TAIWAN SEMICONDUCTOR

The Smartest Choice

UG6005PT

60.0AMPS. Glass Passivated Ultra Fast Rectifiers

TO-3P/TO-247AD

Features

- ✧ Dual rectifier construction, positive center-tap
- ✧ Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ✧ Glass passivated chip junctions
- ✧ Superfast recovery time, high voltage
- ✧ Low forward voltage, high current capability
- ✧ Low thermal resistance
- ✧ Low power loss, high efficiency
- ✧ High temperature soldering guaranteed: 260°C / 10 seconds, 0.16"(4.06mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.

Pb-Free

RoHS COMPLIANT

Mechanical Data

- ✧ Cases: JEDEC TO-3P/TO-247AD molded plastic
- ✧ Terminals: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Weight: 6.2 grams

Ordering Information

Part No.	Package	Packing	Packing code	Packing code (Green)
UG6005PT	TO-3P	900 / Bulk Packing	C0	C0G

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	UG6005PT	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	300	V
Maximum RMS Voltage	V_{RMS}	210	V
Maximum DC Blocking Voltage	V_{DC}	300	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	60	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	300	A
Maximum Instantaneous Forward Voltage @ 30A (Note 1)	V_F	1.25	V
Maximum DC Reverse Current at @ T_A=25 ℃ Rated DC Blocking Voltage @ T_A=125℃	I_R	5 600	uA
Maximum Reverse Recovery Time (Note 2)	Trr	35	nS
Typical Thermal Resistance	$R_{\theta JC}$	1.0	°C/W
Operating Temperature Range	T_J	- 55 to + 175	°C
Storage Temperature Range	T_{STG}	- 55 to + 175	°C

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, Recover to 0.25A.

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RATINGS AND CHARACTERISTIC CURVES (UG6005PT)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

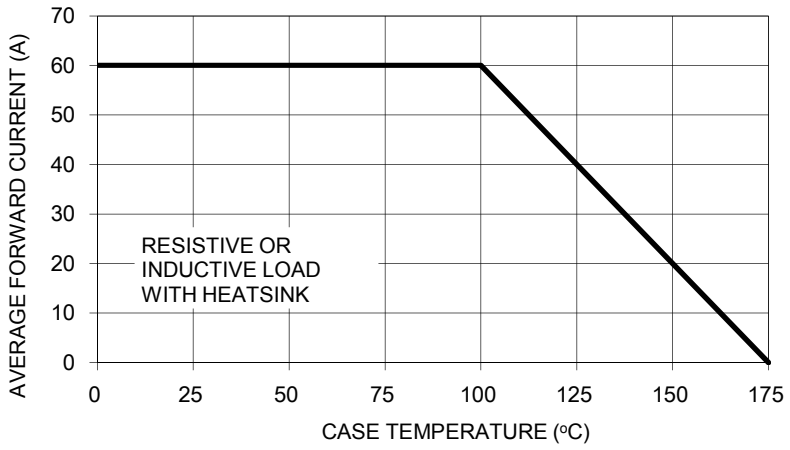


FIG. 2- TYPICAL REVERSE CHARACTERISTICS PER LEG

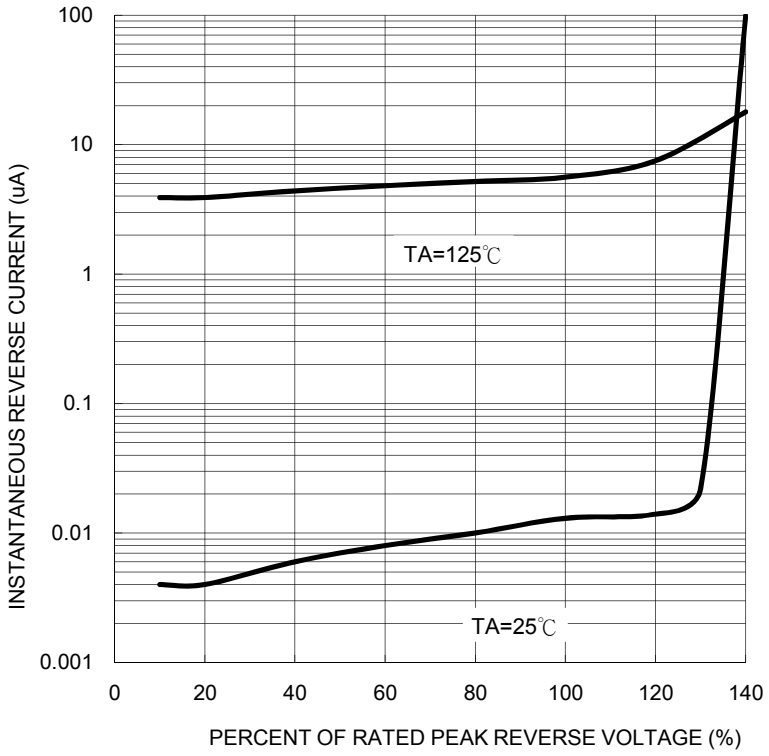


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

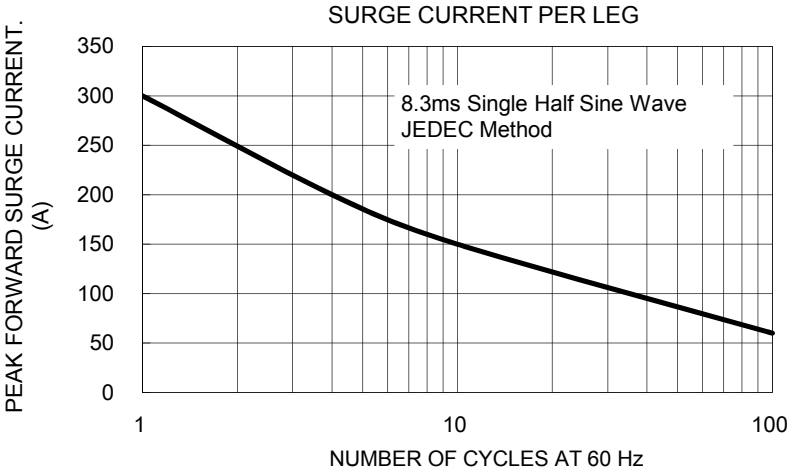


FIG. 4- TYPICAL JUNCTION CAPACITANCE PER LEG

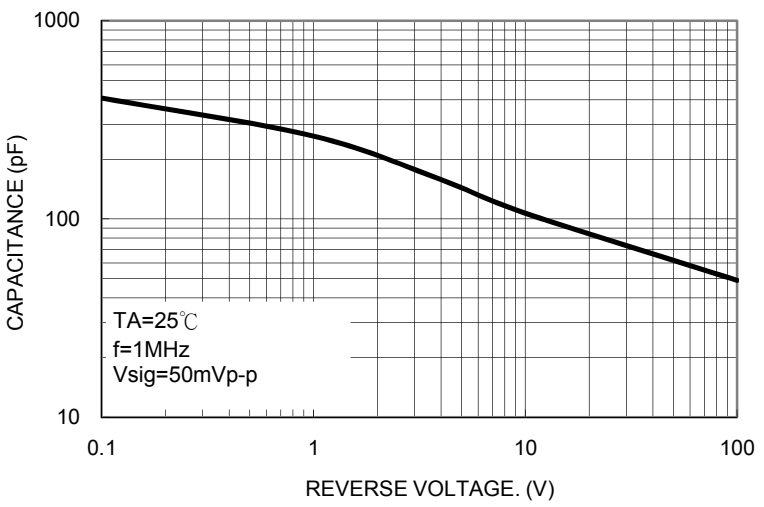


FIG. 5- TYPICAL INSTANEOUS FORWARD CHARACTERISTICS PER LEG

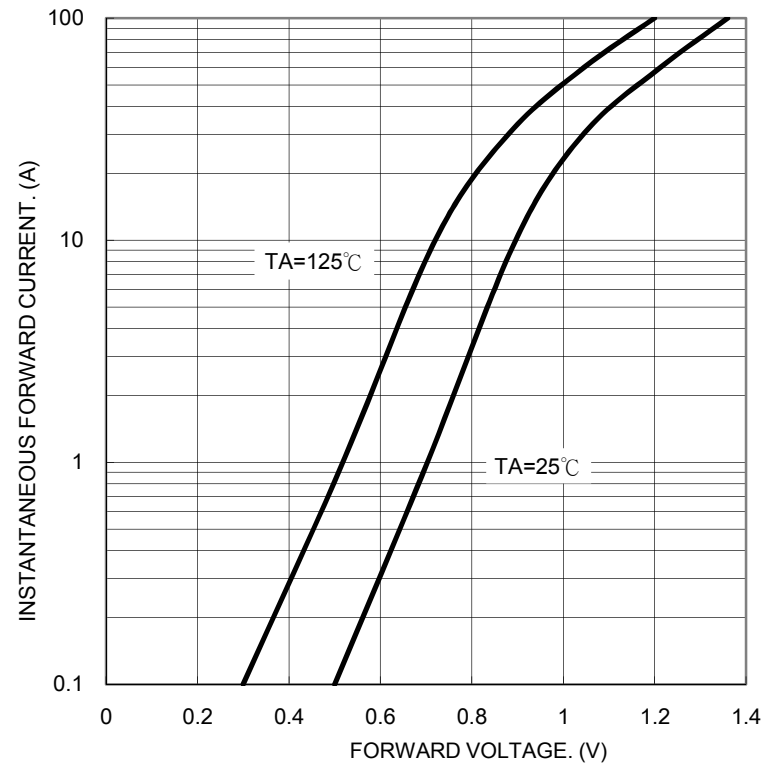
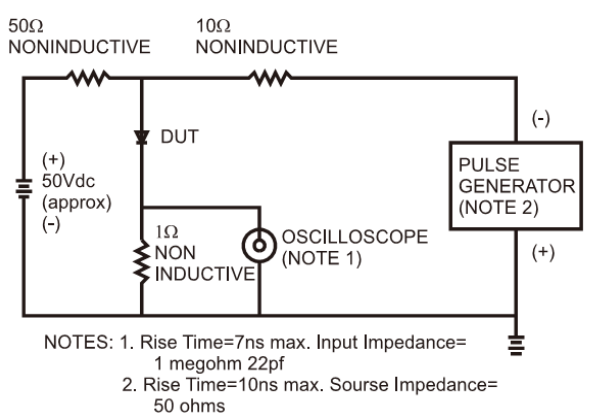
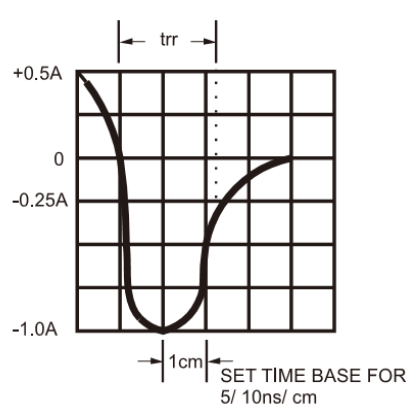
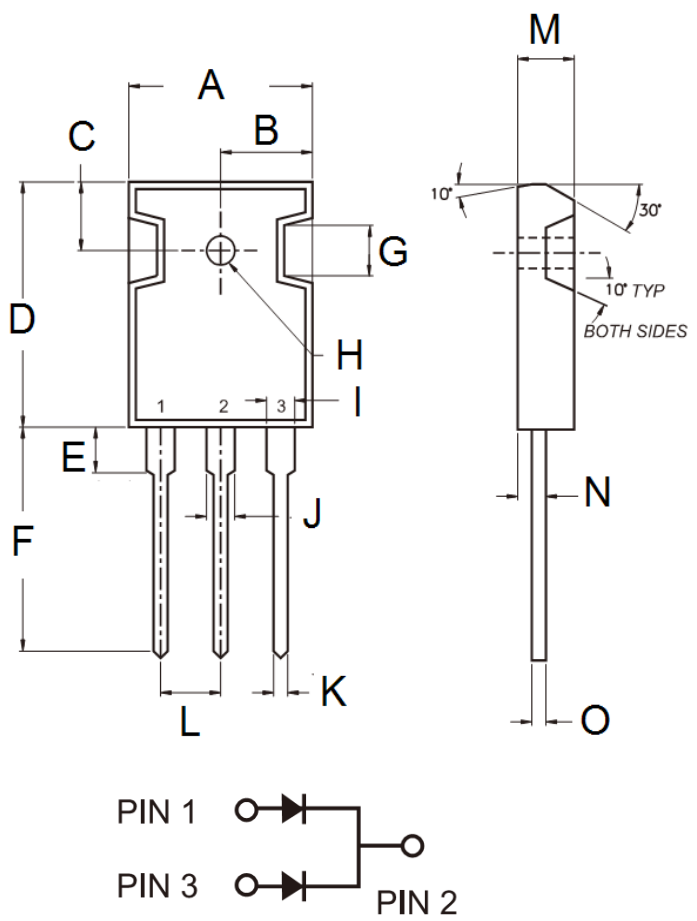


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM





Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	15.90	16.40	0.626	0.646
B	7.90	8.20	0.311	0.323
C	5.70	6.20	0.224	0.244
D	20.80	21.30	0.819	0.839
E	3.50	4.10	0.138	0.161
F	19.70	20.20	0.776	0.795
G	-	4.30	-	0.169
H	2.90	3.40	0.114	0.134
I	1.93	2.18	0.076	0.086
J	2.97	3.22	0.117	0.127
K	1.12	1.22	0.044	0.048
L	5.20	5.70	0.205	0.224
M	4.90	5.16	0.193	0.203
N	2.70	3.00	0.106	0.118
O	0.51	0.76	0.020	0.030

Marking Diagram

P/N = Specific Device Code
G = Green Compound
YWW = Date Code