

## 16A, 200V - 600V Ultra Fast Rectifier

### FEATURES

- AEC-Q101 qualified available
- Ultra fast recovery times
- Popular ITO-220AB Package
- High temperature glass passivated chip junction
- High voltage capability to 600 volts
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

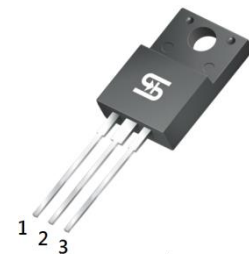
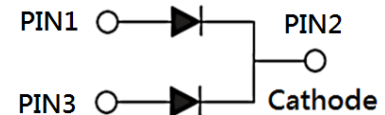
### APPLICATIONS

- DC to DC converter
- Switching mode converters and inverters
- Freewheeling application

### MECHANICAL DATA

- Case: ITO-220AB
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Mounting torque: 0.56 N·m maximum
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 1.82g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	16	A
$V_{RRM}$	200 - 600	V
$I_{FSM}$	100	A
$T_{JMAX}$	150	°C
Package	ITO-220AB	
Configuration	Dual dies	


**ITO-220AB**


ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	MURF 1620CT	MURF 1640CT	MURF 1660CT	UNIT
Marking code on the device		MURF 1620CT	MURF 1640CT	MURF 1660CT	
Repetitive peak reverse voltage	$V_{RRM}$	200	400	600	V
Reverse voltage, total rms value	$V_{R(RMS)}$	140	280	420	V
Forward current	$I_F$	16			A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	$I_{FSM}$	100			A
Junction temperature	$T_J$	-55 to +150			°C
Storage temperature	$T_{STG}$	-55 to +150			°C

<b>THERMAL PERFORMANCE</b>				
<b>PARAMETER</b>		<b>SYMBOL</b>	<b>TYP</b>	<b>UNIT</b>
Junction-to-case thermal resistance	MURF1620CT	$R_{\theta JC}$	3	°C/W
	MURF1640CT		2	°C/W
	MURF1660CT			

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
<b>PARAMETER</b>		<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	MURF1620CT	$I_F = 8\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	0.975	V
	MURF1640CT			-	1.300	V
	MURF1660CT			-	1.500	V
	MURF1620CT	$I_F = 8\text{A}, T_J = 125^\circ\text{C}$		-	0.895	V
	MURF1640CT			-	1.100	V
	MURF1660CT			-	1.200	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	MURF1620CT	$T_J = 25^\circ\text{C}$	$I_R$	-	5	$\mu\text{A}$
	MURF1640CT			-	10	$\mu\text{A}$
	MURF1660CT			-	250	$\mu\text{A}$
	MURF1620CT	$T_J = 125^\circ\text{C}$		-	500	$\mu\text{A}$
	MURF1640CT			-		
	MURF1660CT			-		
Reverse recovery time	MURF1620CT	$I_F = 0.5\text{A}, I_R = 1.0\text{A}$ $I_{rr} = 0.25\text{A}$	$t_{rr}$	-	25	ns
	MURF1640CT			-	50	ns
	MURF1660CT			-		

**Notes:**

1. Pulse test with  $PW = 0.3\text{ms}$
2. Pulse test with  $PW = 30\text{ms}$

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE</b> <sup>(1)(2)</sup>	<b>PACKAGE</b>	<b>PACKING</b>
MURF16xCT	ITO-220AB	50 / Tube
MURF16xCTH	ITO-220AB	50 / Tube

