

### ■ 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-220AC  
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	MUR840F
Device marking code			MUR840F
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	V	400
Average Rectified Output Current @60Hz sine wave, R-load, T <sub>c</sub> (FIG.1)	I <sub>o</sub>	A	8
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>j</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 ~ +175
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +175
Typical Junction capacitance @4V,1MHz	C <sub>j</sub>	pF	40
Mounting torque @recommend torque: 5kg·cm	Tor	kg·cm	8

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

PARAMETER	SYMBOL	UNIT	MUR840F	
Thermal Resistance	Between junction and case	R <sub>θJ-C</sub>	°C/W	4.0
	Between junction and Air	R <sub>θJ-A</sub>	°C/W	50

### ■ PACKAGING INFORMATION

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR840F	Approximate 1.6	50	1000	5000	Tube

■ **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	$I_{FM}=8.0\text{A}$ @ $T_j=25^\circ\text{C}$	-	1.15	1.25	
			$I_{FM}=8.0\text{A}$ @ $T_j=150^\circ\text{C}$	-	0.9	1.0	
DC reverse current at rated DC blocking voltage per diode	$I_{RRM1}$	$\mu\text{A}$	$V_{RM}=V_{RRM}$ $T_j=25^\circ\text{C}$	-	-	5	
	$I_{RRM2}$		$V_{RM}=V_{RRM}$ $T_j=150^\circ\text{C}$	-	30	100	
Reverse Recovery Time	$T_{RR}$	ns	$I_F=0.5\text{A}$ $I_{RM}=1\text{A}$ $I_{RR}=0.25\text{A}$ $T_j=25^\circ\text{C}$	-	25	35	
			$T_j=25^\circ\text{C}$	-	33.5	-	
			$T_j=125^\circ\text{C}$	-	54.5	-	
Peak recovery current	$I_{RRM}$	A	$T_j=25^\circ\text{C}$	$I_F=8\text{A}$ $di/dt=-200\text{A}/\mu\text{s}$ $V_{RM}=200\text{V}$	-	3.5	-
			$T_j=125^\circ\text{C}$		-	6.5	-
Reverse recovery charge	$Q_{rr}$	nC	$T_j=25^\circ\text{C}$		-	60	-
			$T_j=125^\circ\text{C}$		-	180	-

