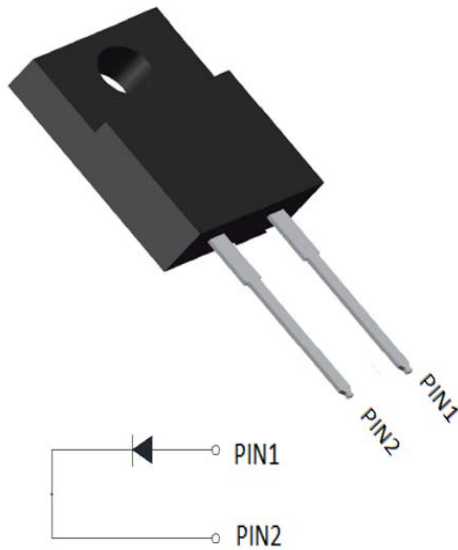


Ultra-Fast Recovery Diodes 8A FRED



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_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR820F
Device marking code			MUR820F
Repetitive Peak Reverse Voltage	V _{RRM}	V	200
Average Rectified Output Current @60Hz sine wave, R-load, T _c (FIG.1)	I _O	A	8
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _j =25°C	I _{FSM}	A	100
Current Squared Time @1ms≤t≤8.3ms T _j =25°C	I ² t	A ² s	41
Storage Temperature	T _{stg}	°C	-55 ~ +175
Junction Temperature	T _j	°C	-55 ~ +175
Typical Junction capacitance @4V,1MHz	C _j	pF	70
Mounting torque @recommend torque: 5kg·cm	Tor	kg·cm	8



MUR820F-B1-W5094HF

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	$I_{FM}=8.0A$ @ $T_j=25^{\circ}C$	-	0.90	1.0
			$I_{FM}=8.0A$ @ $T_j=150^{\circ}C$		0.78	0.9
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	μA	$V_{RM}=V_{RRM}$ $T_j=25^{\circ}C$	-	-	5
	I_{RRM2}		$V_{RM}=V_{RRM}$ $T_j=150^{\circ}C$	-	20	50
Reverse Recovery Time	T_{RR}	ns	$I_F=0.5A$ $I_{RM}=1A$ $I_{RR}=0.25A$ $T_j=25^{\circ}C$	-	25	35
			$T_j=25^{\circ}C$	-	20	-
			$T_j=125^{\circ}C$	-	35	-
Peak recovery current	I_{RRM}	A	$T_j=25^{\circ}C$	-	3.7	-
			$T_j=125^{\circ}C$	-	6.4	-
Reverse recovery charge	Q_{rr}	nC	$T_j=25^{\circ}C$	-	34	-
			$T_j=125^{\circ}C$	-	115	-

■Thermal Characteristics ($T_j=25^{\circ}C$ Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MUR820F
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	$^{\circ}C/W$	4.0
	Between junction and Air	$R_{\theta J-A}$	$^{\circ}C/W$	50

■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR820F	Approximate 1.6	50	1000	5000	Tube

■Characteristics (Typical)

FIG1: I_o - T_c Curve

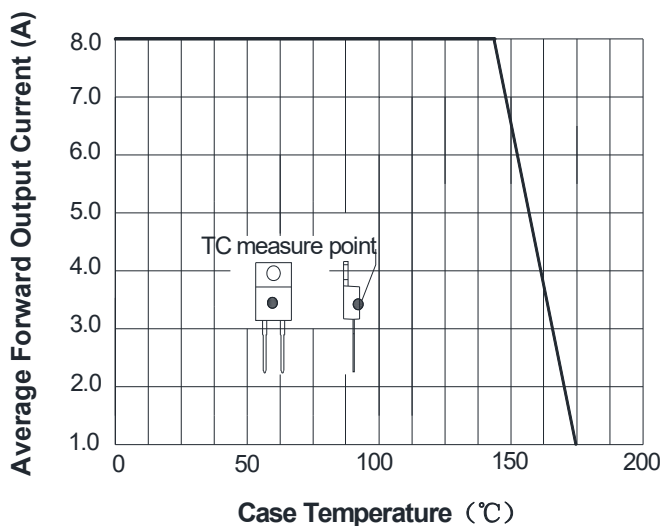
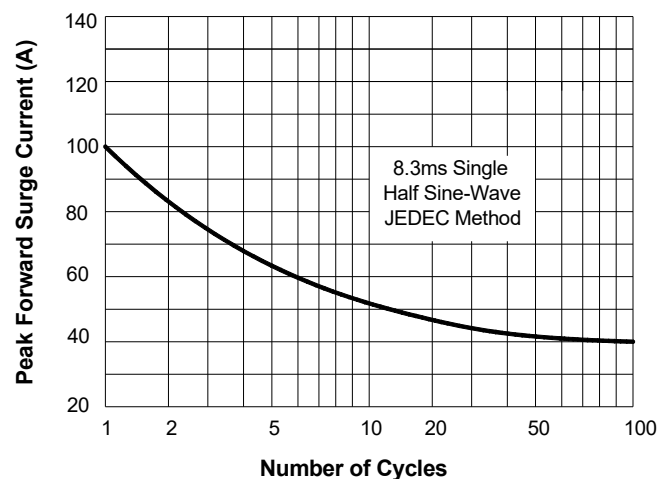


