

### 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:** ITO-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<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR1640FCT
Device marking code			MUR1640FCT
Repetitive Peak Reverse Voltage	VRRM	V	400
Average Rectified Output Current @60Hz sine wave, R-load, T <sub>c</sub> (FIG.1)	I <sub>O</sub>	A	16
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>a</sub> =25°C	I <sub>FSM</sub>	A	100
Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C.	I <sup>2</sup> t	A <sup>2</sup> s	41
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +150
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +150
Junction capacitance @4V,1MHz	C <sub>j</sub>	pF	40

### ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V <sub>FM</sub>	V	I <sub>FM</sub> =8.0A @T <sub>j</sub> =25°C	-	1.15	1.25
			I <sub>FM</sub> =8.0A @T <sub>j</sub> =150°C	-	0.9	1
DC reverse current at rated DC blocking voltage per diode	I <sub>RRM1</sub>	uA	V <sub>RM</sub> =VRRM T <sub>j</sub> =25°C	-	-	5
	I <sub>RRM2</sub>		V <sub>RM</sub> =VRRM T <sub>j</sub> =150°C	-	30	100
Reverse Recovery Time	T <sub>rr</sub>	ns	I <sub>F</sub> =0.5A I <sub>RM</sub> =1A I <sub>RR</sub> =0.25A T <sub>j</sub> =25°C	-	25	35
Peak recovery current	I <sub>RRM</sub>	A	T <sub>j</sub> =25°C	-	3.39	-
			T <sub>j</sub> =125°C	-	6.17	-
Reverse recovery charge	Q <sub>rr</sub>	nC	T <sub>j</sub> =25°C	-	56.17	-
			T <sub>j</sub> =125°C	-	180	-

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

PARAMETER		SYMBOL	UNIT	MUR1640FCT
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	$^{\circ}\text{C/W}$	4.0
Thermal Resistance	Between junction and Air	$R_{\theta J-A}$	$^{\circ}\text{C/W}$	50

■ **PACKAGING INFORMATION**

PREFERED P/N	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR1640FCT	Approximate 1.6	50	1000	5000	Tube

