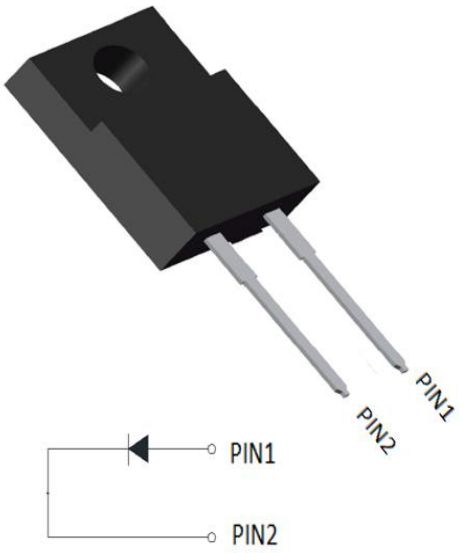
Ultra-Fast Recovery Diodes 8A FRED



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 (Tj=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR860FL
Device marking code			MUR860FL
Repetitive Peak Reverse Voltage	V_{RRM}	V	600
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, Tj=25℃	I_{FSM}	A	50
Current Squared Time @1ms≤t≤8.3ms Tj=25℃,	I^2t	A^2s	12.5
Storage Temperature	Tstg	℃	-55 ~ +175
Junction Temperature	Tj	℃	-55 ~ +175
Typical Junction capacitance @4V,1MHz	Cj	pF	42
Mounting torque @recommend torque：5kg·cm	Tor	kg·cm	8

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	IFM=8.0A @Tj=25℃		-	2.15	3.0
			IFM=8.0A @Tj=150℃		-	-	2.0
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	uA	VRM=VRRM Tj=25℃		-	-	5.0
	I_{RRM2}		VRM=VRRM Tj=150℃		-	25	200
Reverse Recovery Time	T_{rr}	ns	IF=0.5A IRM=1A IRR=0.25A Tj=25℃		-	17	25
			Tj=25℃	IF=8A di/dt=-200A/us VRM=200V	-	40	-
			Tj=125℃		-	95	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	1.9	-
			Tj=125℃		-	3.8	-
Reverse recovery charge	Q_{rr}	nC	Tj=25℃		-	40	-
			Tj=125℃		-	185	-

■Thermal Characteristics （Tj=25℃ Unless otherwise specified）

PARAMETER		SYMBOL	UNIT	MUR860FL
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	℃/W	4.0
Thermal Resistance	Between junction and Air	$R_{\theta J-A}$	℃/W	50

■Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR860FL	Approximate 1.6	50	1000	5000	Tube

■Characteristics (Typical)

