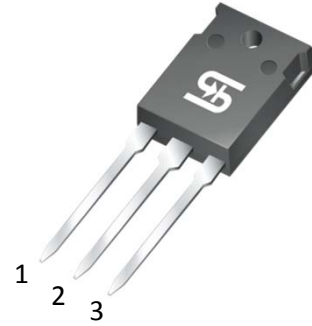


## 16A, 50V - 1000V Glass Passivated High Efficient Rectifiers

### 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

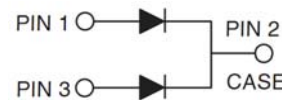
Meet JESD 201 class 2 whisker test

**Polarity:** As marked

**Mounting torque:** 1.13 Nm max.

**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 1601 PT	HER 1602 PT	HER 1603 PT	HER 1604 PT	HER 1605 PT	HER 1606 PT	HER 1607 PT	HER 1608 PT	UNIT	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	300	400	600	800	1000	V	
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	210	280	420	560	700	V	
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	300	400	600	800	1000	V	
Maximum average forward rectified current	I <sub>F(AV)</sub>	16								A	
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	200								A	
Maximum instantaneous forward voltage (Note 1) I <sub>F</sub> = 8 A	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>	85					60				pF
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: 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 DC.

**ORDERING INFORMATION**

PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
HER16xxPT (Note 1)	H	C0	G	TO-3P	50 / Tube

Note 1: "xx" defines voltage from 50V (HER1601PT) to 1000V (HER1608PT)

\*: Optional available

**EXAMPLE**

EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
HER1606PTHCG	HER1606PT	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