■ **CHARACTERISTICS (TYPICAL)**

FIG1:  $I_o - T_c$  Curve

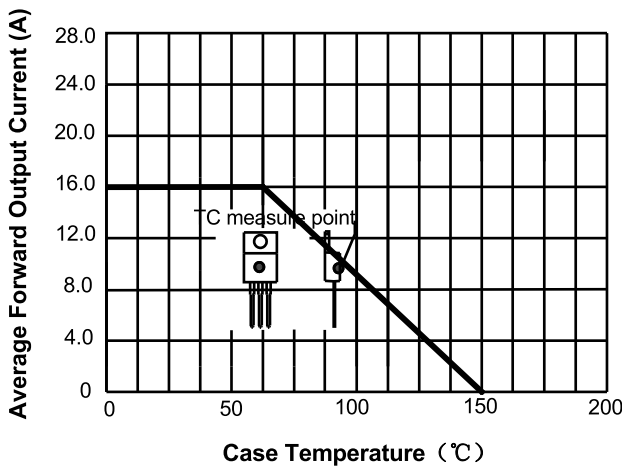


FIG2: Surge Forward Current Capability

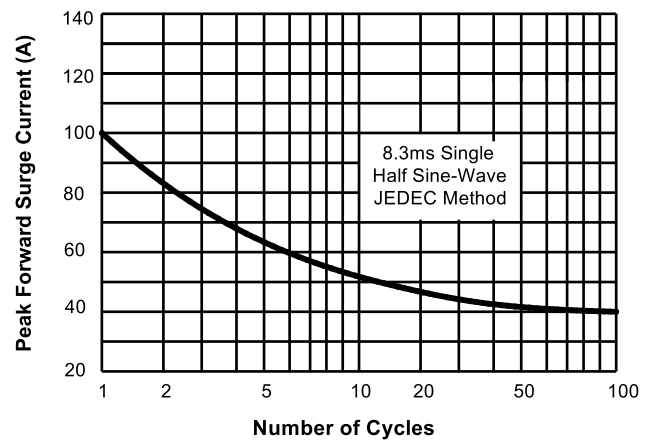


FIG3: Forward Voltage

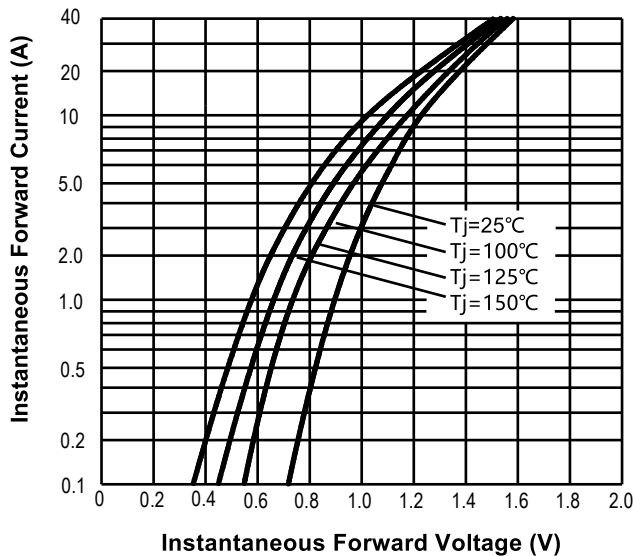


FIG.4: Instantaneous Reverse Characteristics

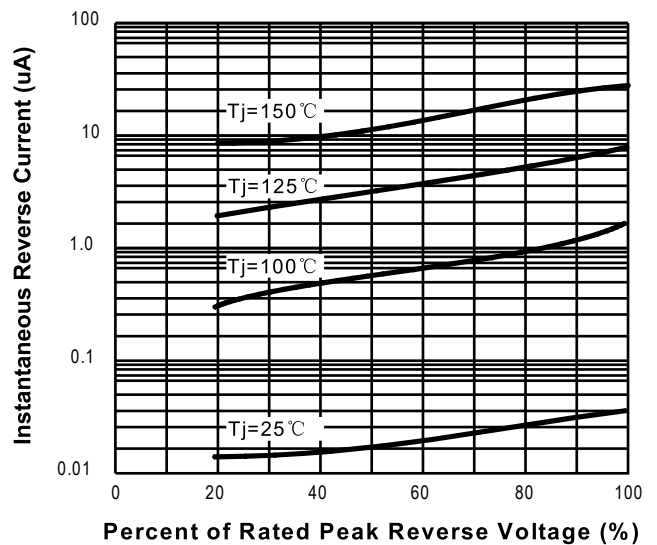
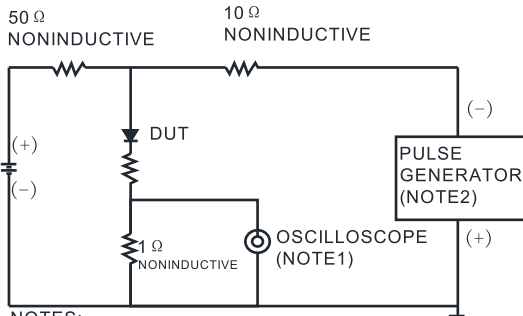
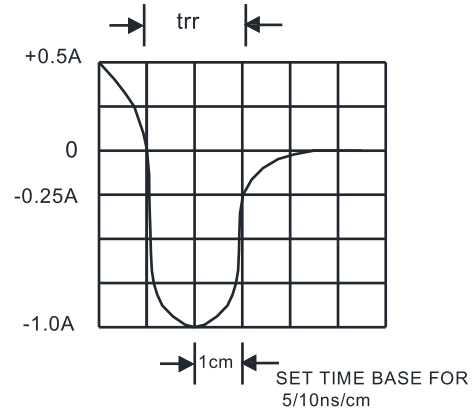


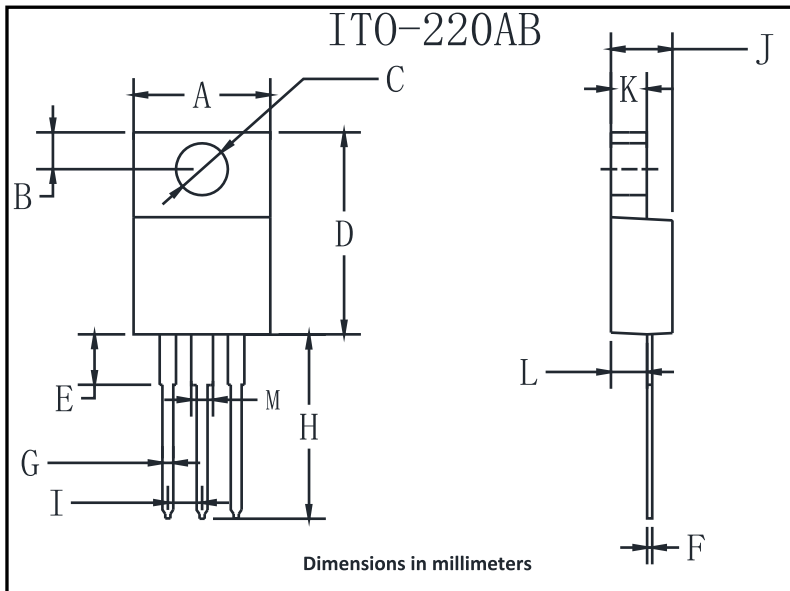
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



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



■ **OUTLINE DIMENSIONS**



ITO-220AB		
Dim	Min	Max
A	9.8	10.2
B	2.25	2.75
C	2.95	3.45
D	14.75	15.25
E	3.05	3.95
F	0.45	0.75
G	0.45	0.75
H	13.4	14.2
I	2.35	2.75
J	4.3	4.8
K	2.58	2.82
L	2.58	2.82
M	1.47	1.77