

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

PARAMETER	SYMBOL	UNIT	MUR1020FCT
Device marking code			MUR1020FCT
Repetitive Peak Reverse Voltage	V_{RRM}	V	200
Average Rectified Output Current @60Hz sine wave, R-load, T_c (FIG.1)	I_o	A	10
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, $T_a=25^\circ\text{C}$	I_{FSM}	A	50
Current Squared Time @1ms≤t≤8.3ms $T_j=25^\circ\text{C}$,	I^2t	A ² s	10
Storage Temperature	T_{stg}	°C	-55 ~ +150
Junction Temperature	T_j	°C	-55 ~ +150
Junction capacitance @4V,1MHz	C_j	pF	50

■ **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	$I_{FM}=5.0A$ @ $T_j=25^\circ\text{C}$	-	0.95	1
			$I_{FM}=5.0A$ @ $T_j=150^\circ\text{C}$	-	0.78	0.9
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	uA	$V_{RM}=V_{RRM}$ $T_j=25^\circ\text{C}$	-	-	5
	I_{RRM2}		$V_{RM}=V_{RRM}$ $T_j=150^\circ\text{C}$	-	25	50
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	$T_j=25^\circ\text{C}$	-	3.11	-
			$T_j=125^\circ\text{C}$	-	5.43	-
Reverse recovery charge	Q_{rr}	nC	$T_j=25^\circ\text{C}$	-	29.64	-
			$T_j=125^\circ\text{C}$	-	80	-

■ THERMAL CHARACTERISTICS (T_a=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MUR1020FCT
Thermal Resistance	Between junction and case	R _{θJ-C}	°CW	4.0
Thermal Resistance	Between junction and Air	R _{θJ-A}	°CW	50

■ PACKAGING INFORMATION

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR1020FCT	Approximate 1.6	50	1000	5000	Tube

■ CHARACTERISTICS (TYPICAL)