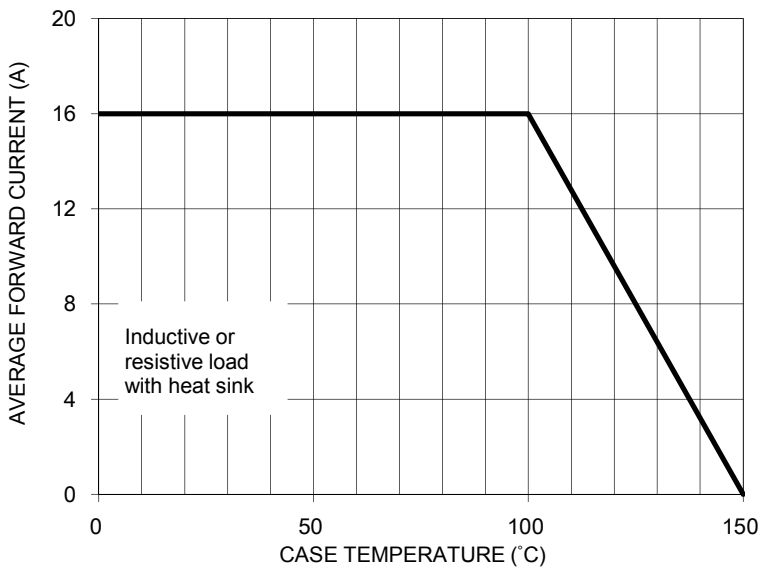


FIG. 2 TYPICAL REVERSE CHARACTERISTICS PER LEG

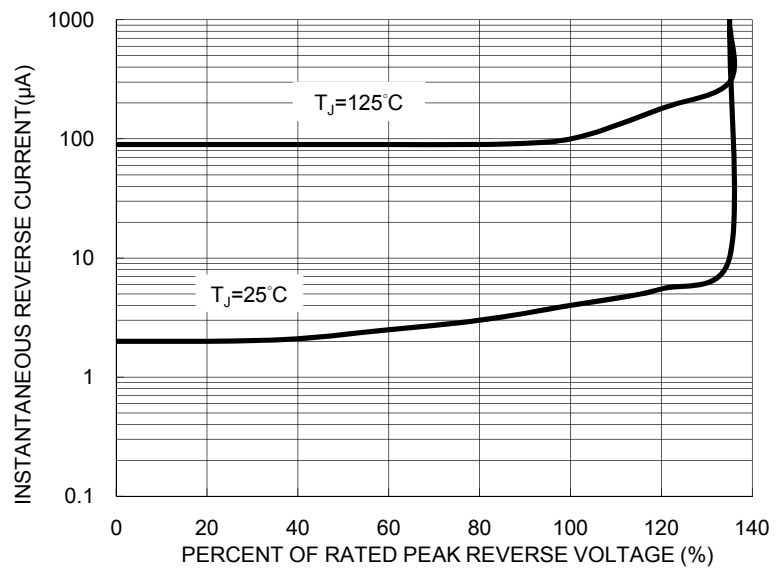


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

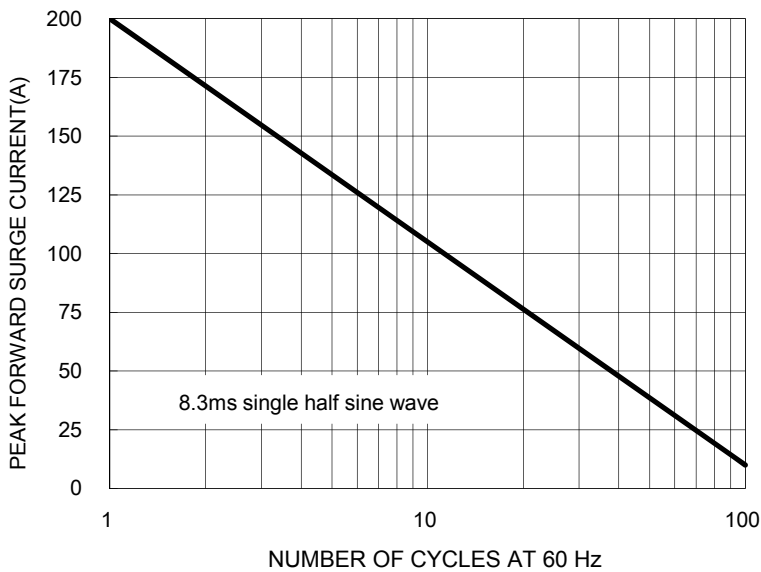


FIG. 4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

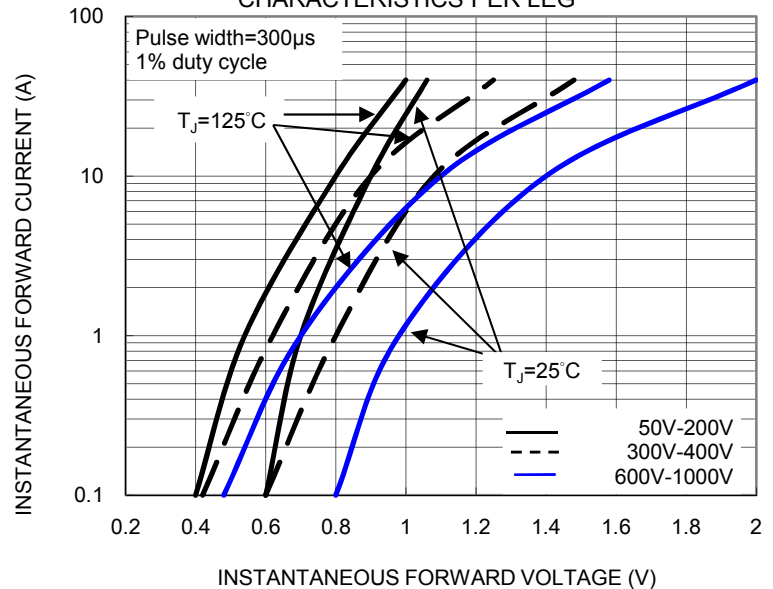


