

■ **FEATURES**

- Adopt FRED chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

■ **TYPICAL APPLICATIONS**

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

■ **MECHANICAL DATA**

- **Package:** TO-220AB
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

■ **MAXIMUM RATINGS** ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR1640CT
Device marking code			MUR1640CT
Repetitive Peak Reverse Voltage	VRRM	V	400
Average Rectified Output Current @60Hz sine wave, R-load, T_c (FIG.1)	I _O	A	16
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, $T_a=25^{\circ}\text{C}$	I _{FSM}	A	100
Current Squared Time @1ms \leq t \leq 8.3ms $T_j=25^{\circ}\text{C}$.	I ² t	A ² s	41
Storage Temperature	T _{stg}	$^{\circ}\text{C}$	-55 ~ +150
Junction Temperature	T _j	$^{\circ}\text{C}$	-55 ~ +150
Junction capacitance @4V,1MHz	C _j	pF	40

■ **ELECTRICAL CHARACTERISTICS** ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V _{FM}	V	I _{FM} =8.0A @T _J =25 $^{\circ}\text{C}$	-	1.15	1.25
			I _{FM} =8.0A @T _J =150 $^{\circ}\text{C}$	-	0.9	1
DC reverse current at rated DC blocking voltage per diode	I _{RRM1}	uA	VRM=VRRM T _J =25 $^{\circ}\text{C}$	-	-	5
	I _{RRM2}		VRM=VRRM T _J =150 $^{\circ}\text{C}$	-	30	100
Reverse Recovery Time	T _{rr}	ns	I _F =0.5A I _{RM} =1A I _{RR} =0.25A T _J =25 $^{\circ}\text{C}$	-	25	35
Peak recovery current	I _{RRM}	A	T _J =25 $^{\circ}\text{C}$	-	3.39	-
			T _J =125 $^{\circ}\text{C}$	I _F =8A di/dt=-200A/us VRM=200V	-	6.17
Reverse recovery charge	Q _{rr}	nC	T _J =25 $^{\circ}\text{C}$	-	56.17	-
			T _J =125 $^{\circ}\text{C}$	-	180	-

■ **THERMAL CHARACTERISTICS** ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MUR1640CT
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	$^{\circ}\text{C/W}$	2.0
Thermal Resistance	Between junction and Air	$R_{\theta J-A}$	$^{\circ}\text{C/W}$	50

■ **PACKAGING INFORMATION**

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR1640CT	Approximate 1.88	50	1000	5000	Tube