FIG1: I_o -T_c Curve

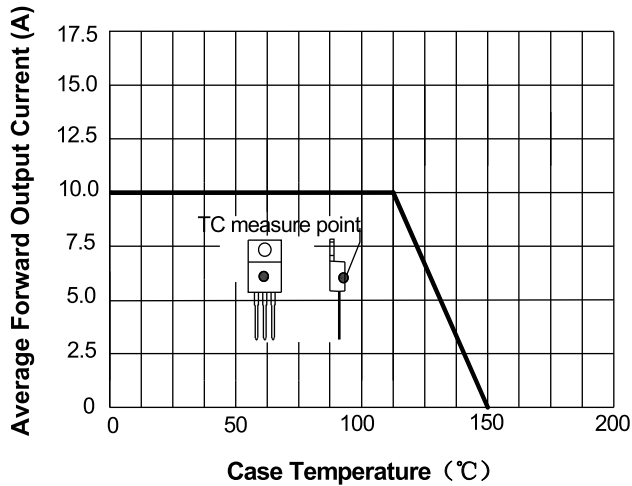


FIG2: Surge Forward Current Capability

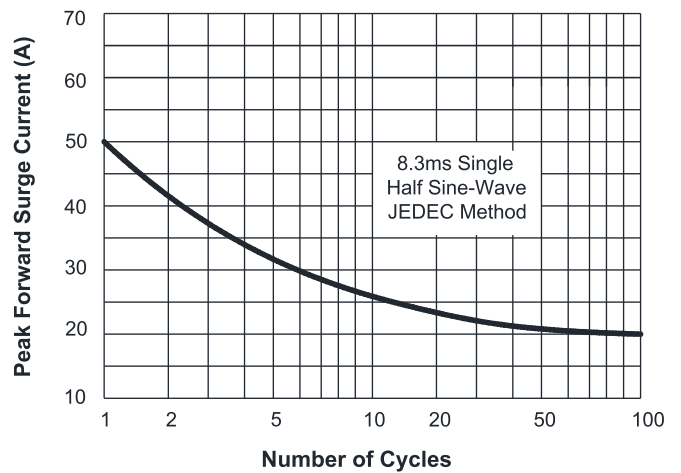


FIG3: Forward Voltage

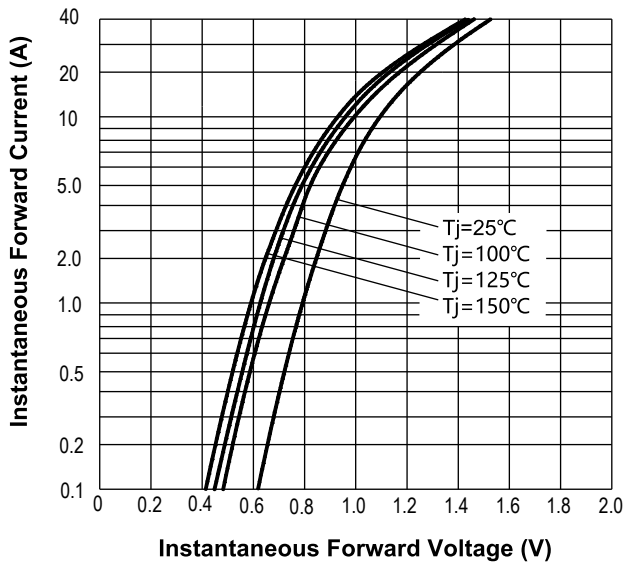


FIG.4: Instantaneous Reverse Characteristics

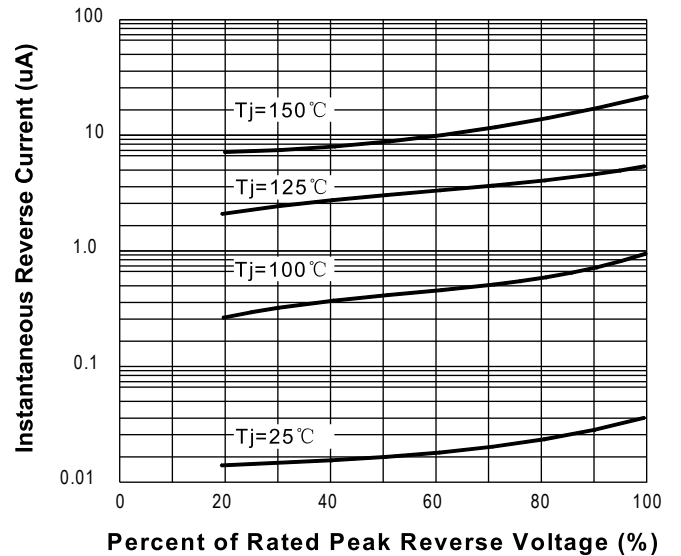
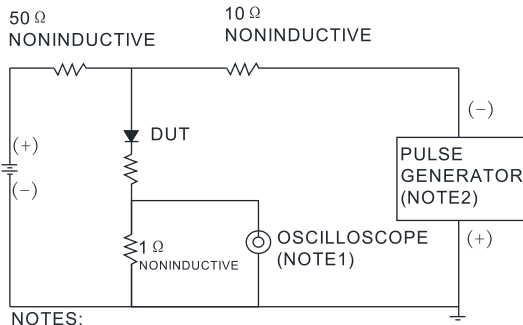
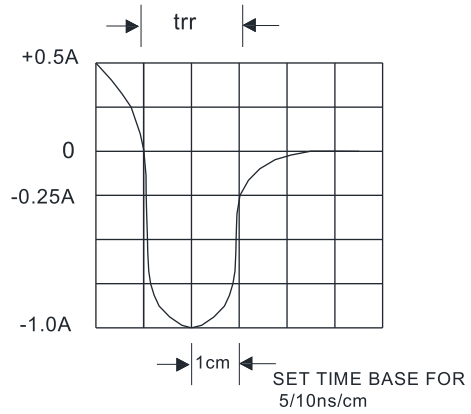


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

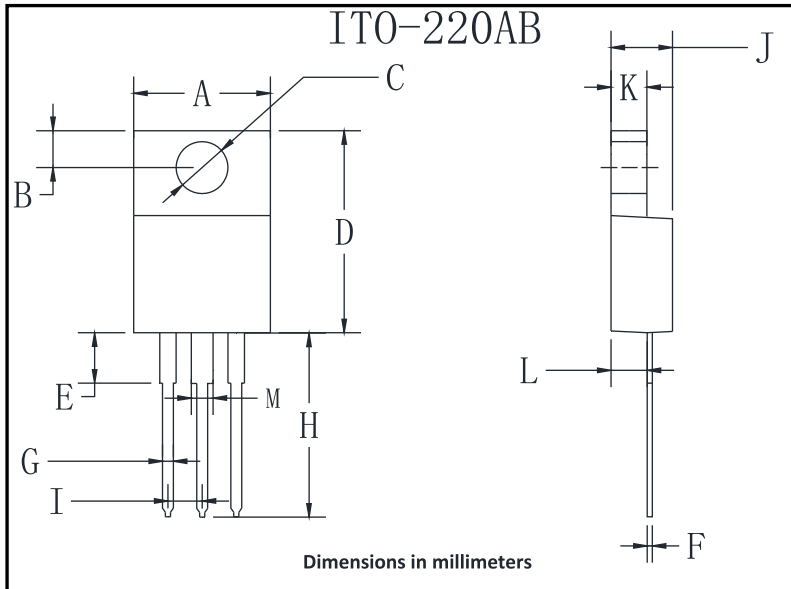


NOTES:

1. Rise Time=7ns max .Inpot 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