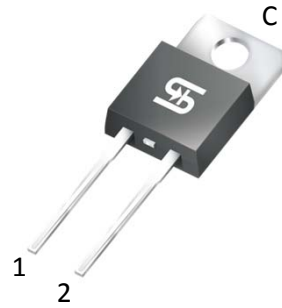


## 10A, 400V - 600V High Voltage UltraFast Rectifiers

### FEATURES

- High forward surge capability
- High reliability
- Ultra fast recovery time
- Low power loss
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



**TO-220AC**



### MECHANICAL DATA

**Case:** TO-220AC

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)

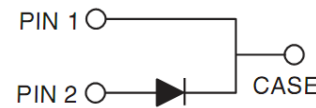
**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

**Polarity:** As marked

**Mounting torque:** 5 in-lbs maximum

**Weight:** 1.8 g (approximately)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)				
PARAMETER	SYMBOL	UG10G	UG10J	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	400	600	V
Maximum RMS voltage	V <sub>RMS</sub>	280	420	V
Maximum DC blocking voltage	V <sub>DC</sub>	400	600	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	10		A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	90		A
Maximum instantaneous forward voltage (Note 1) I <sub>F</sub> =10 A	V <sub>F</sub>	1.25	2.00	V
Maximum reverse current @ rated V <sub>R</sub>	I <sub>R</sub>	T <sub>J</sub> =25°C	10	μA
		T <sub>J</sub> =125°C	100	
Maximum reverse recovery time (Note 2)	t <sub>rr</sub>	25		ns
Typical thermal resistance (Note 3)	R <sub>θJC</sub>	3		°C/W
Operating junction temperature range	T <sub>J</sub>	- 55 to +175	- 55 to +150	°C
Storage temperature range	T <sub>STG</sub>	- 55 to +175	- 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: Mount on Heatsink size of 4" x 6" x 0.25" Al-plate

**ORDERING INFORMATION**

PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
UG10x (Note 1)	H	C0	G	TO-220AC	50 / Tube

Note 1: "x" defines voltage from 400V (UG10G) to 600V (UG10J)

\*: Optional available

**EXAMPLE**

PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
UG10GHC0G	UG10G	H	C0	G	AEC-Q101 qualified Green compound

