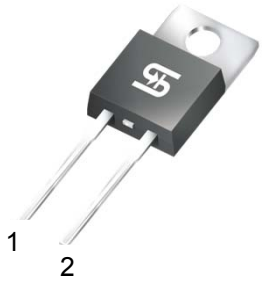
15A, 1200V Super Fast Power Rectifier

FEATURES

- Superfast, soft recovery characteristics
- High junction temperature up to 175°C
- Negligible leakage sustain the high operation temperature
- Planar passivated for voltage ruggedness and reliability
- Very low stored charge and its soft recovery minimize ringing and electronica noise to reduce power loss in associated MOSFET or IGBT
- High capability for high di/dt operation.
- High surge current capability
- 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

Pb-Free

RoHS COMPLIANT

TYPICAL APPLICATIONS

Ideal solution used as freewheeling diodes , features extremely low peak recovery current helping to significantly reduce snubbing, and lower switching losses in IGBT, especially as heavy duty applications demanding long term reliability.
Such as inverters , Uninterrupted Power Supply, motor drive and other mission-critical systems
where the high frequency and high efficiency is needed.
The series with negligible leakage, is an immediately competitive advantage for high temperature environment.

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: 0.56 Nm
Weight: 1.7g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)				
PARAMETER	SYMBOL	UGA15120		UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	1200		V
Maximum average forward rectified current	$I_{F(AV)}$	15		A
Non-repetitive peak forward surge current 8.3ms single sine-wave	I_{FSM}	200		A
Maximum instantaneous forward voltage (Note 1) I_F= 15 A	V_F	2.9		V
Maximum reverse current @ Rated V_R	I_R	TYP	MAX	
T_J=25 °C		1	5	μA
T_J=125 °C		5	100	
Reverse Recovery Time	t_{rr}	TYP	MAX	
T_J=25°C, I_F=0.5A, I_R=1A, I_{RR}=0.25A		48	58	ns
T_J=25°C, I_F=1A, dI_F/dt= -100A/μs, V_R=30V		-	65	
Typical thermal resistance	$R_{\theta JC}$	2		°C/W
Operating junction temperature range	T_J	- 55 to +175		°C
Storage temperature range	T_{STG}	- 55 to +175		°C

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

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
UGA15120	H	C0	G	TO-220AC	50 / Tube

*: Optional available

EXAMPLE					
PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
UGA15120HC0G	UGA15120	H	C0	G	AEC-Q101 qualified Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