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

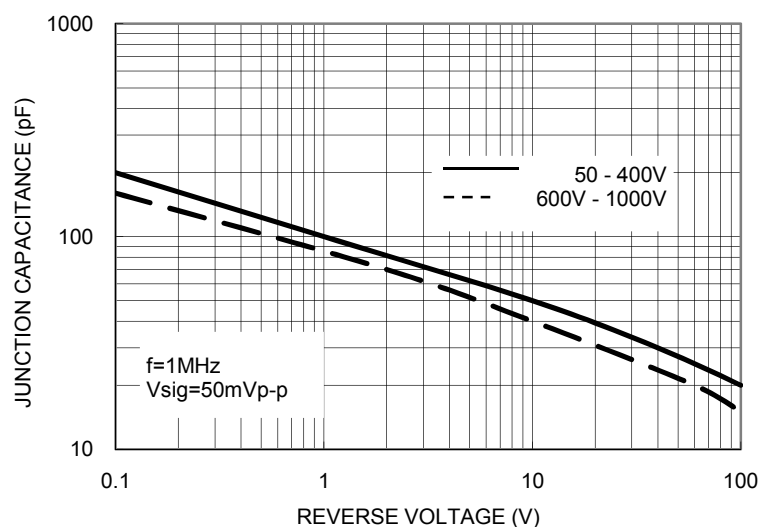
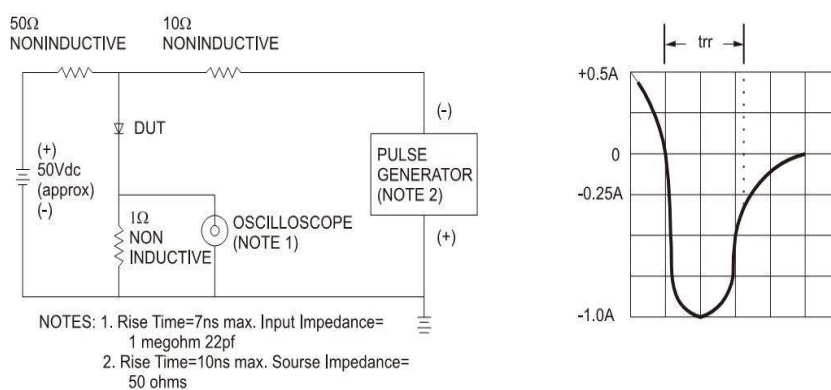
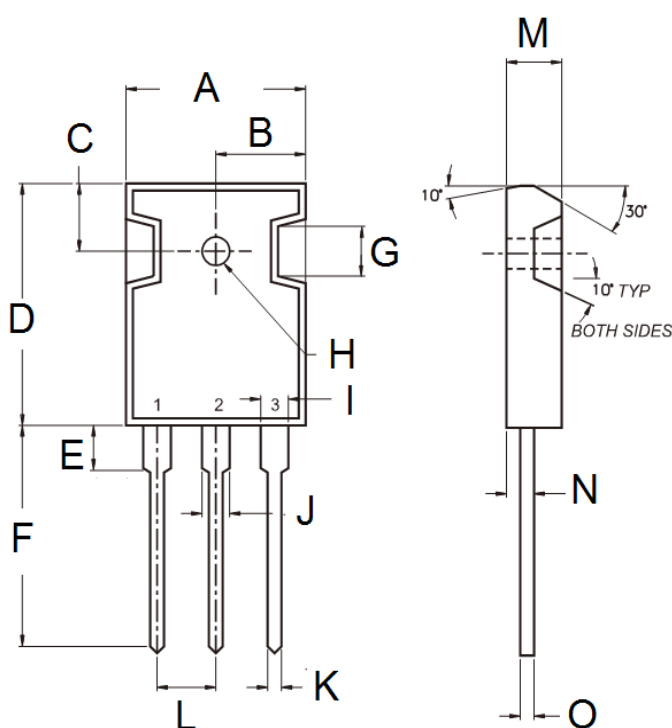


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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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