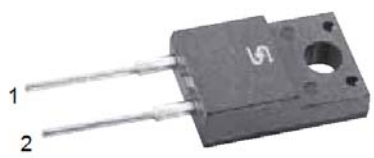
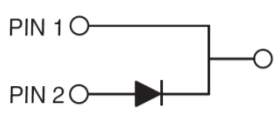
Isolated Ultra Fast Rectifier

FEATURES

- Especially suited as boost diode on continuous mode power factor correctors
- Ideal Solution for hard switching condition
- High capability for high di/dt operation. Downsizing of mosfet and heatsink
- High surge current capability
- AEC-Q101 qualified (Green compound not involved)
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



ITO-220AC



Pb-Free

RoHS COMPLIANT

DESCRIPTION

Especially suited as free wheeling or boost diode in continuous mode power factor correctors and other power switching applications.
The low stored charge and ultrafast soft recovery minimizes ringing and electrical noise in power switching circuits. The family drastically cuts losses in the associated MOSFET when run at high d_{IF}/dt.

MECHANICAL DATA

Case: ITO-220AC
Molding compound, UL flammability classification rating 94V-0
Base P/N with suffix "G" on packing code - halogen-free
Terminal: Matte tin plated leads, solderable per JESD22-B102
Meet JESD 201 class 1A whisker test
Polarity: As marked
Mounting torque: 5 in-lbs maximum
Weight: 1.7g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted)

PARAMETER	SYMBOL	UGF8JD		UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	600		V
Maximum average forward rectified current	$I_{F(AV)}$	8.0		A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	100		A
Maximum instantaneous forward voltage (Note 1) I_F= 8 A	V_F	2.3		V
Maximum reverse current @ Rated V_R T_J=25 ℃	I_R	0.5		μA
T_J=125 ℃		100		
Reverse recovery time	Trr	TYP	MAX	
I_F=0.5A, I_{RR}=0.25A, I_R=1A, T_J=25℃		13	-	ns
I_F=1A, dI_F/dt=-50A/us, V_R=30V, T_J=25℃		-	30	
Reverse recovery charges		TYP	MAX	
I_F=1A, dI_F/dt=-200A/us, V_R=400V, T_J=125℃	Qrr	90	-	nC
I_F=1A, dI_F/dt=-200A/us, V_R=400V, T_J=125℃	I_{RM}	5	5.5	A
Typical thermal resistance	$R_{\theta JC}$	4		^{O}C/W
Operating junction temperature range	T_J	- 55 to +150		^{O}C
Storage temperature range	T_{STG}	- 55 to +150		^{O}C

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

ORDERING INFORMATION				
PART NO.	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
UGF8JD	C0	Suffix "G"	ITO-220AC	50 / Tube

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
UGF8JD C0	UGF8JD	C0		
UGF8JD C0G	UGF8JD	C0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