■ **CHARACTERISTICS (TYPICAL)**

FIG1:  $I_o - T_c$  Curve

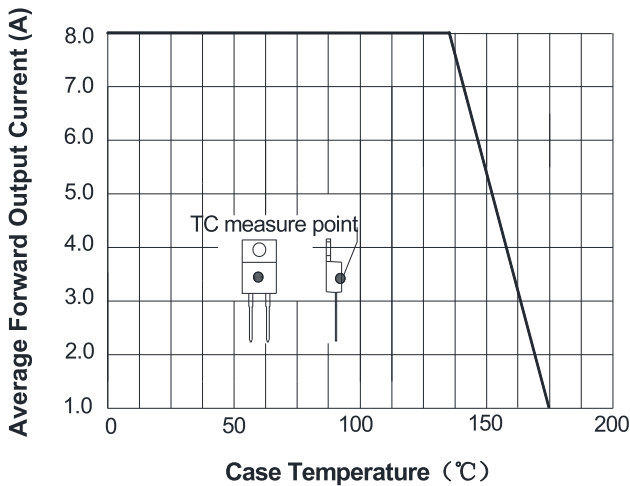


FIG2: Surge Forward Current Capability

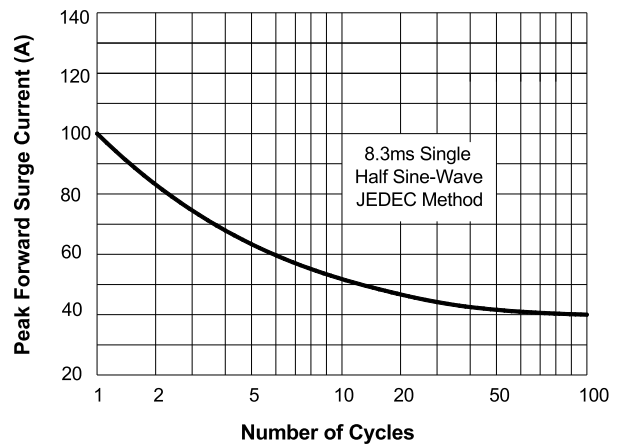


FIG3: Forward Voltage

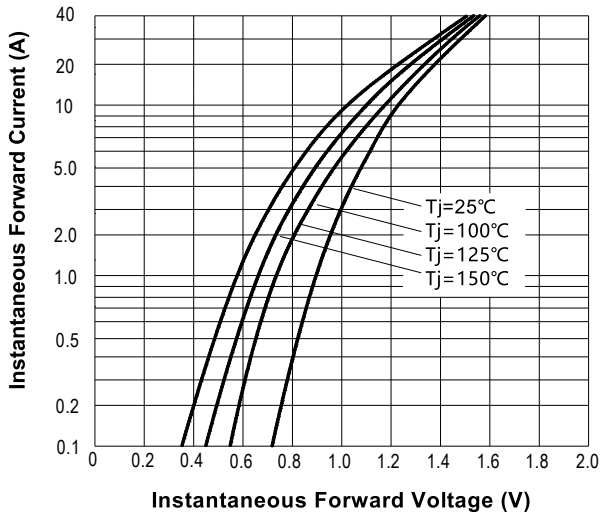


FIG.4: Instantaneous Reverse Characteristics

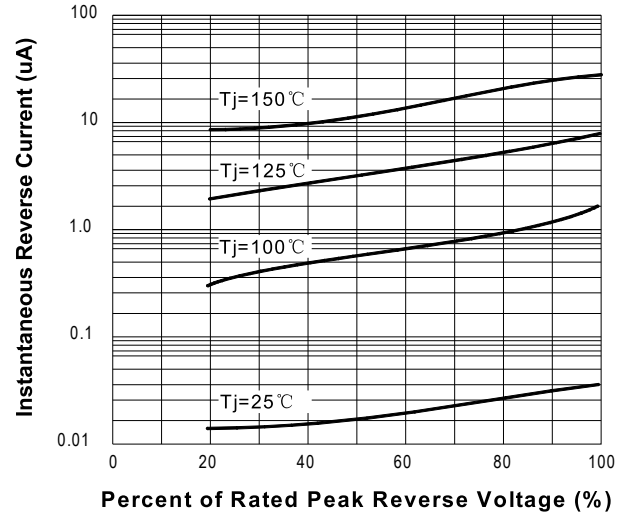
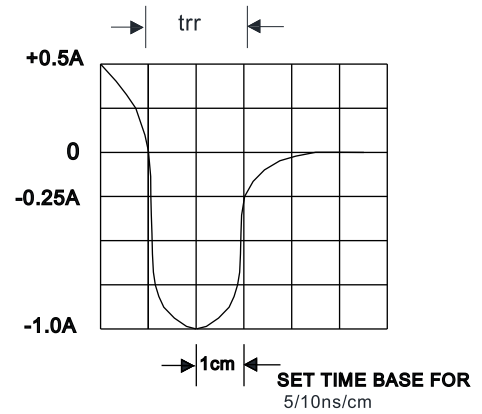
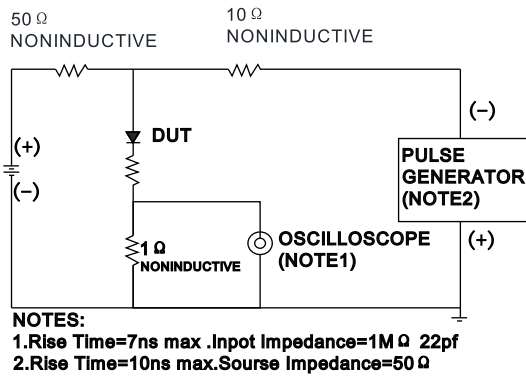
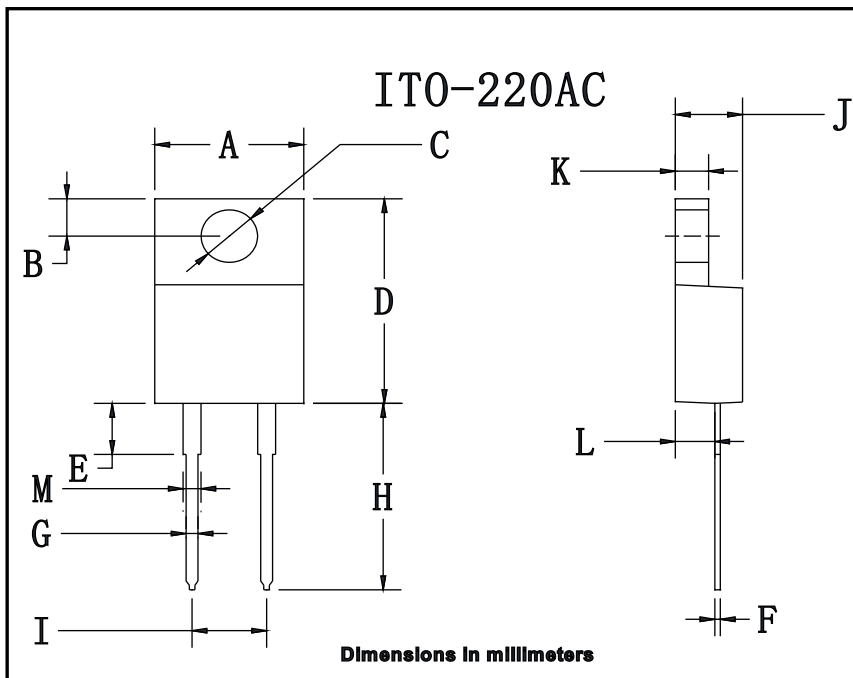


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■ **OUTLINE DIMENSIONS**



ITO-220AC		
Dim	Min	Max
A	9.8	10.2
B	2.25	2.75
C	2.95	3.45
D	14.75	15.25
E	3.5	4.1
F	0.45	0.75
G	0.45	0.75
H	13.35	14.15
I	4.97	5.23
J	4.3	4.8
K	2.5	2.74
L	2.58	2.82
M	1.03	1.43