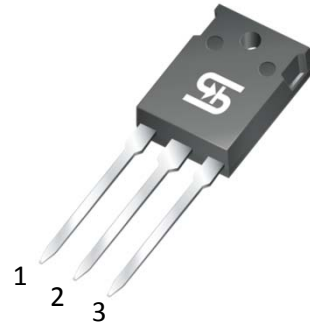


## 20A, 200V High Power Density Ultra Fast Rectifier

### FEATURES

- Dual rectifier construction, positive center-tap
- Ultrafast recovery time
- Low reverse recovery current
- Low forward voltage
- Reduces switching losses
- Reduces conduction losses
- Low thermal resistance ideal solution for high operation temperature
- 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

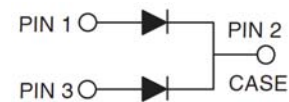
Meet JESD 201 class 2 whisker test

**Polarity:** As marked

**Mounting torque:** Maximum 1.13 Nm (10 lbf-in)

**Weight:** 6.1g (approximately)

### TO-247AD (TO-3P)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)			
PARAMETER	SYMBOL	UG2004PT	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	200	V
Maximum RMS voltage	V <sub>RMS</sub>	140	V
Maximum DC blocking voltage	V <sub>DC</sub>	200	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	20	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> = 10 A	V <sub>F</sub>	0.93	V
Maximum reverse current @ rated VR	I <sub>R</sub>	200	μA
Maximum reverse recovery time (Note 2)	t <sub>rr</sub>	25	ns
Typical thermal resistance	R <sub>θJC</sub>	1.5	°C/W
Operating junction temperature range	T <sub>J</sub>	- 55 to +175	°C
Storage temperature range	T <sub>STG</sub>	- 55 to +175	°C

Note 1: Pulse test with PW=300 μs, 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.

**ORDERING INFORMATION**

PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
UG2004PT	H	C0	G	ITO-220AB	50 / Tube

\*: Optional available

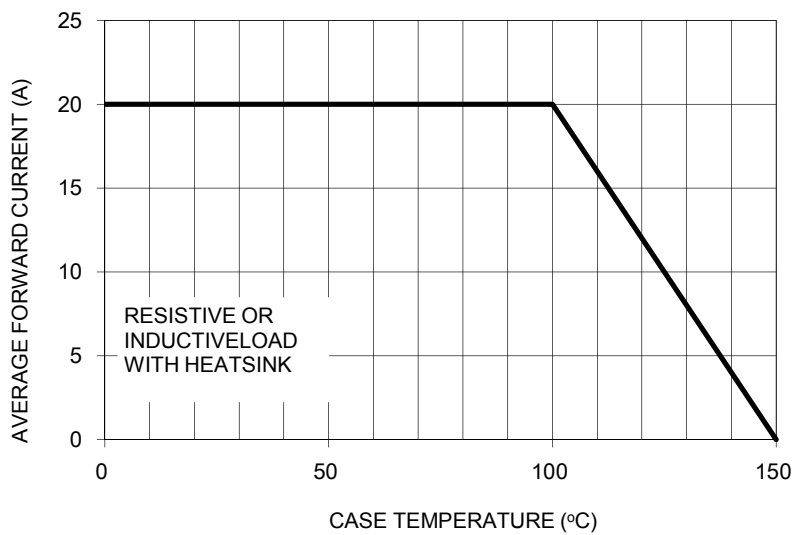
**EXAMPLE**

PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
UG2004PTH0G	UG2004PT	H	C0	G	AEC-Q101 qualified Green compound

