

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

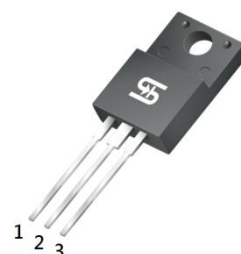
APPLICATIONS

- 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
$T_{J\ MAX}$	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

THERMAL PERFORMANCE

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

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	MURF1620CT	I _F = 8A, T _J = 25°C	V _F	-	0.975	V
	MURF1640CT			-	1.300	V
	MURF1660CT			-	1.500	V
	MURF1620CT	I _F = 8A, T _J = 125°C		-	0.895	V
	MURF1640CT			-	1.100	V
	MURF1660CT			-	1.200	V
Reverse current @ rated V _R per diode ⁽²⁾	MURF1620CT	T _J = 25°C	I _R	-	5	μA
	MURF1640CT			-	10	μA
	MURF1660CT			-	250	μA
	MURF1620CT	T _J = 125°C		-	500	μA
	MURF1640CT			-	500	μA
	MURF1660CT			-	500	μA
Reverse recovery time	MURF1620CT	I _F = 0.5A , I _R = 1.0A I _{rr} = 0.25A	t _{rr}	-	25	ns
	MURF1640CT			-	50	ns
	MURF1660CT			-	50	ns

Notes:

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

ORDERING INFORMATION

ORDERING CODE ⁽¹⁾⁽²⁾	PACKAGE	PACKING
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