■ **CHARACTERISTICS (TYPICAL)**

FIG1: $I_o - T_c$ Curve

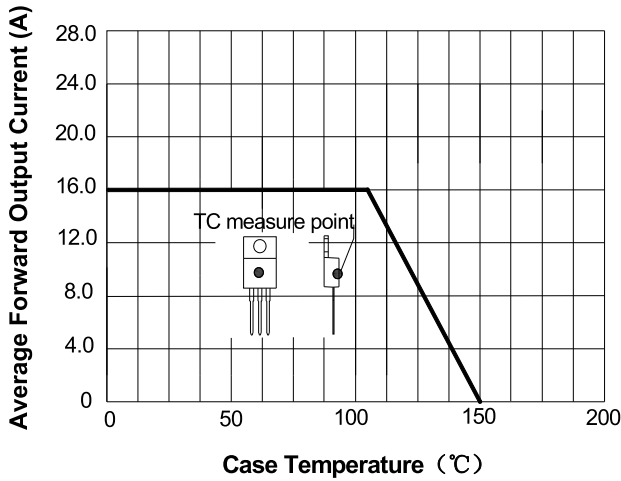


FIG2: Surge Forward Current Capability

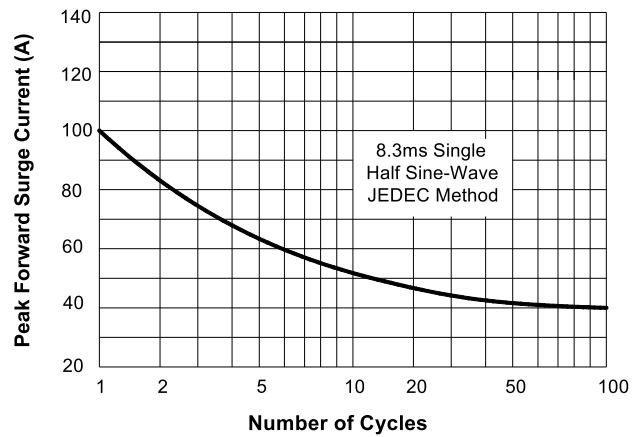


FIG3: Forward Voltage

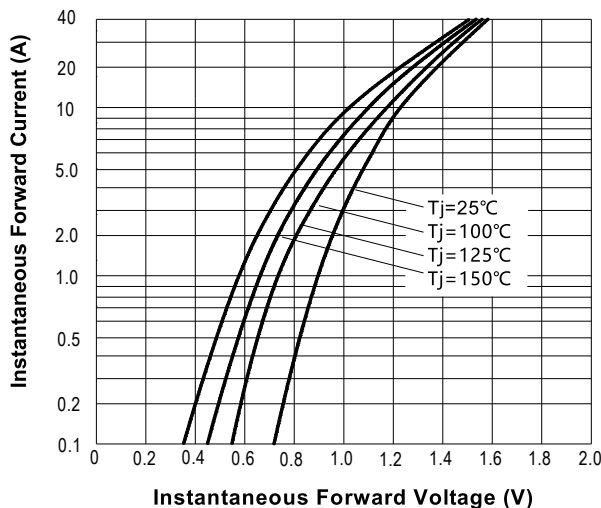


FIG.4: Instantaneous Reverse Characteristics

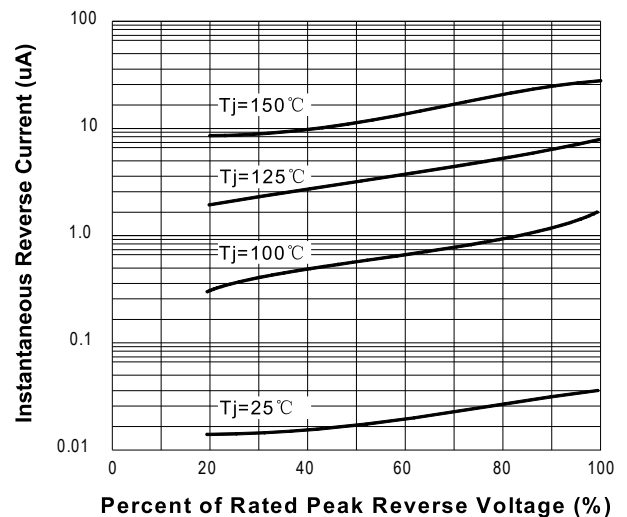
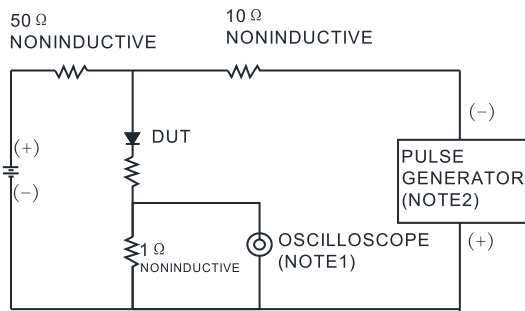
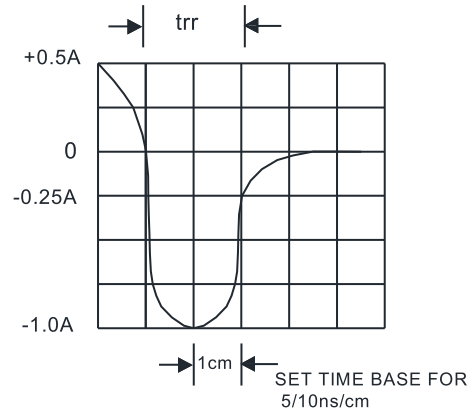


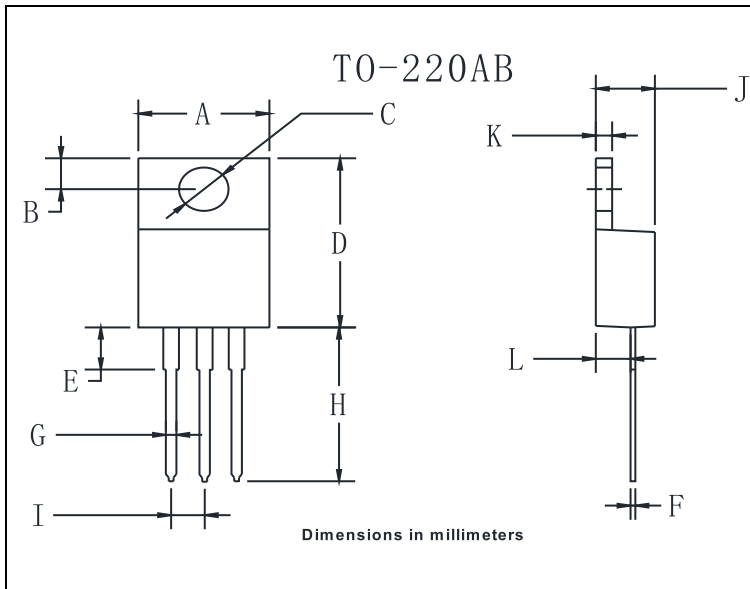
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



NOTES:
1. Rise Time=7ns max .Inpot Impedance=1M Ω 22pf
2. Rise Time=10ns max. Source Impedance=50 Ω



■ **OUTLINE DIMENSIONS**



TO-220AB		
Dim	Min	Max
A	9.95	10.35
B	2.55	2.95
C	3.8	4.0
D	14.95	15.25
E	3.75	4.25
F	0.26	0.5
G	0.68	0.94
H	13.4	13.9
I	2.35	2.65
J	4.38	4.78
K	1.14	1.4
L	2.37	2.79