**RATINGS AND CHARACTERISTICS CURVES**

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

FIG.1 FORWARD CURRENT DERATING CURVE

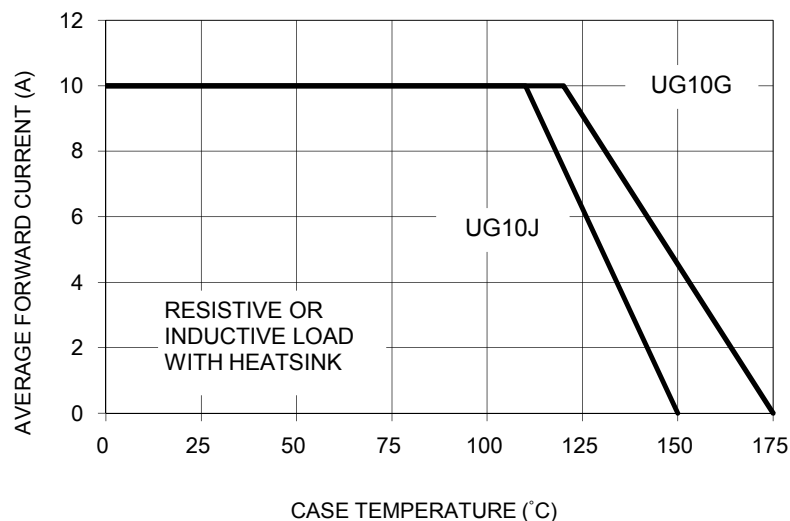


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

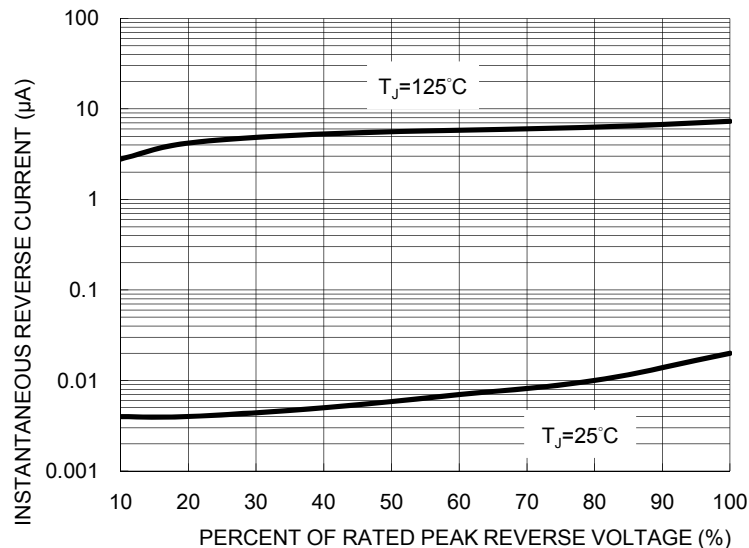


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

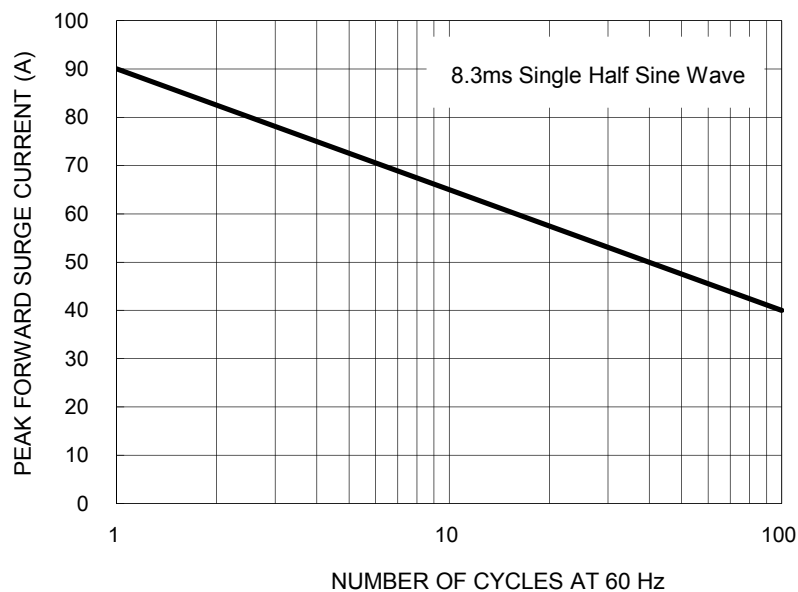


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

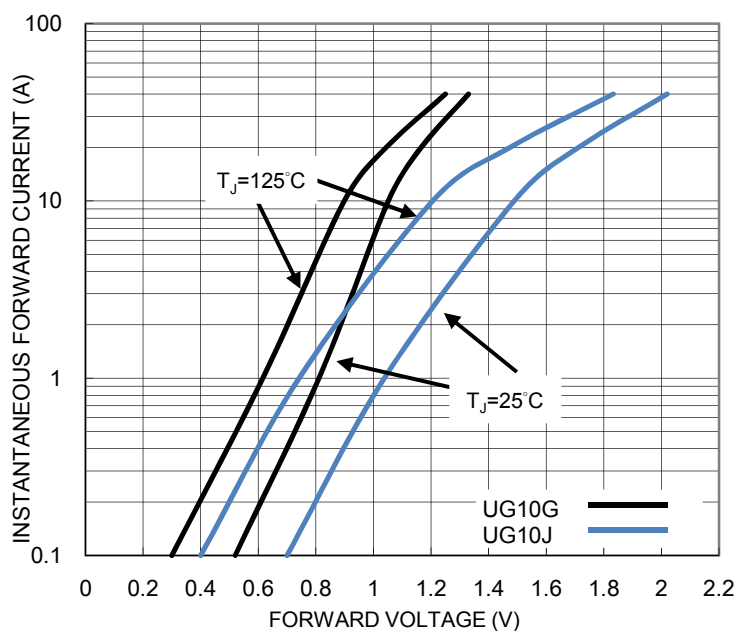
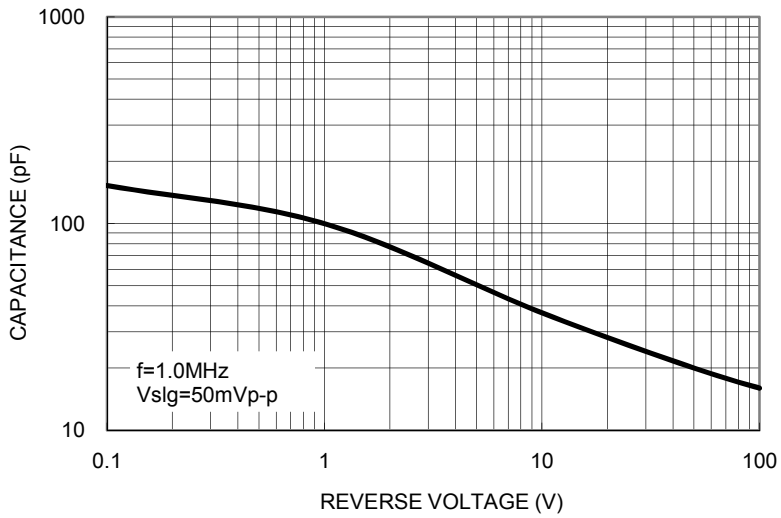
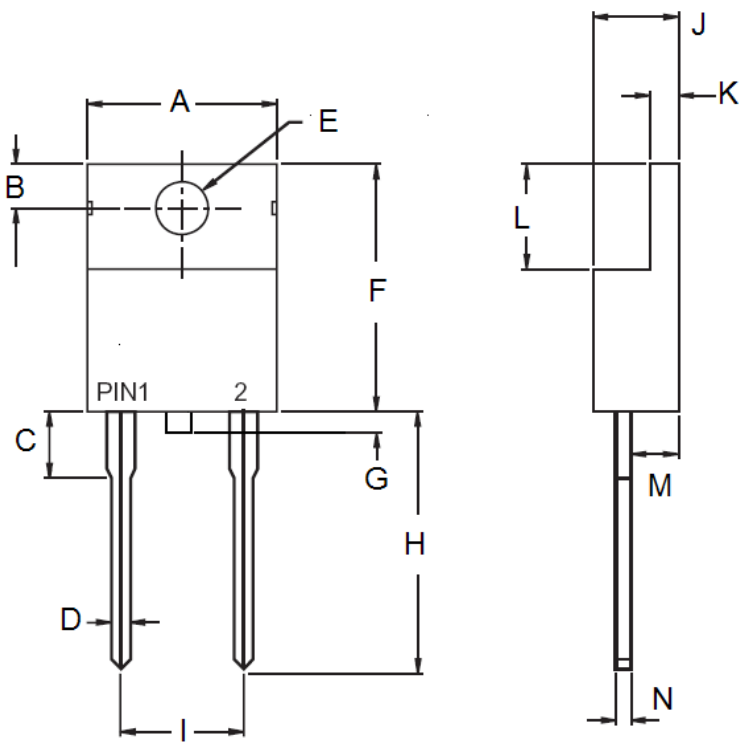


FIG. 5 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS

**TO-220AC**



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	-	10.50	-	0.413
B	2.62	3.44	0.103	0.135
C	2.80	4.20	0.110	0.165
D	0.68	0.94	0.027	0.037
E	3.54	4.00	0.139	0.157
F	14.60	16.00	0.575	0.630
G	0.00	1.60	0.000	0.063
H	13.19	14.79	0.519	0.582
I	4.95	5.20	0.195	0.205
J	4.42	4.76	0.174	0.187
K	1.14	1.40	0.045	0.055
L	5.84	6.86	0.230	0.270
M	2.20	2.80	0.087	0.110
N	0.35	0.64	0.014	0.025

MARKING DIAGRAM



- P/N = Marking Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

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