FIG2: Surge Forward Current Capability





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FIG3: Forward Voltage

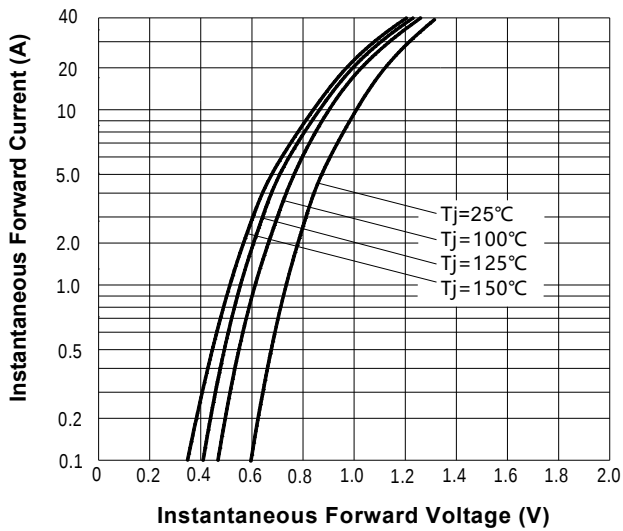


FIG.4: Instantaneous Reverse Characteristics

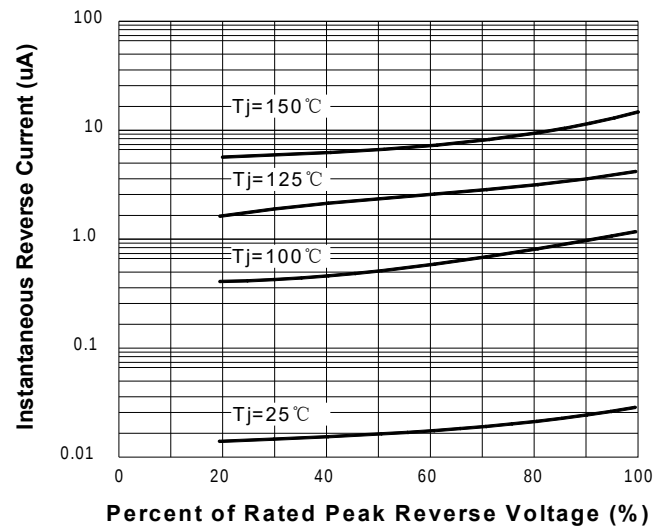
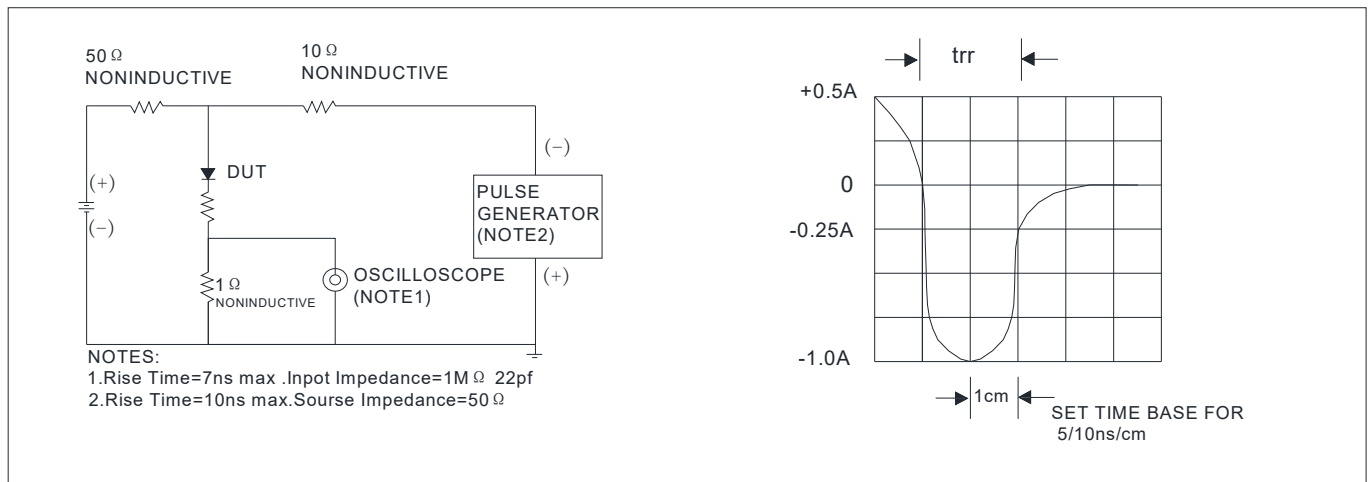