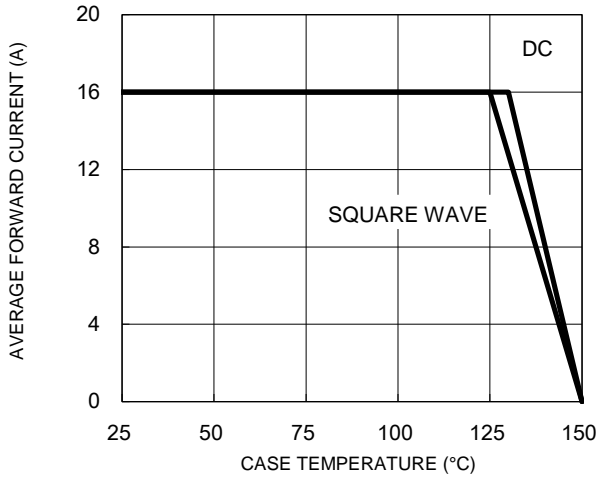
**Notes:**

1. "x" defines voltage from 200V(MURF1620CT) to 600V(MURF1660CT)
2. "H" means AEC-Q101 qualified

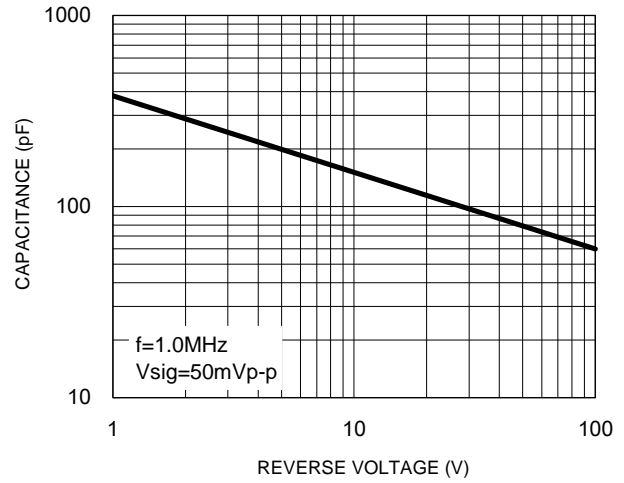
**CHARACTERISTICS CURVES**

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

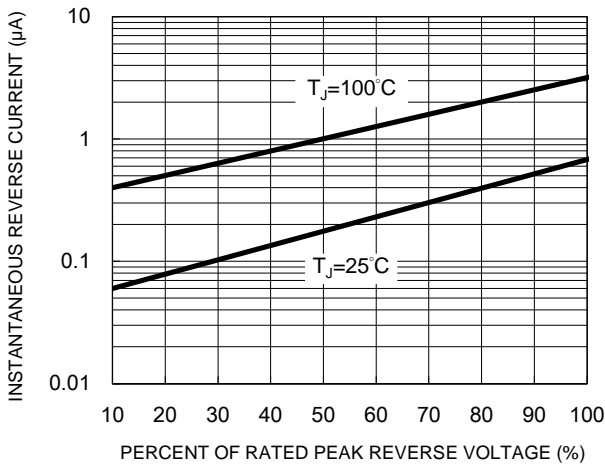
**Fig.1 Forward Current Derating Curve**



