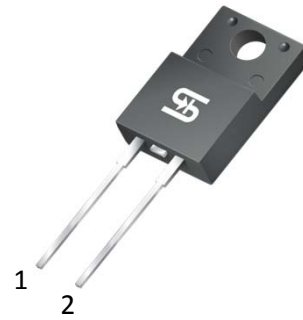
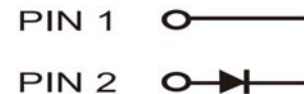


12A, 600V Isolated Ultrafast Rectifier

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
- High operation temperature to T_J 175°C
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21
- AEC-Q101 qualified (Green compound not involved)


ITO-220AC


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 dI_F/dt .

MECHANICAL DATA

Case: ITO-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 max.

Weight: 1.7 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)				
PARAMETER	SYMBOL	UGF12JD		UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	600		V
Maximum RMS voltage	V _{RMS}	420		V
Maximum DC blocking voltage	V _{DC}	600		V
Maximum average forward rectified current	I _{F(AV)}	12		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 =12A	V _F	TYP	MAX	V
		3.1	-	
Maximum reverse current @ rated V _R T _J =25°C T _J =125°C	I _R	0.5		μA
		100		
Reverse recovery time	t _{rr}	TYP	MAX	ns
I _F =0.5A, I _R =1A, I _{RR} =0.25A, T _J =25°C		13	25	
I _F =1A, dI _F /dt=-50A/μs, V _R =30V, T _J =25°C		-	45	
Reverse recovery charges		TYP	MAX	
I _F =12A, dI _F /dt=-200A/μs, V _R =400V, T _J =125°C	Q _{rr}	90	-	nC
	I _{RM}	3.8	4.6	A
Typical thermal resistance	R _{θJC}	2.4		°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 $PW=300\mu\text{s}$, 1% duty cycle

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
UGF12JD	H	C0	G	ITO-220AC	50 / Tube

EXAMPLE					
EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
UGF12JDHC0	UGF12JD	H	C0		AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