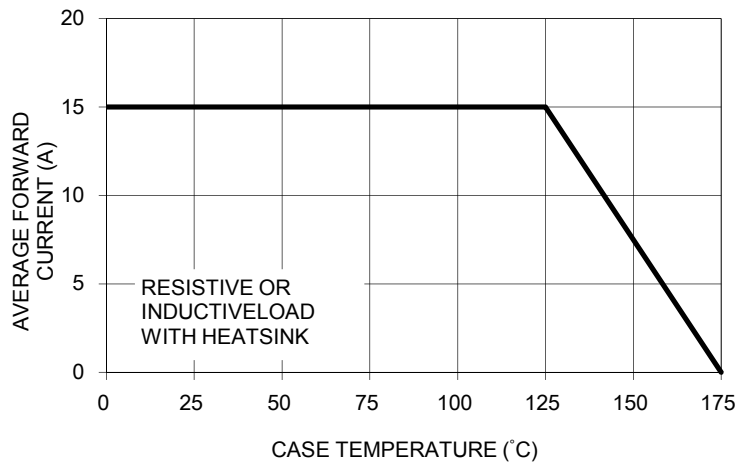


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

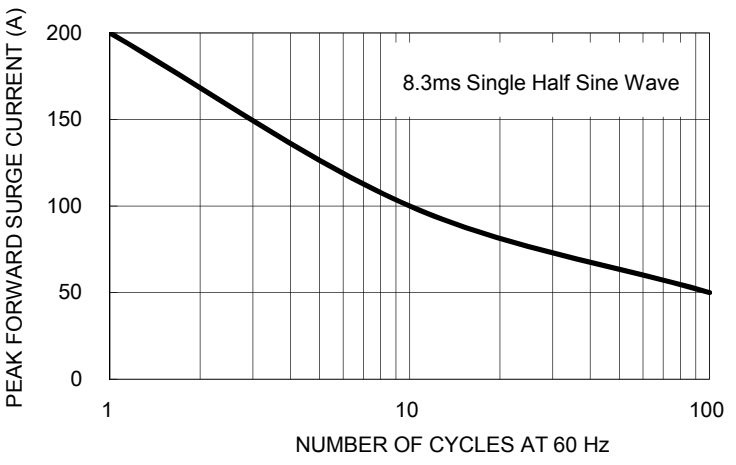


FIG. 3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

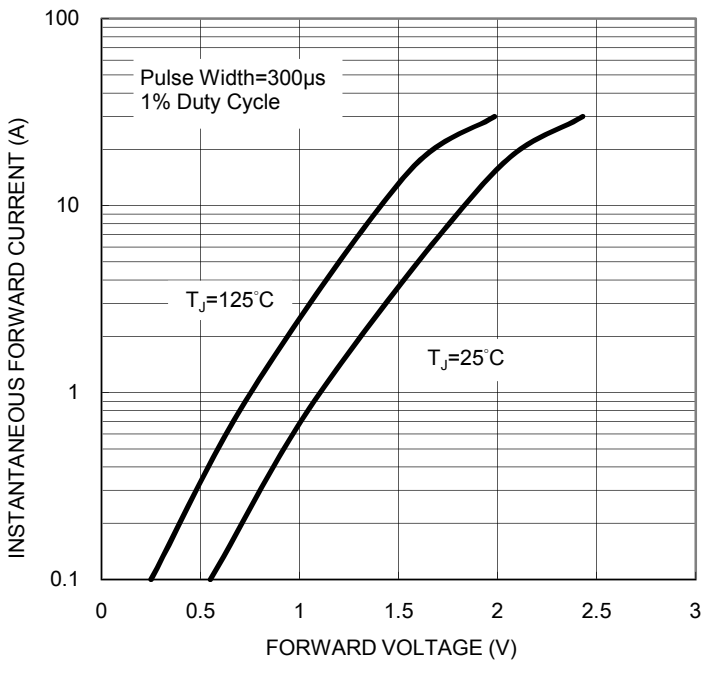


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

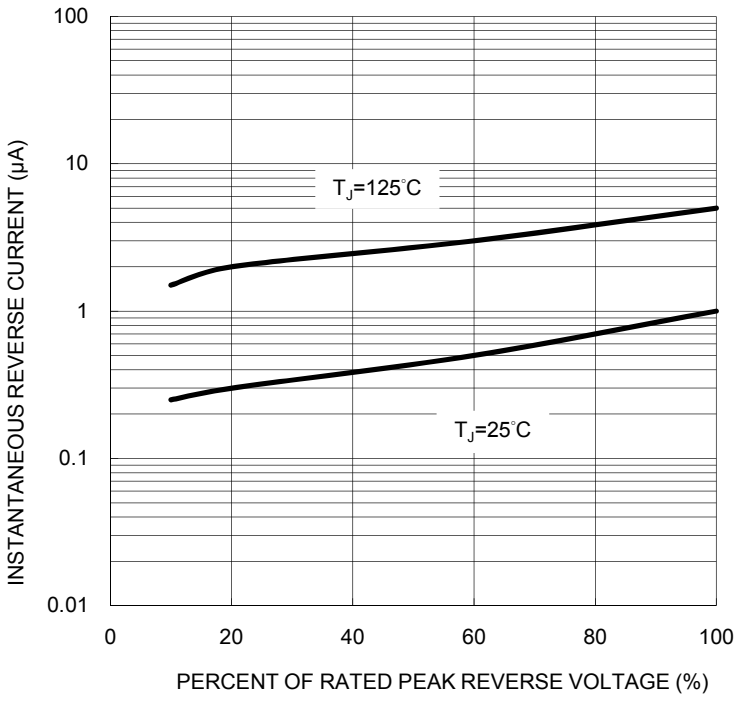
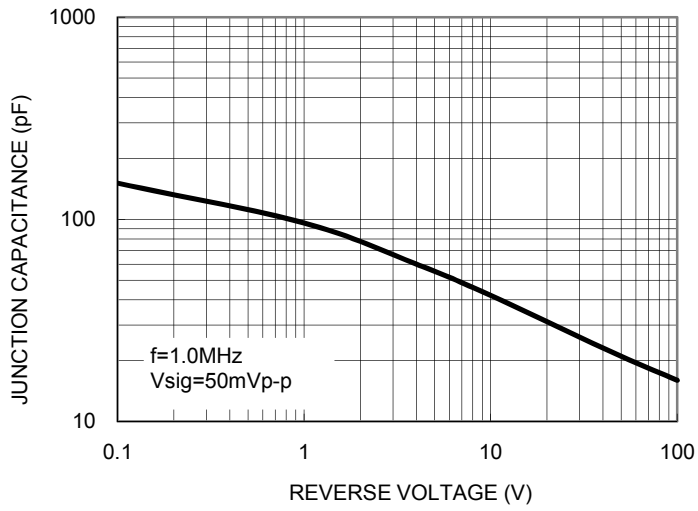
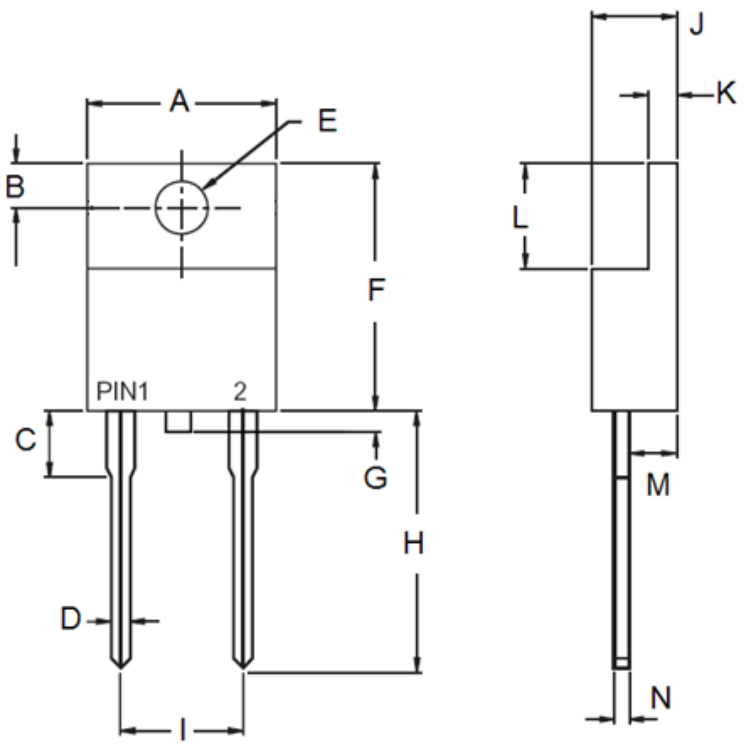


FIG. 5 TYPICAL JUNCTION CAPACITANCE



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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