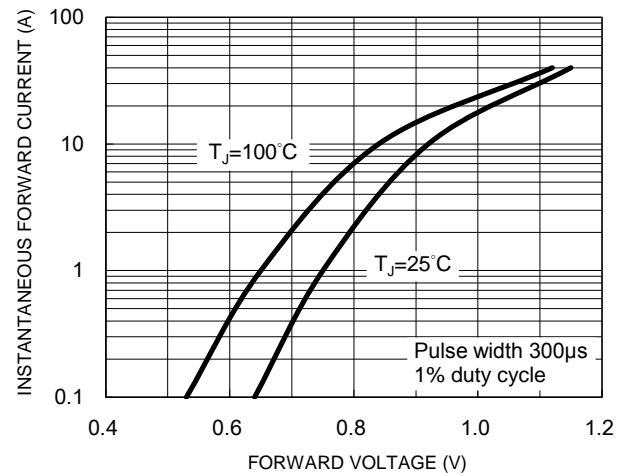
**Fig.2 Typical Junction Capacitance**



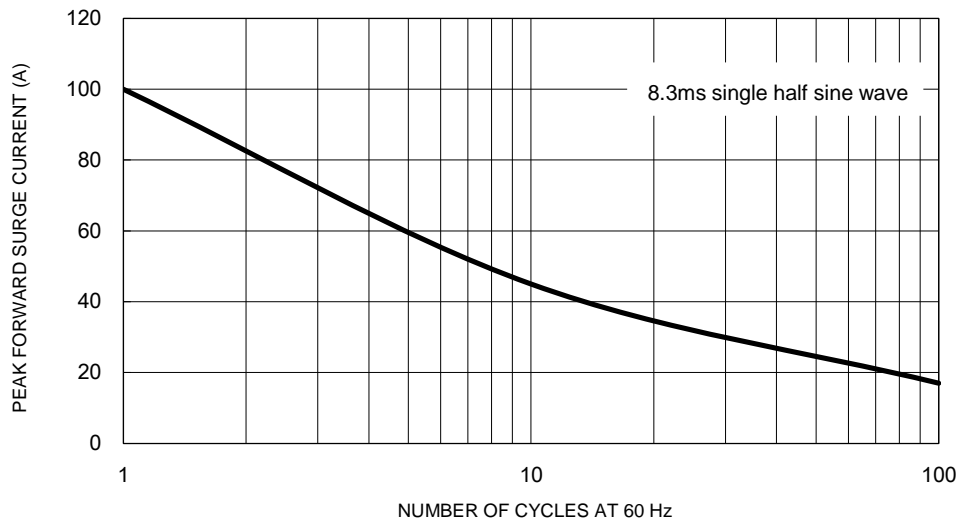
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



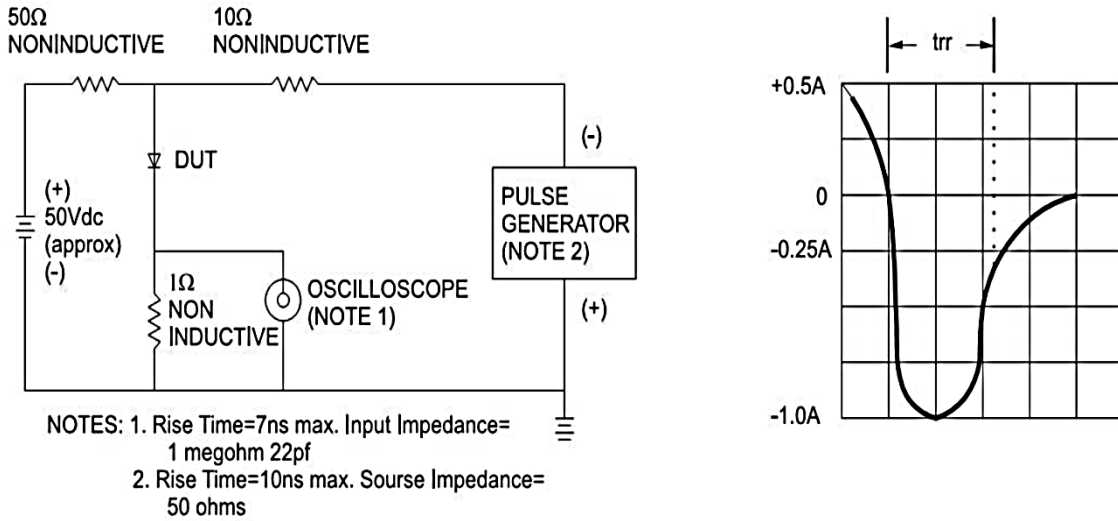
**Fig.5 Maximum Non-Repetitive Forward Surge Current**



