ounce, 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%

Parameter	Symbols	1N4942	1N4944	1N4946	1N4947	1N4948	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 at T_A=75°C	$I_{F(AV)}$	1.0					Amp
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0					Amps
Maximum instantaneous forward voltage at 1.0A DC	V_F	1.2					Volts
Maximum DC reverse current at rated DC blocking voltage T_A=25°C	I_R	5.0					uA
Maximum full load reverse current full cycle average, .375" (9.5mm) lead length at T_L=55°C		100					uA
Maximum reverse recovery time (Note 1)	t_{rr}	150		250		500	nS
Typical junction capacitance (Note 2)	C_J	15					pF
Operating and storage temperature range	T_J, T_{STG}	-65 to +150					°C

Notes: 1. Test Conditions: I_F = 1.5A, I_R = 1.0A, I_{RR} = 0.25A
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts

RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

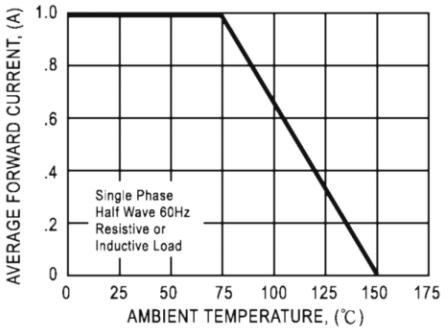


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

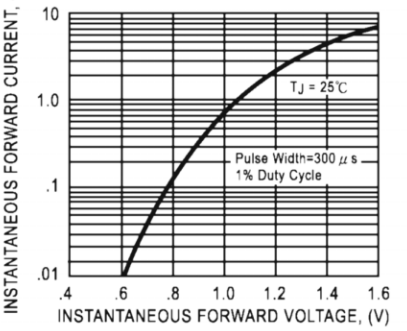


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

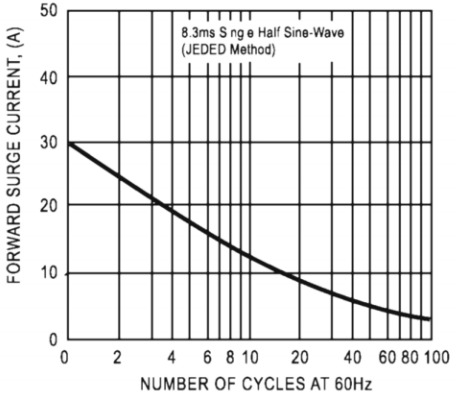


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

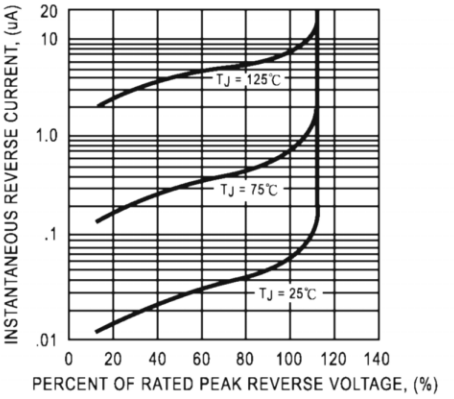


FIG. 3 - TYPICAL JUNCTION CAPACITANCE

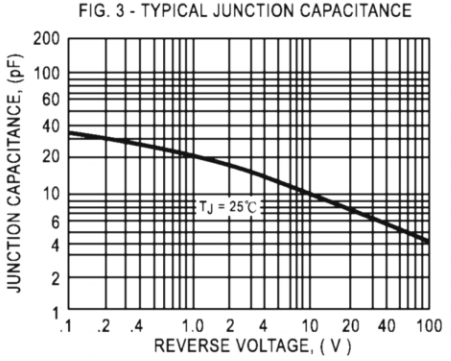


FIG. 6 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC