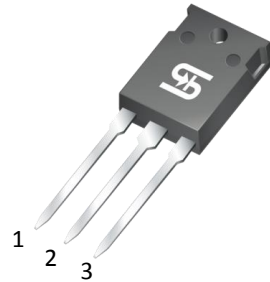


## 30A, 50V - 600V Glass Passivated High Efficient Rectifiers

### FEATURES

- Superfast recovery time, high voltage
- Low forward voltage, high current capability
- Low thermal resistance
- Low power loss, high efficiency
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



### MECHANICAL DATA

**Case:** TO-247AD (TO-3P)

Molding compound, UL flammability classification rating 94V-0

Part no. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free)

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

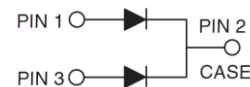
Meet JESD 201 class 2 whisker test

**Polarity:** As marked

**Mounting torque:** 10 in-lbs maximum

**Weight:** 5.6 g (approximately)

TO-247AD (TO-3P)



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	SYMBOL	HER 3001 PT	HER 3002 PT	HER 3003 PT	HER 3004 PT	HER 3005 PT	HER 3006 PT	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	300	400	600	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	210	280	420	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	300	400	600	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	30						A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	300						A
Maximum instantaneous forward voltage (Note 1) I <sub>F</sub> =15A	V <sub>F</sub>	1.0			1.3		1.7	V
Maximum reverse current @ rated V <sub>R</sub> T <sub>J</sub> =25°C T <sub>J</sub> =125°C	I <sub>R</sub>	10 500						μA
Maximum reverse recovery time (Note 2)	t <sub>rr</sub>	50					80	ns
Typical junction capacitance (Note 3)	C <sub>J</sub>	175					145	pF
Typical thermal resistance	R <sub>θJC</sub>	1.4						°C/W
Operating junction temperature range	T <sub>J</sub>	- 55 to +150						°C
Storage temperature range	T <sub>STG</sub>	- 55 to +150						°C

Note 1: Pulse test with PW=300μs, 1% duty cycle

Note 2: Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
HER30xxPT (Note 1)	H	C0	G	TO-247AD (TO-3P)	30 / Tube

Note 1: "xx" defines voltage from 50V (HER3001PT) to 600V (HER3006PT)

\*: Optional available

EXAMPLE					
PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
HER3006PTHCOG	HER3006PT	H	C0	G	AEC-Q101 qualified Green compound

**RATINGS AND CHARACTERISTICS CURVES**

(T<sub>A</sub>=25°C unless otherwise noted)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

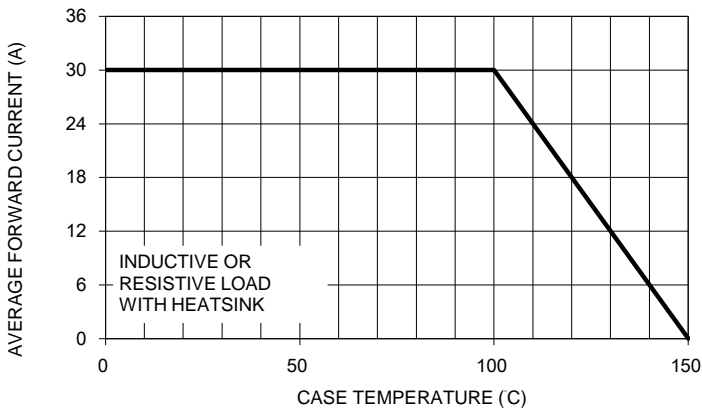


FIG. 2 TYPICAL REVERSE CHARACTERISTICS PER LEG

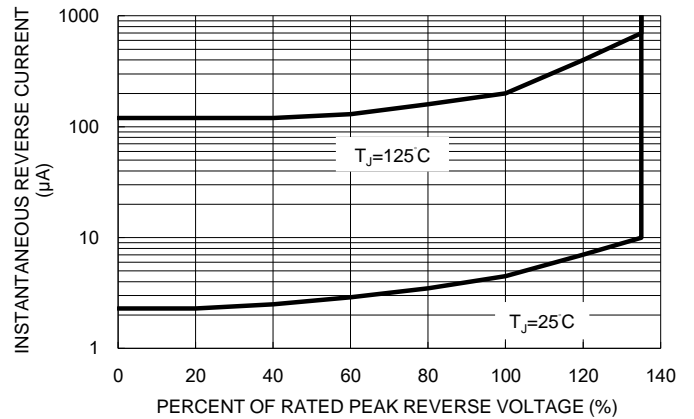


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

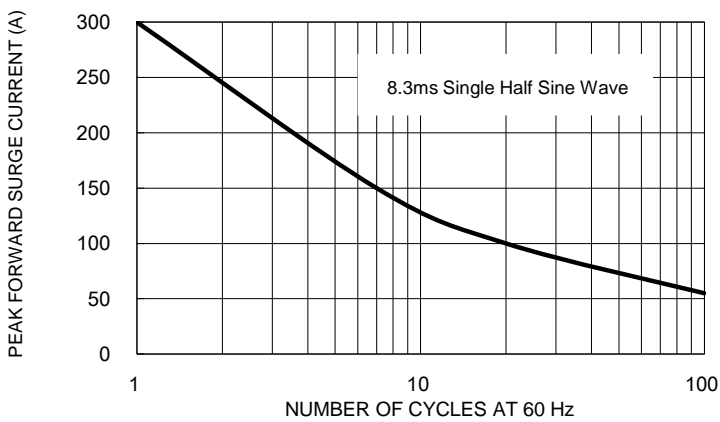


FIG. 4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

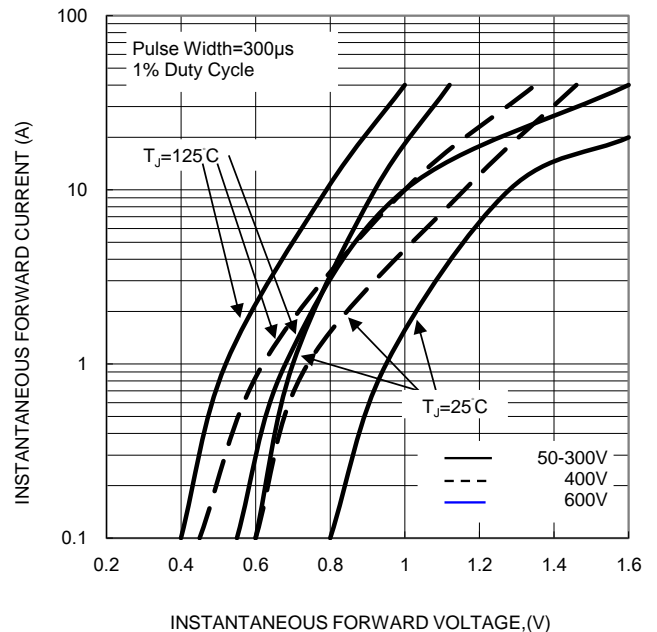


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

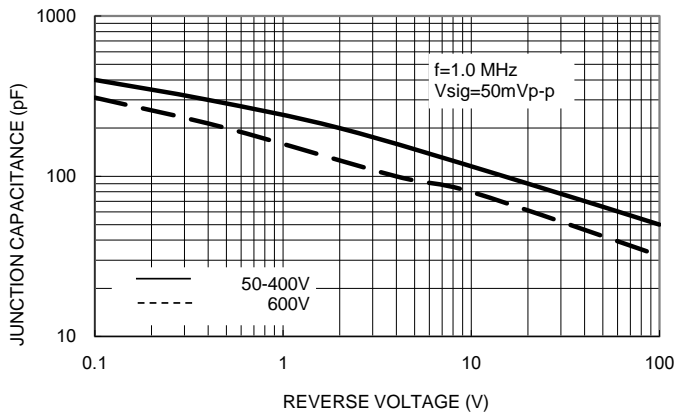
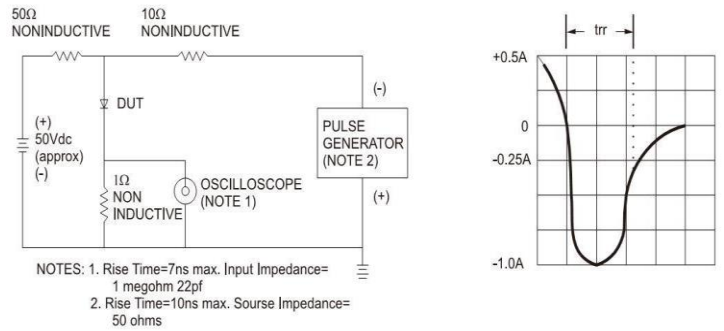
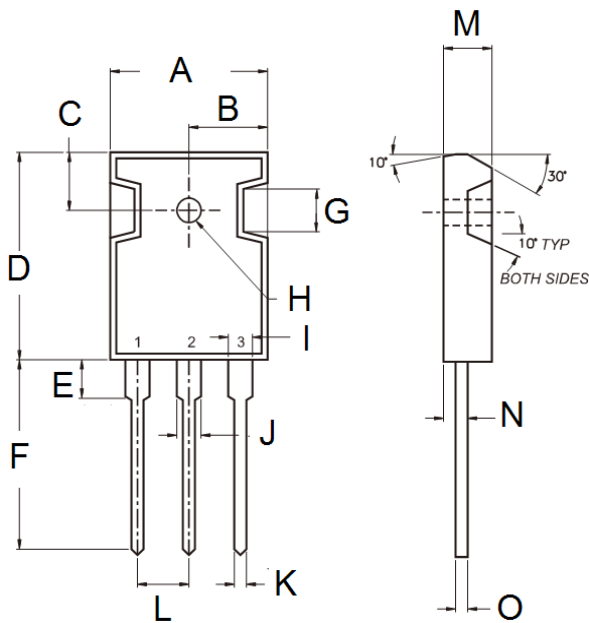


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



**PACKAGE OUTLINE DIMENSIONS**  
TO-247AD (TO-3P)



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
- F = Factory Code

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