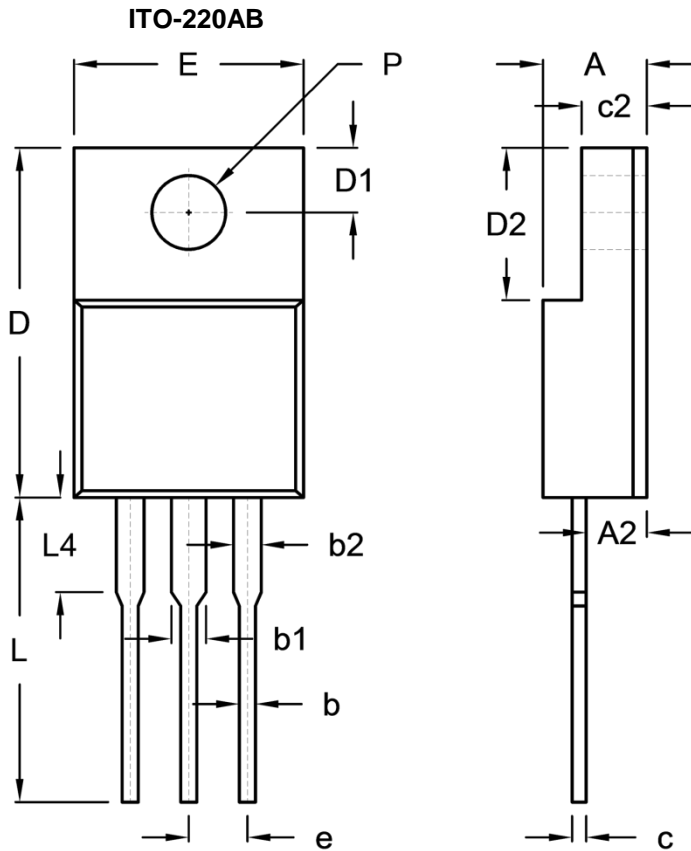
**CHARACTERISTICS CURVES**

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

**Fig.6 Reverse Recovery Time Characteristic and Test Circuit Diagram**



**PACKAGE OUTLINE DIMENSIONS**



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A2	2.30	2.96	0.091	0.117
b	0.50	0.90	0.020	0.035
b1	-	1.80	-	0.071
b2	0.95	1.45	0.037	0.057
c	0.46	0.76	0.018	0.030
c2	2.50	3.16	0.098	0.124
D	14.80	15.50	0.583	0.610
D1	2.40	3.20	0.094	0.126
D2	6.30	6.90	0.248	0.272
E	9.60	10.30	0.378	0.406
e	2.41	2.67	0.095	0.105
L	12.60	13.80	0.496	0.543
L4	-	4.10	-	0.161
P	3.00	3.40	0.118	0.134

**MARKING DIAGRAM**



P/N = Marking Code  
 G = Green Compound  
 YWWF = 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.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

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.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Rectifiers](#) category:*

*Click to view products by [Taiwan Semiconductor](#) manufacturer:*

Other Similar products are found below :

[70HFR40](#) [RL252-TP](#) [150KR30A](#) [1N5397](#) [NTE5841](#) [NTE6038](#) [SCF5000](#) [1N4002G](#) [1N4005-TR](#) [JANS1N6640US](#) [481235F](#)  
[RRE02VS6SGTR](#) [067907F](#) [MS306](#) [70HF40](#) [T85HFL60S02](#) [US2JFL-TP](#) [A1N5404G-G](#) [CRS04\(T5L,TEMQ\)](#) [ACGRA4007-HF](#)  
[ACGRB207-HF](#) [CLH03\(TE16L,Q\)](#) [ACGRC307-HF](#) [ACEFC304-HF](#) [NTE6356](#) [NTE6359](#) [NTE6002](#) [NTE6023](#) [NTE6039](#) [NTE6077](#)  
[85HFR60](#) [40HFR60](#) [70HF120](#) [85HFR80](#) [D126A45C](#) [SCF7500](#) [D251N08B](#) [SCHJ22.5K](#) [SM100](#) [SCPA2](#) [SCH10000](#) [SDHD5K](#) [VS-](#)  
[12FL100S10](#) [ACGRA4001-HF](#) [D1821SH45T PR](#) [D1251S45T](#) [NTE5990](#) [NTE6358](#) [NTE6162](#) [NTE5850](#)