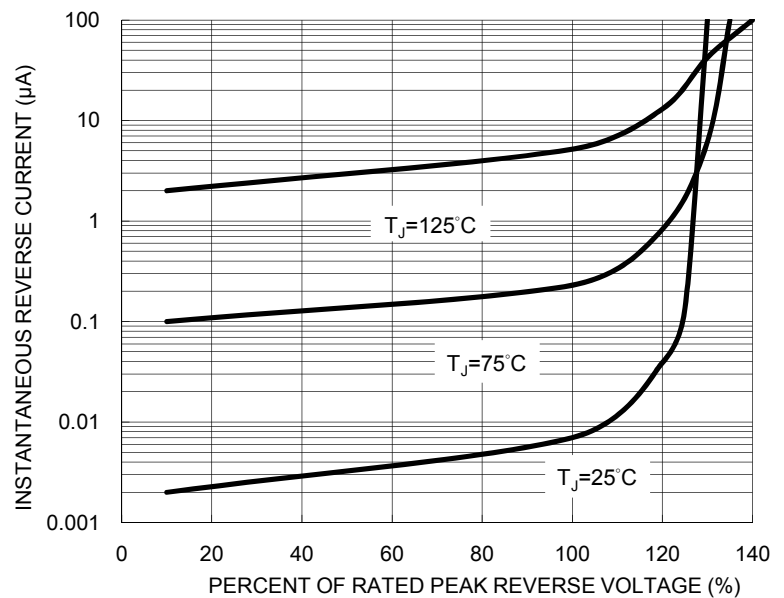
**RATINGS AND CHARACTERISTICS CURVES**

( $T_A=25^\circ\text{C}$  unless otherwise noted)

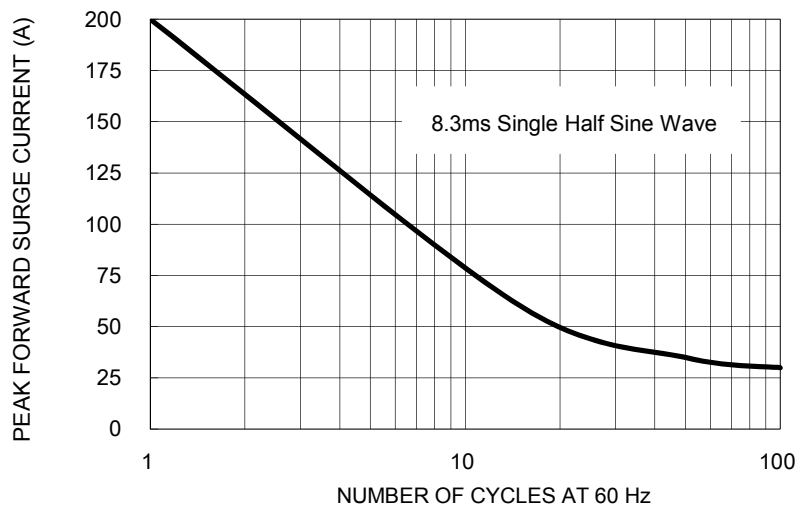
**FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE**