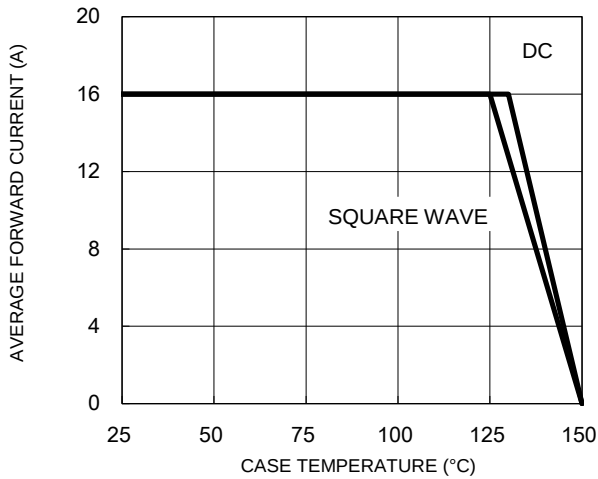


Fig.2 Typical Junction Capacitance

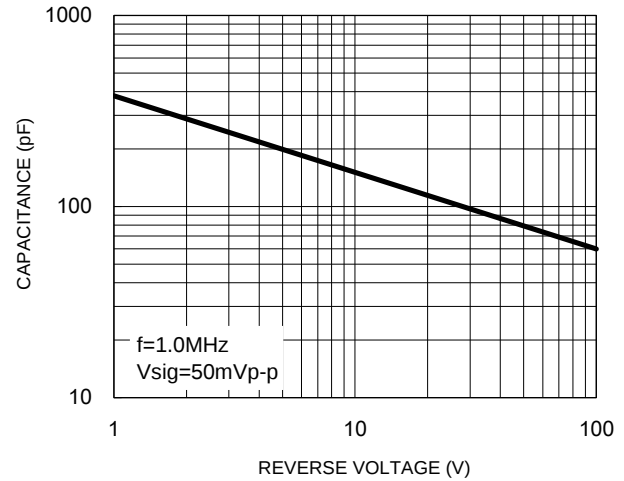


Fig.3 Typical Reverse Characteristics

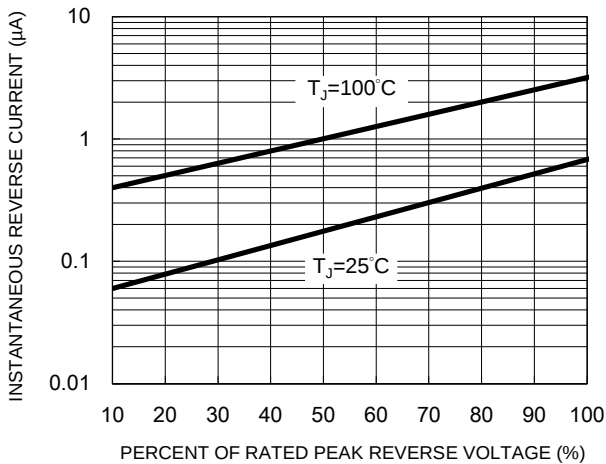


Fig.4 Typical Forward Characteristics

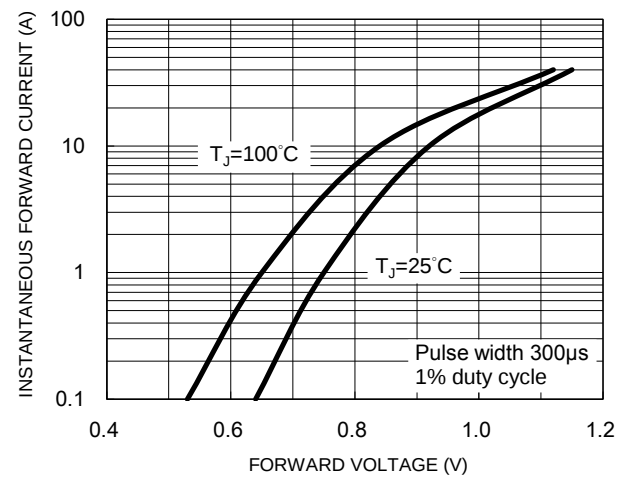
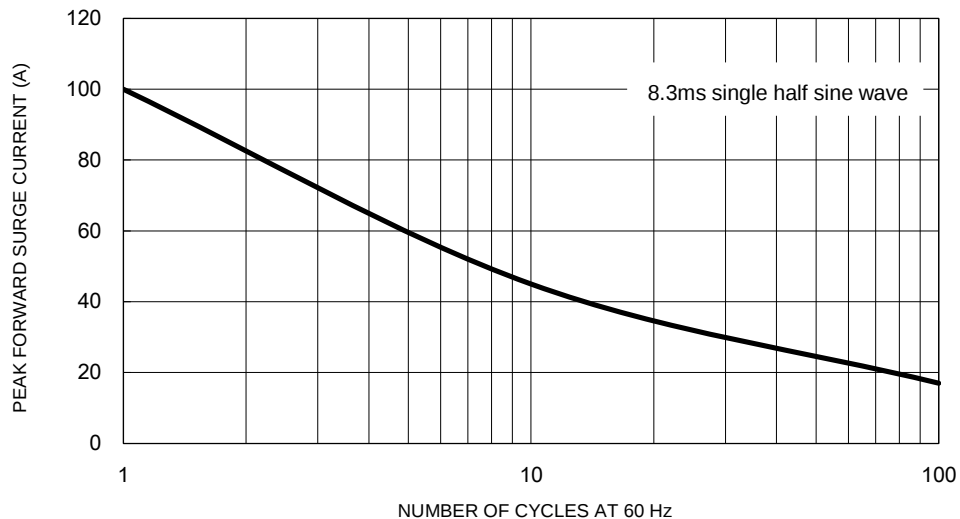


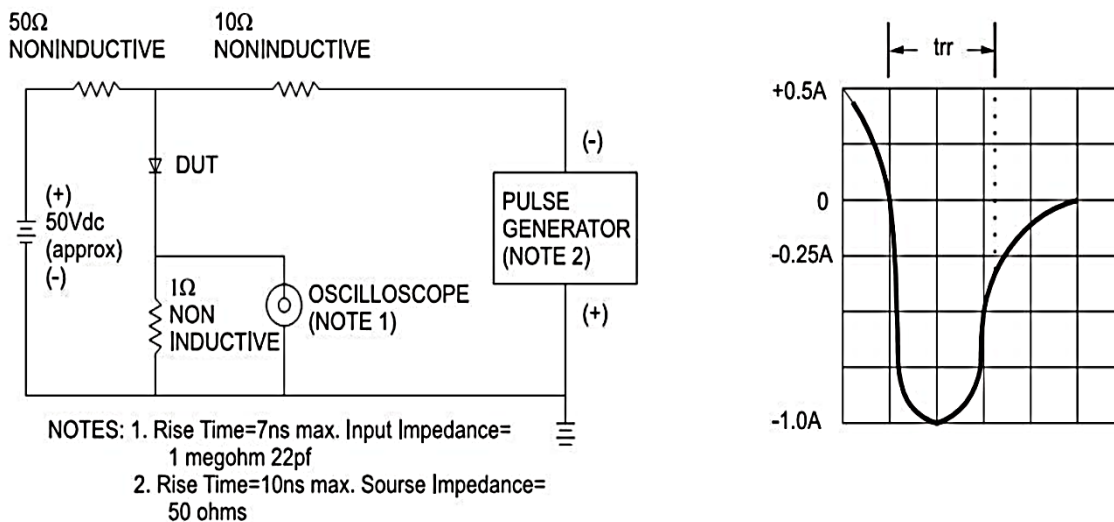
Fig.5 Maximum Non-Repetitive Forward Surge Current



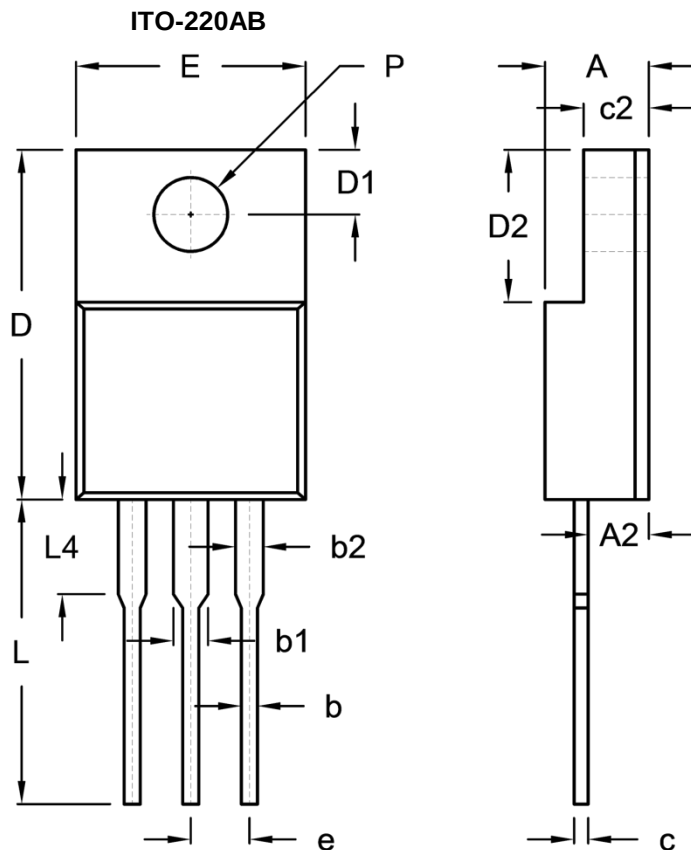
CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ 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
 YWW = Date Code
 F = Factory Code

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