FIG1:Io -Tc Curve

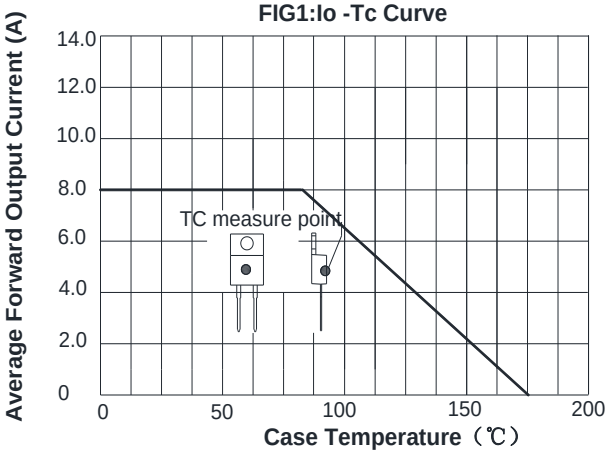


FIG2:Surge Forward Current Capability

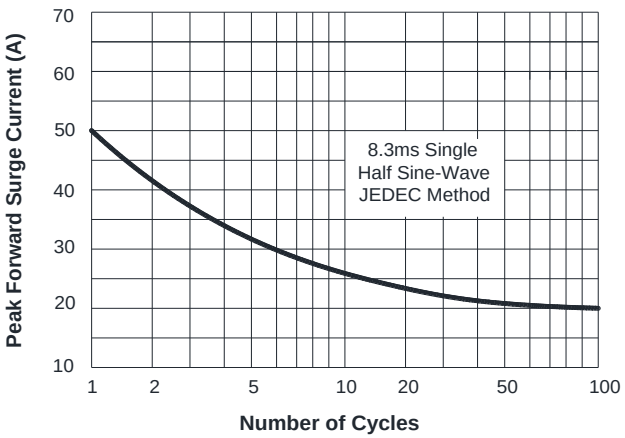


FIG3: Forward Voltage

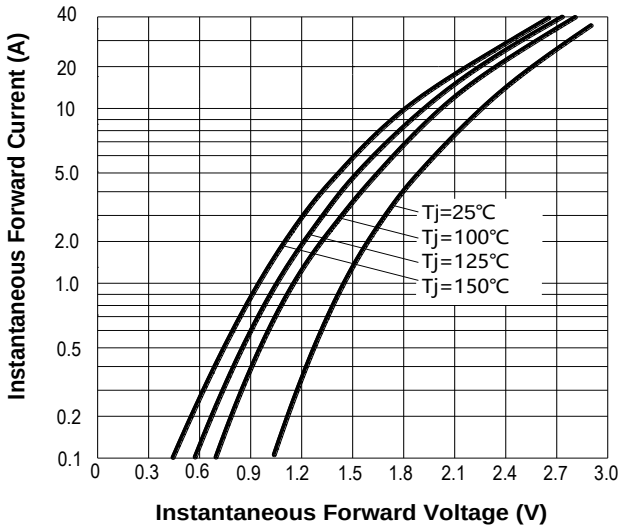


FIG.4: Instantaneous Reverse Characteristics

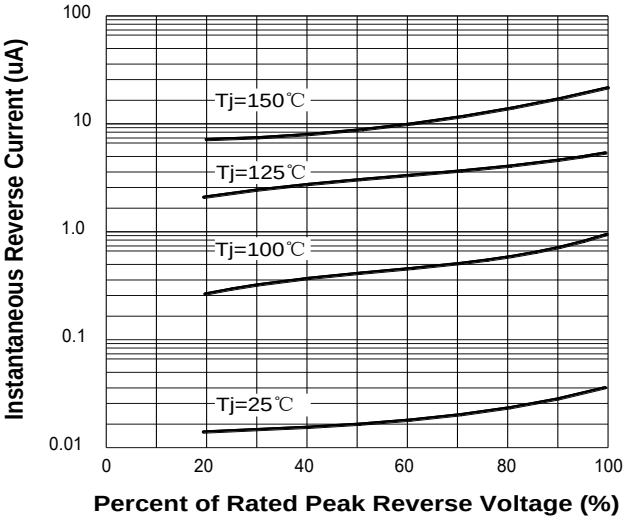
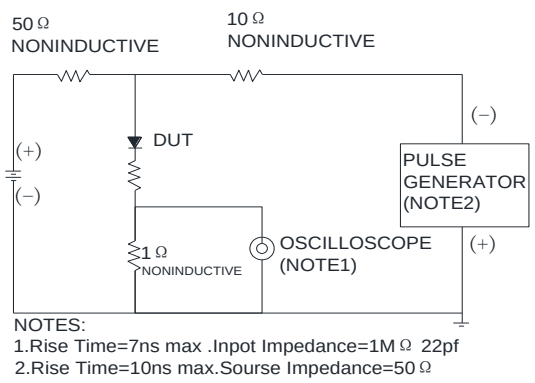