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

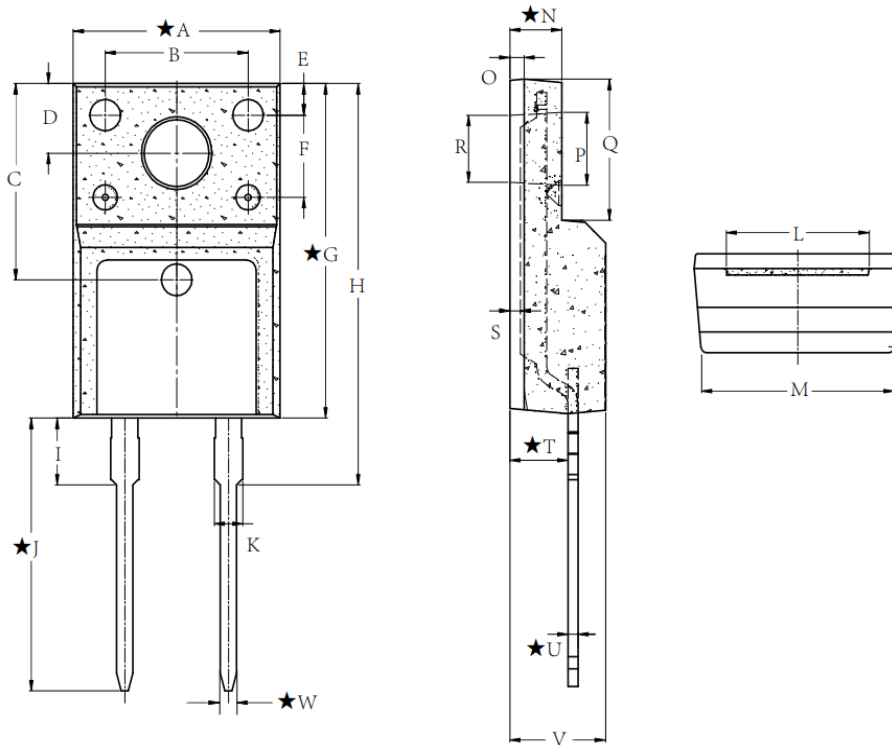




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■Outline Dimensions

ITO-220AC (W5094HF)



ITO-220AC

Dim	Min	Max
A	10.03	10.23
B	6.9	7.1
C	9.21	9.41
D	3.2	3.4
E	1.4	1.6
F	3.8	4.0
G	15.72	16.02
H	TYP 19.05	
I	TYP 3.18	
J	12.65	13.25
K	1.3	1.5
L	6.5	7.5
M	9.23	9.63
N	2.44	2.64
O	TYP 0.7	
P	3.35	3.55
Q	6.58	6.78
R	3.08	3.28
S	TYP 0.52	
T	2.75	2.95
U	0.4	0.6
V	4.5	4.9
W	0.71	0.91



MUR820F-B1-W5094HF

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