

FAST RECOVERY RECTIFIER

VOLTAGE RANGE: 1200 --- 2000 V
CURRENT: 0.5 A

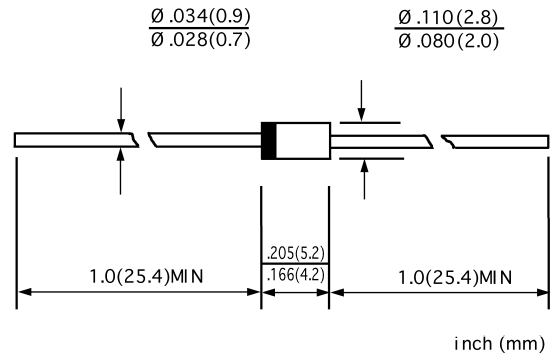
FEATURES

- Low cost
- Diffused junction
- Low leakage
- Low forward voltage drop
- High current capability
- Easily cleaned with Freon, Alcohol, Isopropanol and similar solvents
- The plastic material carries U/L recognition 94V-0

MECHANICAL DATA

- Case: JEDEC DO-41, molded plastic
- Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode
- Weight: 0.339 grams
- Mounting position: Any

DO - 41



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%.

		RGP02 -12E	RGP02 -14E	RGP02 -16E	RGP02 -18E	RGP02 -20E	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	1200	1400	1600	1800	2000	V
Maximum RMS voltage	V_{RMS}	840	980	1120	1260	1400	V
Maximum DC blocking voltage	V_{DC}	1200	1400	1600	1800	2000	V
Maximum average forward rectified current 9.5mm lead lengths, @ $T_A=75$	$I_{(AV)}$	0.5					A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125$	I_{FSM}	20					A
Maximum instantaneous forward voltage at 0.5 A	V_F	1.8					V
Maximum reverse current @ $T_A=25$ at rated DC blocking voltage @ $T_A=100$	I_R	5.0 50					μA
Maximum reverse recovery time (Note1)	t_{rr}	300					ns
Typical junction capacitance (Note2)	C_J	5					pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	80					/W
Operating junction temperature range	T_J	- 65 --- +150					
Storage temperature range	T_{STG}	- 65 --- + 150					

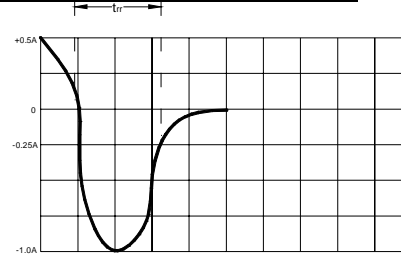
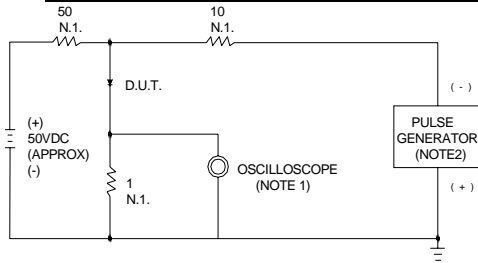
NOTE:1. Measured with $I_F=0.5A$, $I_R=1A$, $t_r=0.25A$.

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

3. Thermal resistance from junction to ambient.

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FIG.1 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

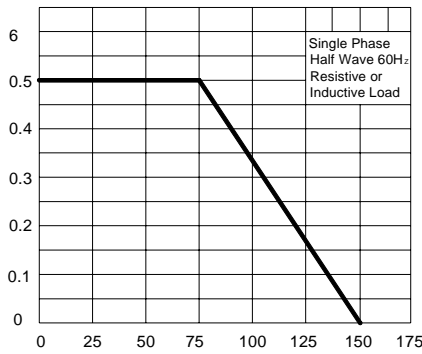


NOTES: 1. RISE TIME = 75ns MAX. INPUT IMPEDANCE = 1MΩ .22pF
 2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50Ω

SET TIME BASE FOR 50/100 ns /cm

FIG.2 –DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

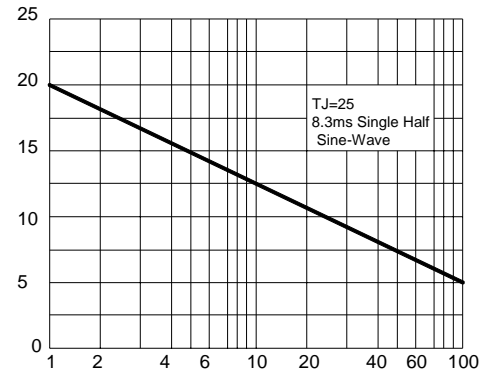
AVERAGE FORWARD OUTPUT CURRENT AMPERES



AMBIENT TEMPERATURE,

FIG.3 –MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

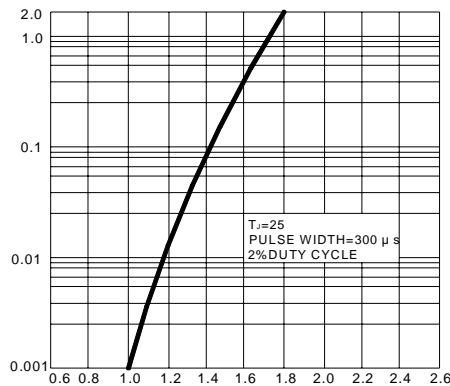
PEAK FORWARD SURGE CURRENT AMPERES



NUMBER OF CYCLES AT 60 Hz

FIG.4-TYPICAL FORWARD CHARACTERISTIC

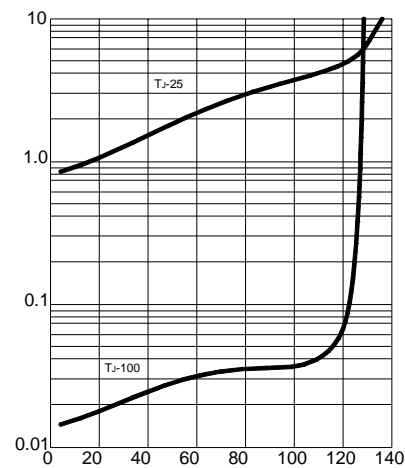
FORWARD CURRENT AMPERES



FORWARD VOLTAGE, VOLTS

FIG.5-TYPICAL REVERSE CHARACTERISTICS

REVERSE CURRENT, MICRO AMPERES



PERCENT OF RATED REVERSE VOLTAGE, %