**FIG. 2 TYPICAL REVERSE CHARACTERISTICS**



**FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG. 4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

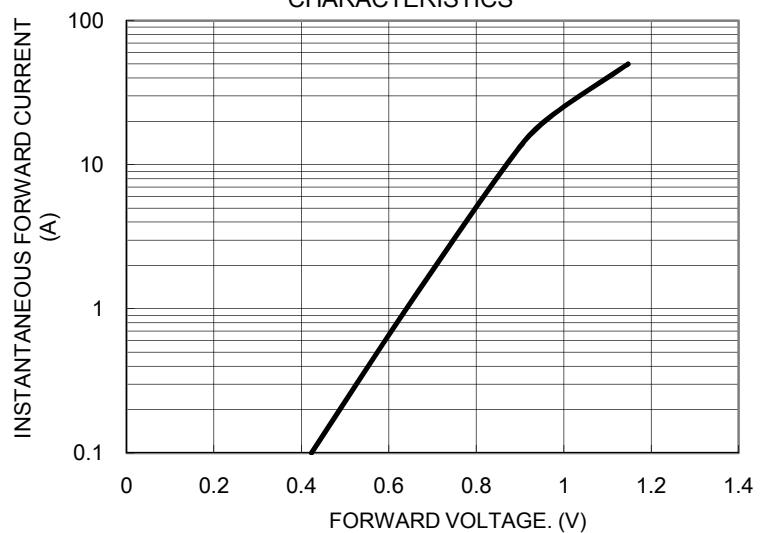


FIG. 5 TYPICAL JUNCTION CAPACITANCE

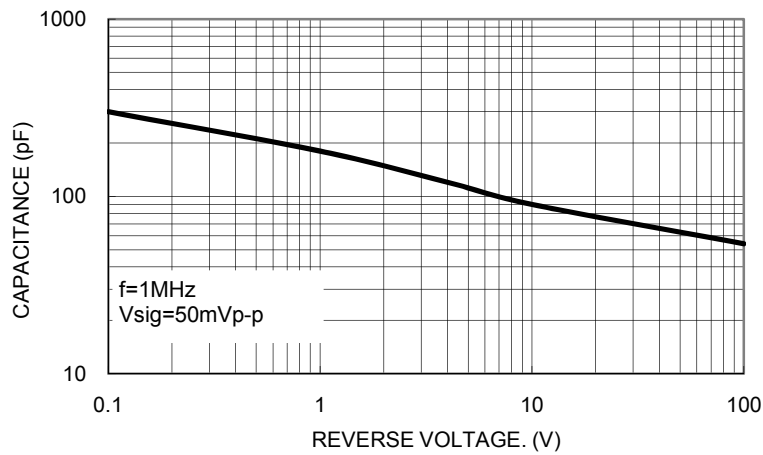
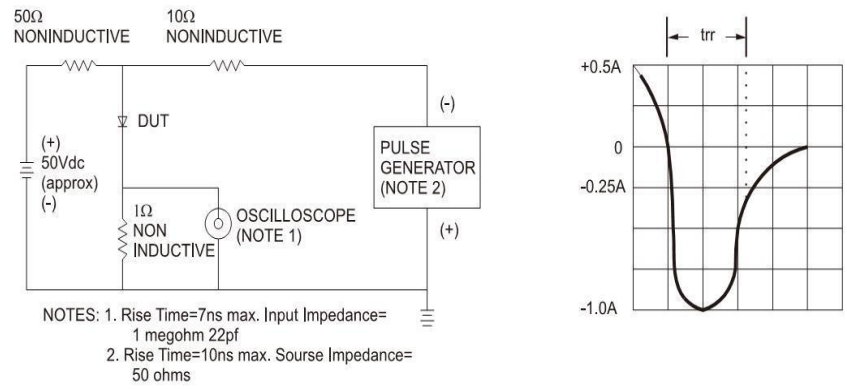
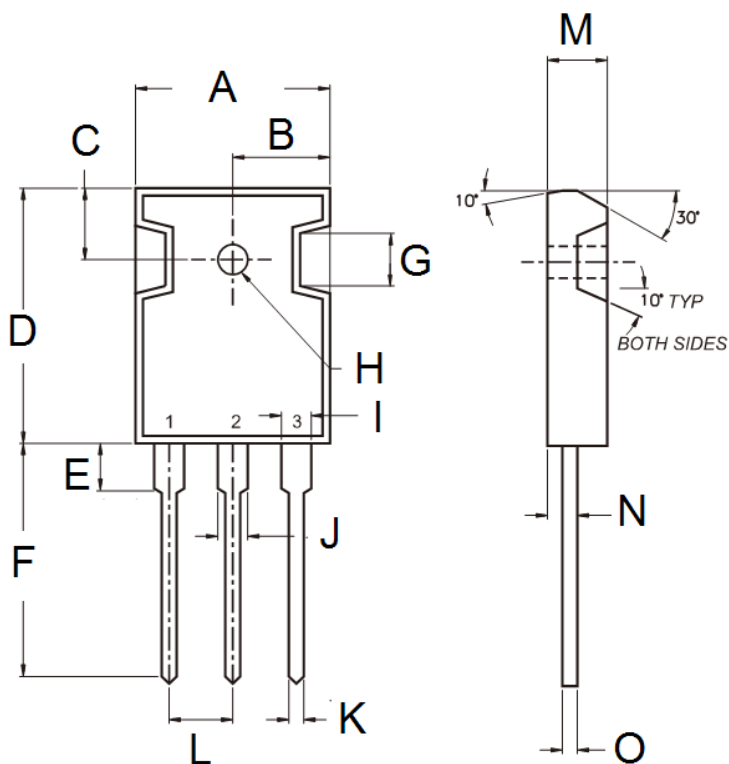


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

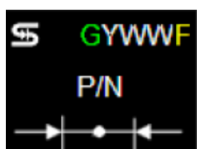


PACKAGE OUTLINE DIMENSIONS  
TO-247AD (TO-3P)



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 = Marking Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

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