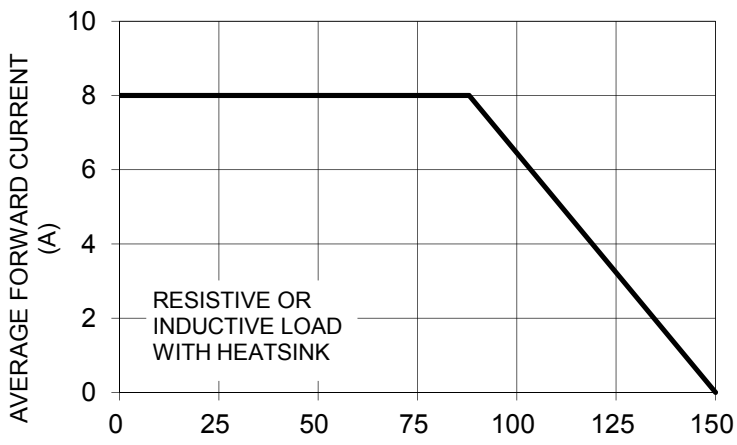


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

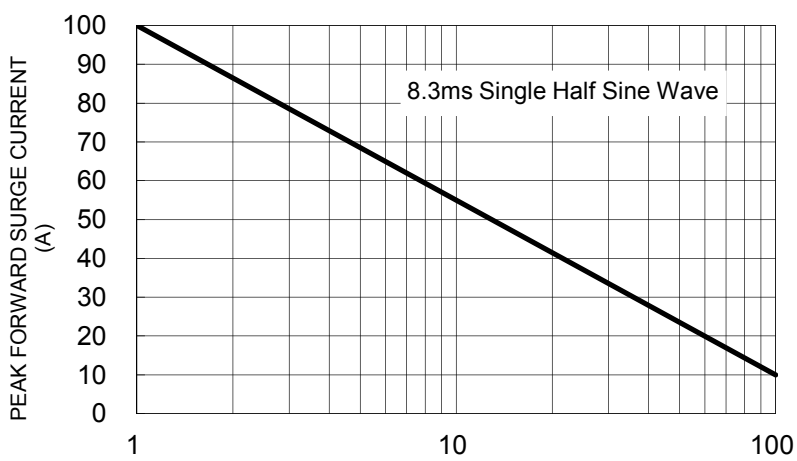


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

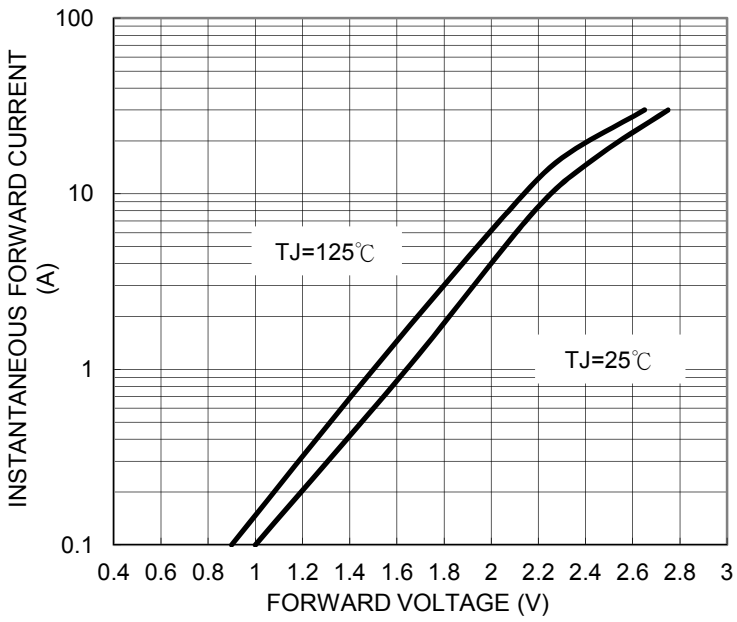


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

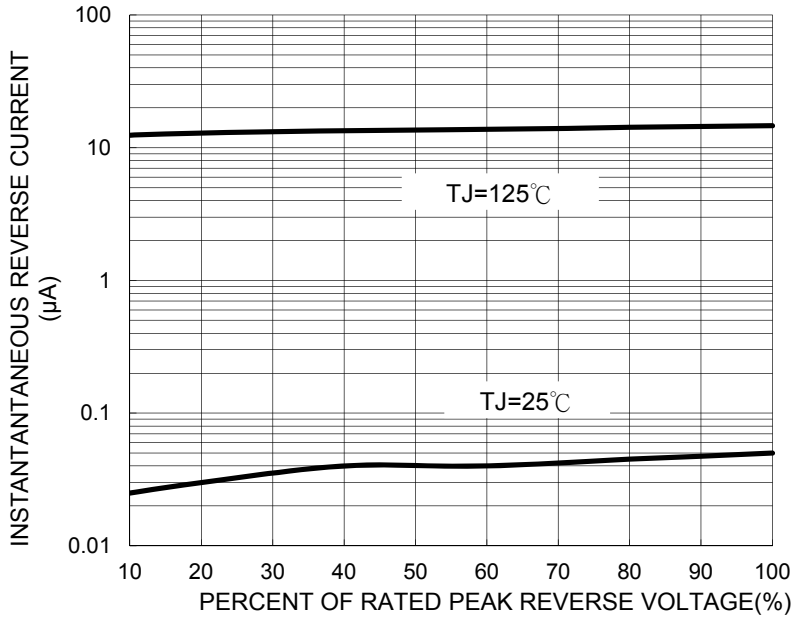
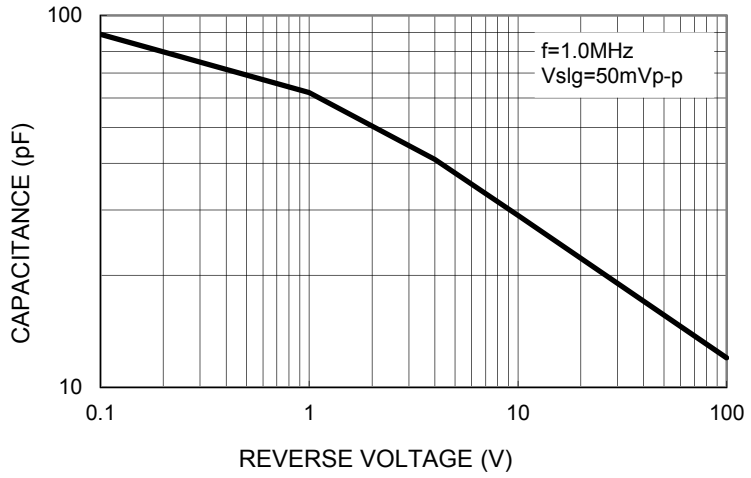
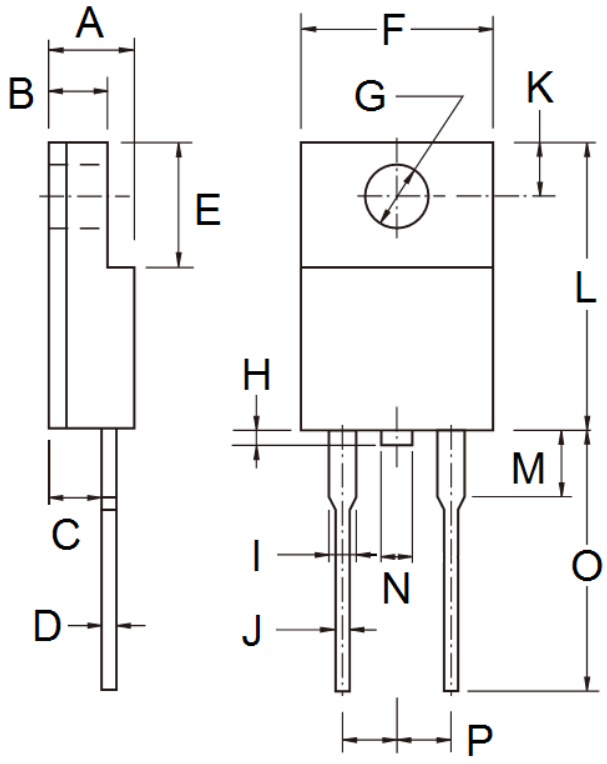


FIG. 5 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	4.70	0.169	0.185
B	2.50	3.10	0.098	0.122
C	2.30	2.90	0.091	0.114
D	0.46	0.76	0.018	0.030
E	6.30	6.90	0.248	0.272
F	9.60	10.30	0.378	0.406
G	3.00	3.40	0.118	0.134
H	0.00	1.60	0.000	0.063
I	0.95	1.45	0.037	0.057
J	0.50	0.90	0.020	0.035
K	2.40	3.20	0.094	0.126
L	14.80	15.50	0.583	0.610
M	-	4.10	-	0.161
N	-	1.80	-	0.071
O	12.60	13.80	0.496	0.543
P	4.95	5.20	0.195	0.205

MARKING DIAGRAM

P/N = Specific Device Code
G = Green Compound
YWW = Date Code
F = Factory Code

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