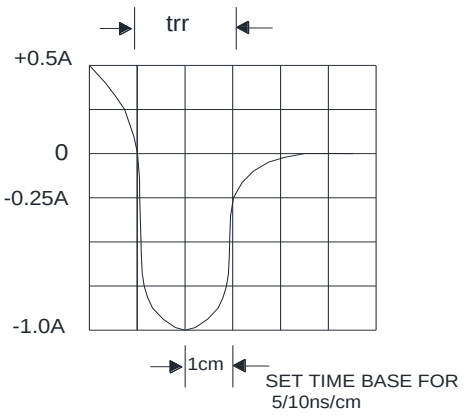
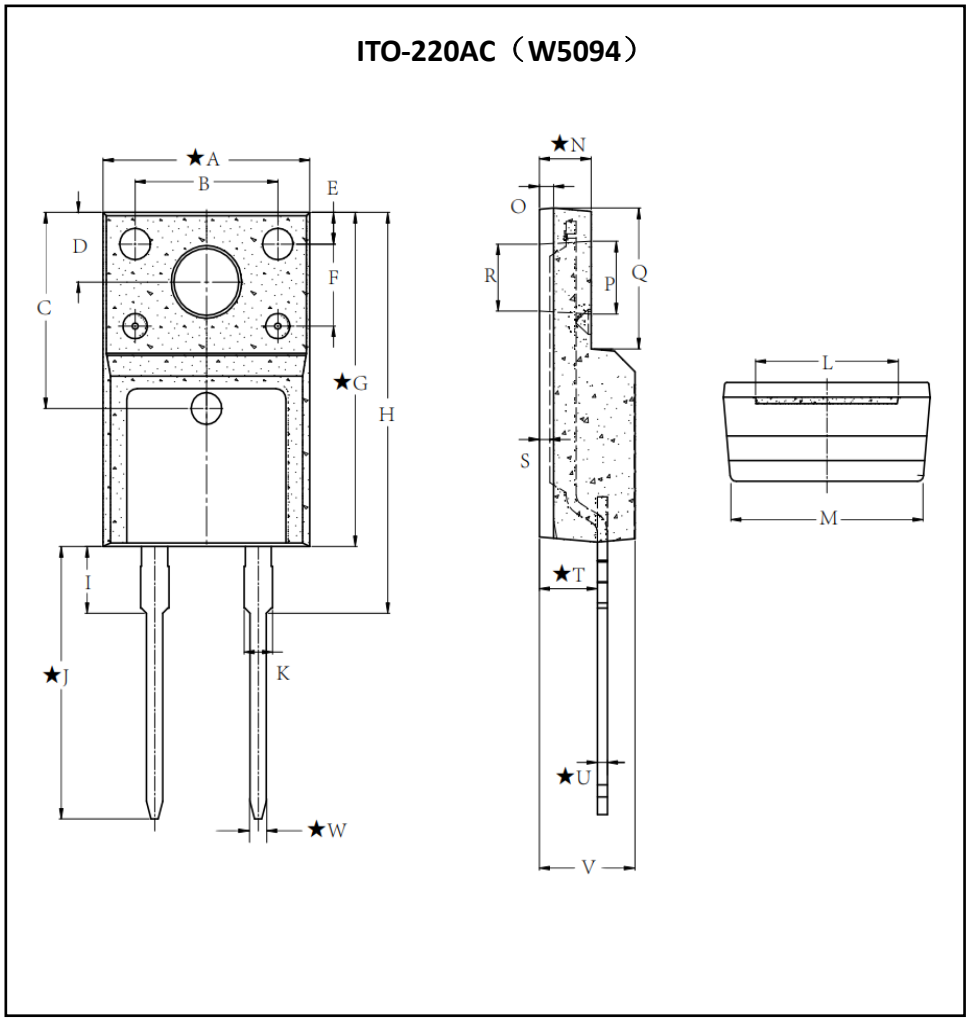


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time





■Outline Dimensions



ITO-220AC		
Dim	Min	Max
A	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

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