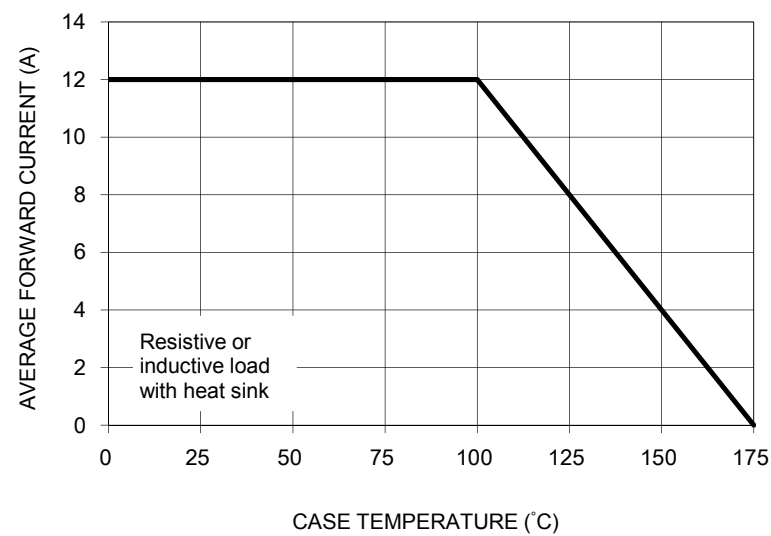


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

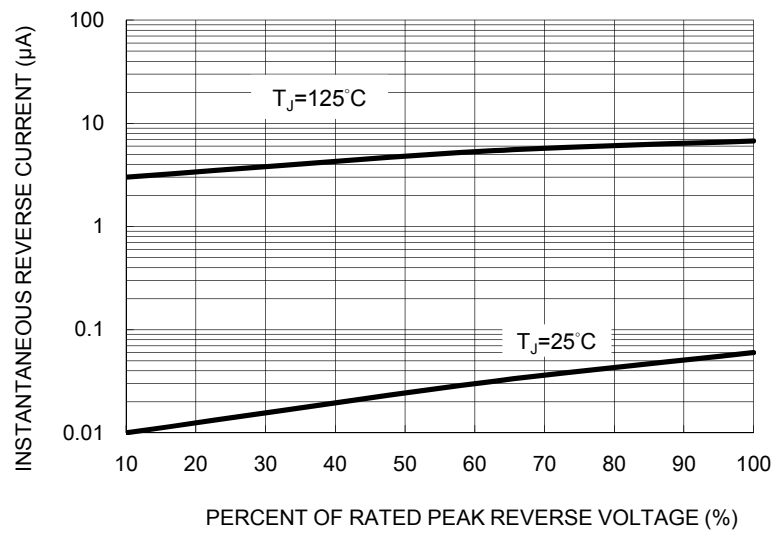


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

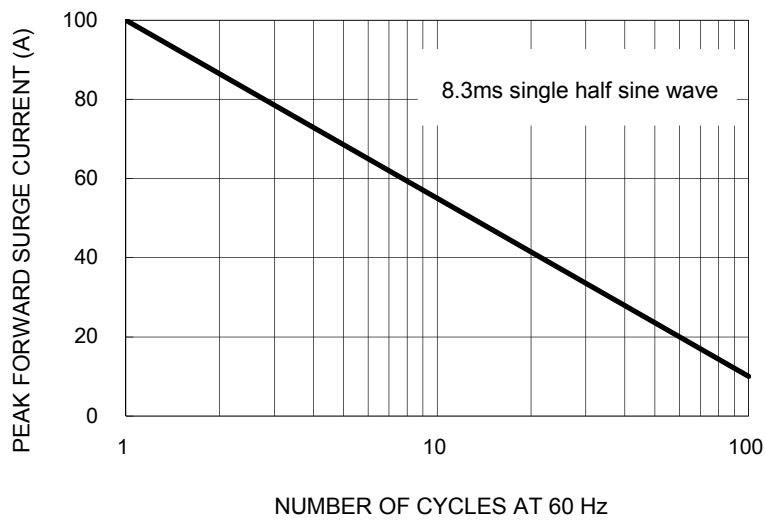


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

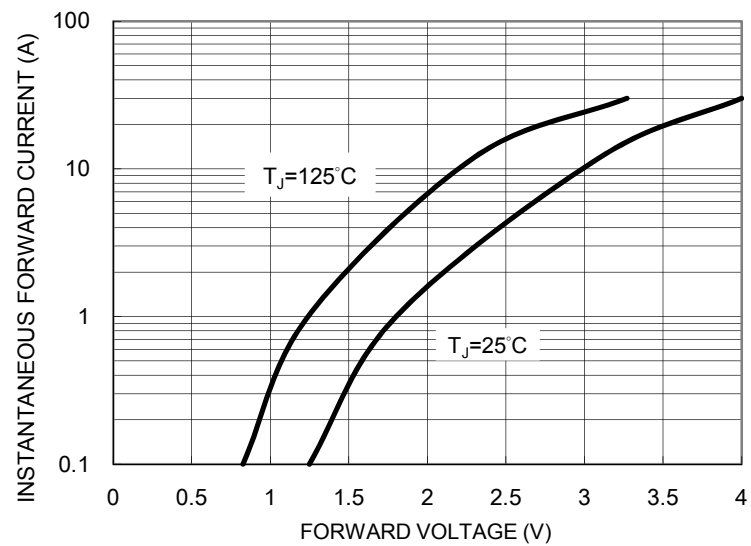
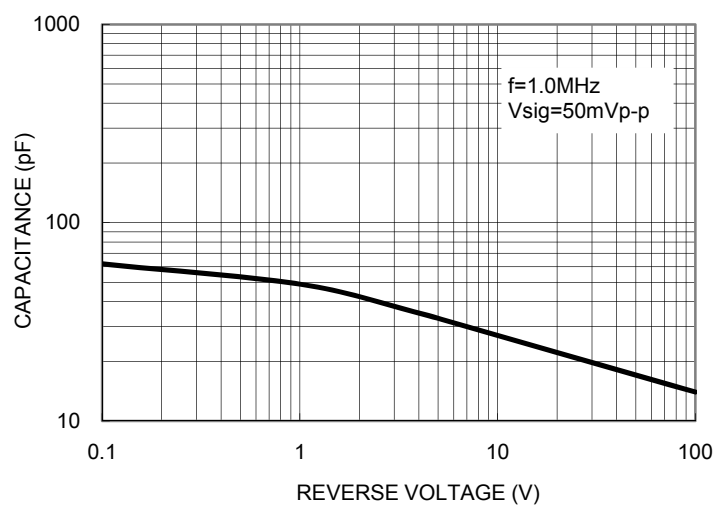
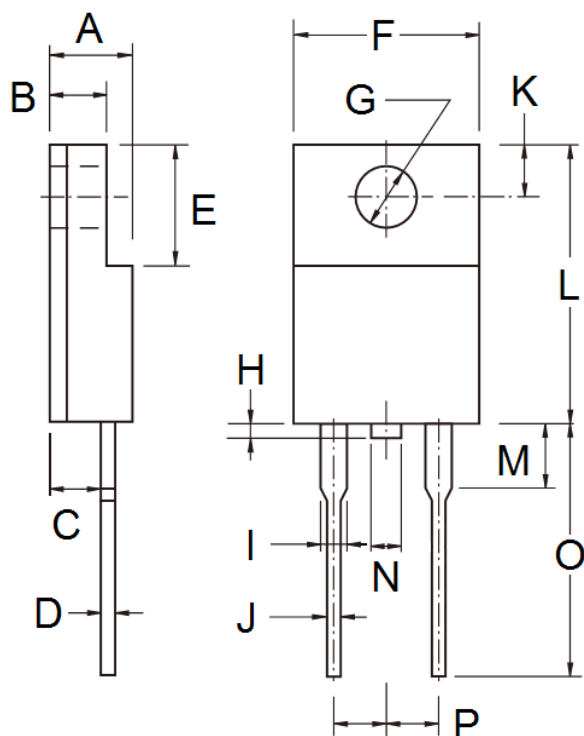


FIG. 5 TYPICAL JUNCTION CAPACITANCE

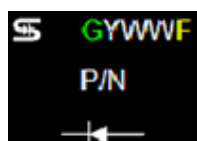


PACKAGE OUTLINE DIMENSIONS
ITO-220AC



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

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Taiwan Semiconductor:

[UGF12JDHC0G](#) [UGF12JD C0G](#)