

FAST RECOVERY RECTIFIER

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

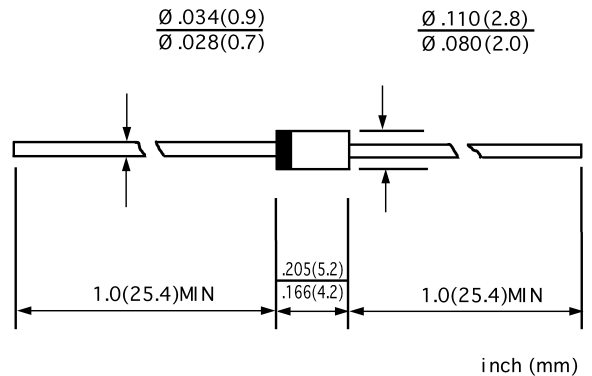
FEATURES

- 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					

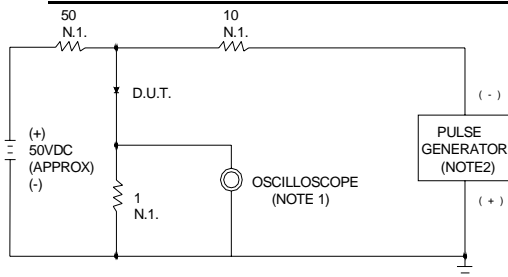
NOTE:1. Measured with $I_F=0.5A$, $I_R=1A$, $I_{rr}=0.25A$.

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



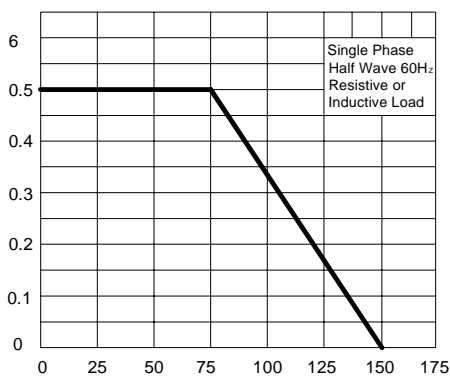
NOTES: 1. RISE TIME=75ns MAX. INPUT IMPEDANCE=1MΩ .22pF
 2. RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω



SET TIME BASE FOR 50/100 ns /cm

FIG.2 –DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

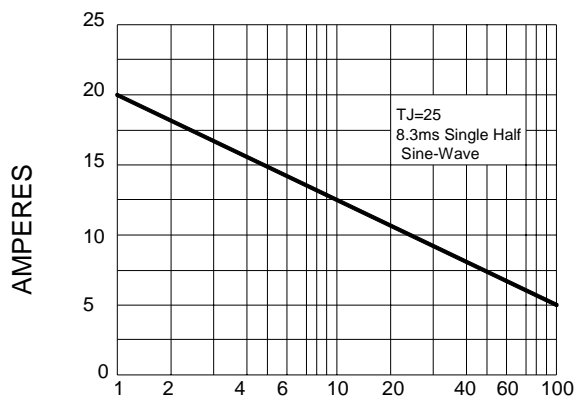
AVERAGE FORWARD OUTPUT CURRENT AMPERES



AMBIENT TEMPERATURE,

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

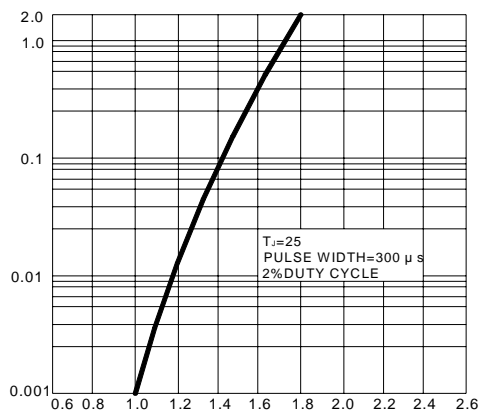
PEAK FORWARD SURGE CURRENT AMPERES



NUMBER OF CYCLES AT 60 Hz

FIG.4–TYPICAL FORWARD CHARACTERISTIC

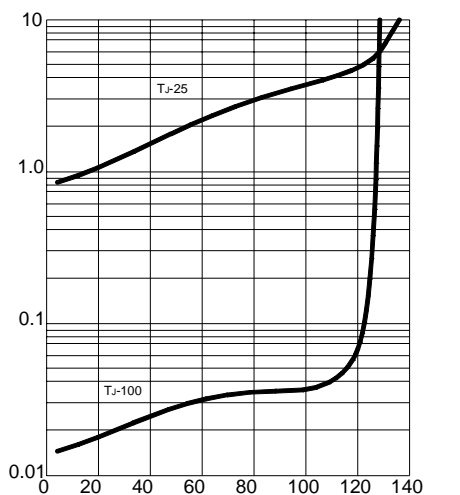
FORWARD CURRENT AMPERES



FORWARD VOLTAGE, VOLTS

FIG.5–TYPICAL REVERSE CHARACTERISTICS

REVERSE CURRENT, MICRO AMPERES



PERCENT OF RATED REVERSE VOLTAGE, %