

HIGH EFFICIENCY RECTIFIERS

VOLTAGE RANGE: 50 --- 400 V
CURRENT: 5.0 A

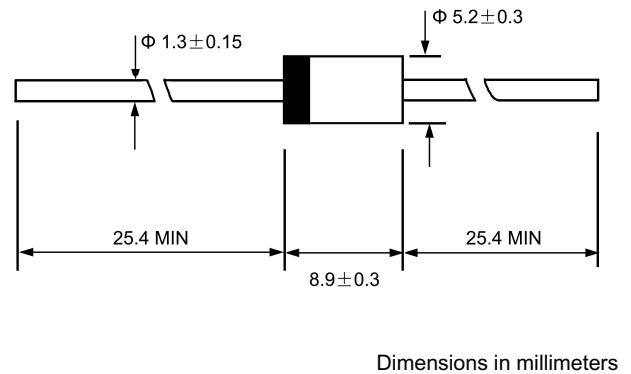
FEATURES

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

MECHANICAL DATA

- ◇ Case: JEDEC DO--27, molded plastic
- ◇ Terminals: Solderable per MIL- STD-750, Method 2026
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any

DO - 27



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%.

		EGP 50A	EGP 50B	EGP 50C	EGP 50D	EGP 50F	EGP 50G	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	150	200	300	400	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	V
Maximum average forward rectified current 9.5mm lead length @ $T_L=55^\circ\text{C}$	$I_{F(AV)}$	5.0						A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load	I_{FSM}	150						A
Maximum instantaneous forward voltage @ 5.0 A	V_F	0.95			1.25			V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	I_R	5.0 50						μA
Maximum reverse recovery time (Note1)	t_{rr}	50						ns
Typical junction capacitance (Note2)	C_J	95			75			pF
Typical thermal resistance (Note3)	$R_{\theta JL}$	5.0						$^\circ\text{C/W}$
Operating junction temperature range	T_J	- 55 ---- + 125						$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- + 150						$^\circ\text{C}$

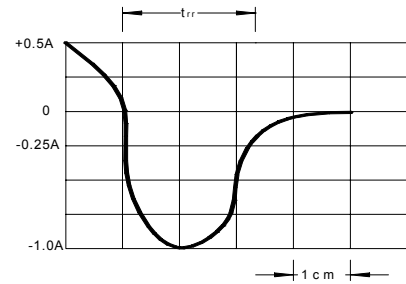
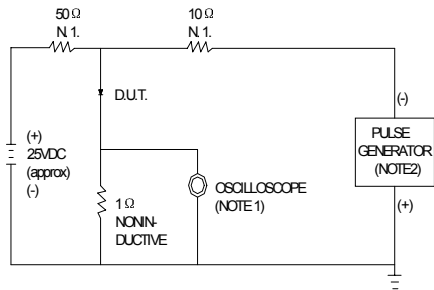
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.

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 –TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

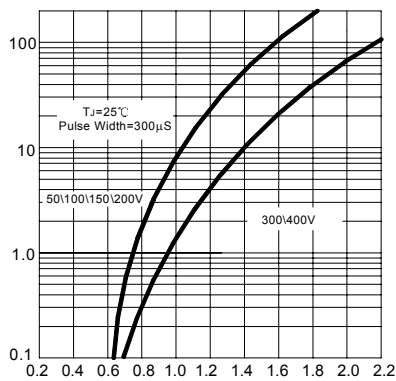


NOTES: 1. RISE TIME=7ns MAX.INPUT IMPEDANCE=1MΩ.22pF
2. RISE TIME=10ns MAX.SOURCE IMPEDANCE=50Ω

SET TIME BASE FOR 20 ns/cm

FIG.3 –TYPICAL FORWARD CHARACTERISTICS

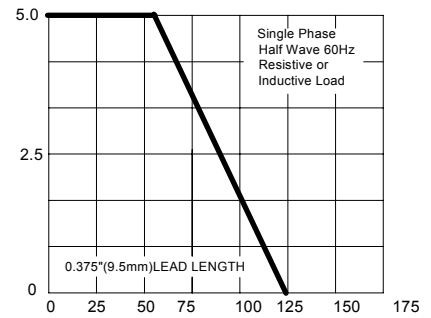
INSTANTANEOUS FORWARD CURRENT AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.4 –TYPICAL REVERSE CHARACTERISTICS

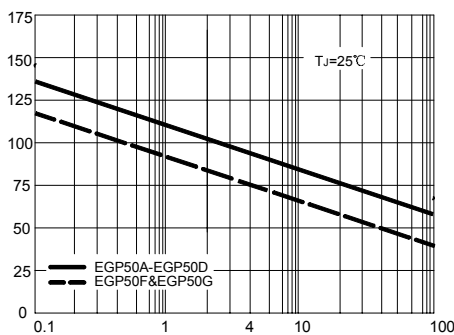
PEAK FORWARD SURGE CURRENT AMPERES



NUMBER OF CYCLES AT 60Hz

FIG.5 –TYPICAL JUNCTION CAPACITANCE

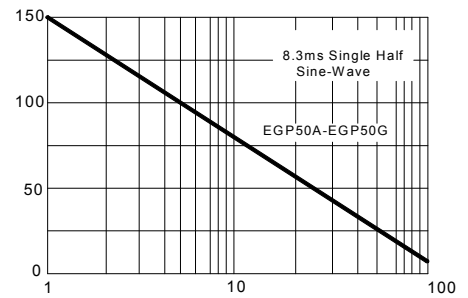
JUNCTION CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS

FIG.6 –FORWARD DERATING CURVE

AVERAGE FORWARD CURRENT AMPERES



LEAD TEMPERATURE, °C