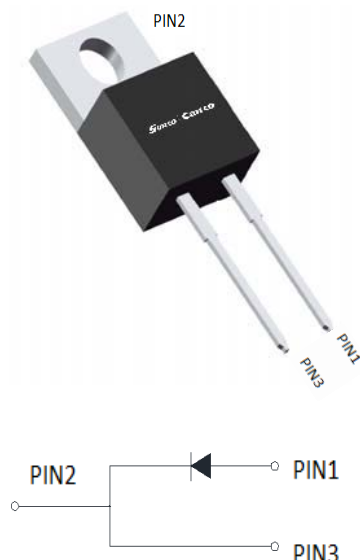


Ultra-Fast Recovery Diodes 8A FRED



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:** TO-220AC
Molding compound meets UL 94 V-0 flammability rating, -
- **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	MUR860U
Device marking code			MUR860U
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, T _j =25°C	I _{FSM}	A	80
Current Squared Time @1ms≤t≤8.3ms T _j =25°C,	I ² t	A ² s	26.56
Storage Temperature	T _{stg}	°C	-55 ~ +175
Junction Temperature	T _j	°C	-55 ~ +175
Typical Junction capacitance @4V,1MHz	C _j	pF	30

MUR860U-B1-W5094HF

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	IFM=8.0A @Tj=25°C	-	2.20	3.0
			IFM=8.0A @Tj=150°C	-	1.53	2.0
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	uA	VRM=VRRM Tj=25°C	-	-	5.0
	I_{RRM2}		VRM=VRRM Tj=150°C	-	-	200
Reverse Recovery Time	Trr	ns	IF=0.5A IRM=1A IRR=0.25A Tj=25°C	-	13	25
			Tj=25°C	-	35	-
			Tj=125°C	-	52	-
Peak recovery current	I_{RRM}	A	Tj=25°C	-	1.88	-
			Tj=125°C	-	4.86	-
Reverse recovery charge	Qrr	nC	Tj=25°C	-	33	-
			Tj=125°C	-	129	-

■Thermal Characteristics (Tj=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MUR860U
Thermal Resistance	Between junction and case	RθJ-C	°CW	2.0
Thermal Resistance	Between junction and Air	RθJ-A	°CW	50

■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR860U	Approximate 1.8	50	1000	5000	Tube

■Characteristics (Typical)

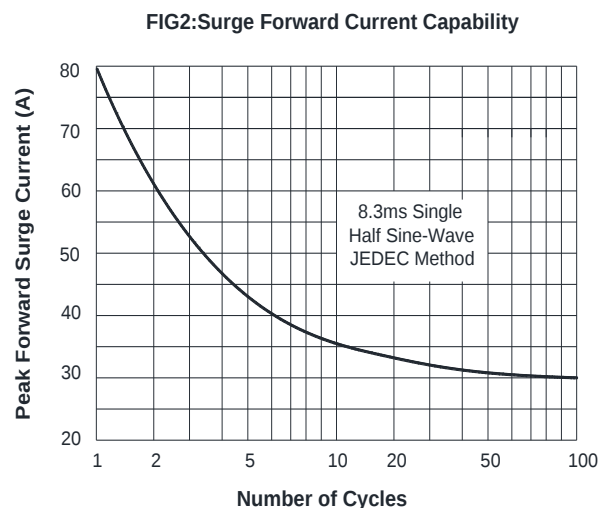
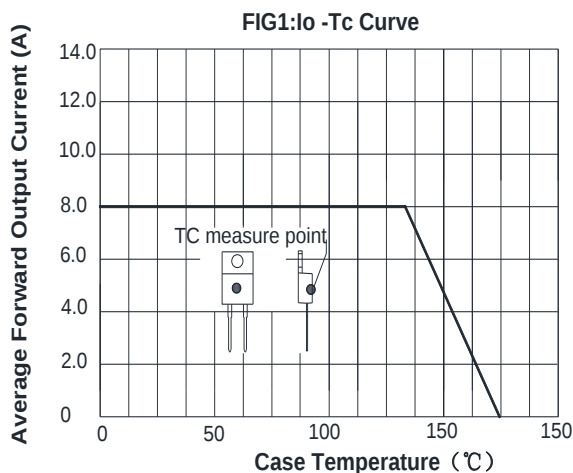


FIG3: Forward Voltage

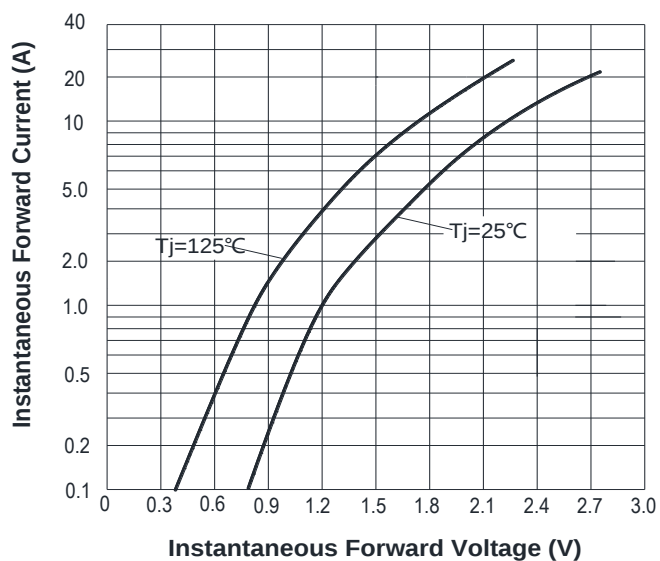


FIG.4: Instantaneous Reverse Characteristics

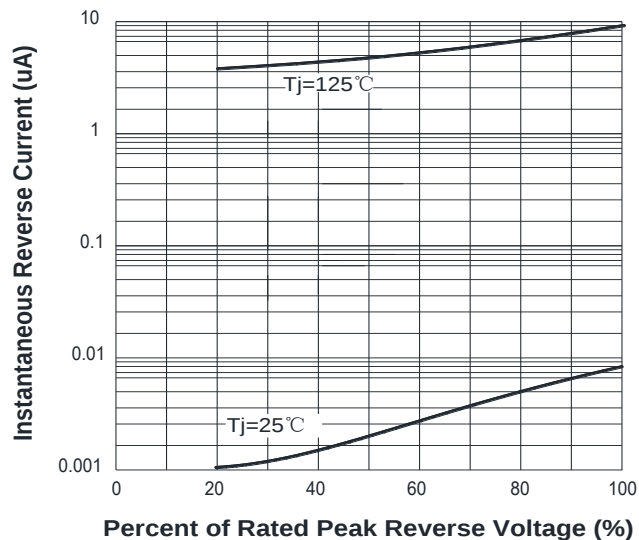
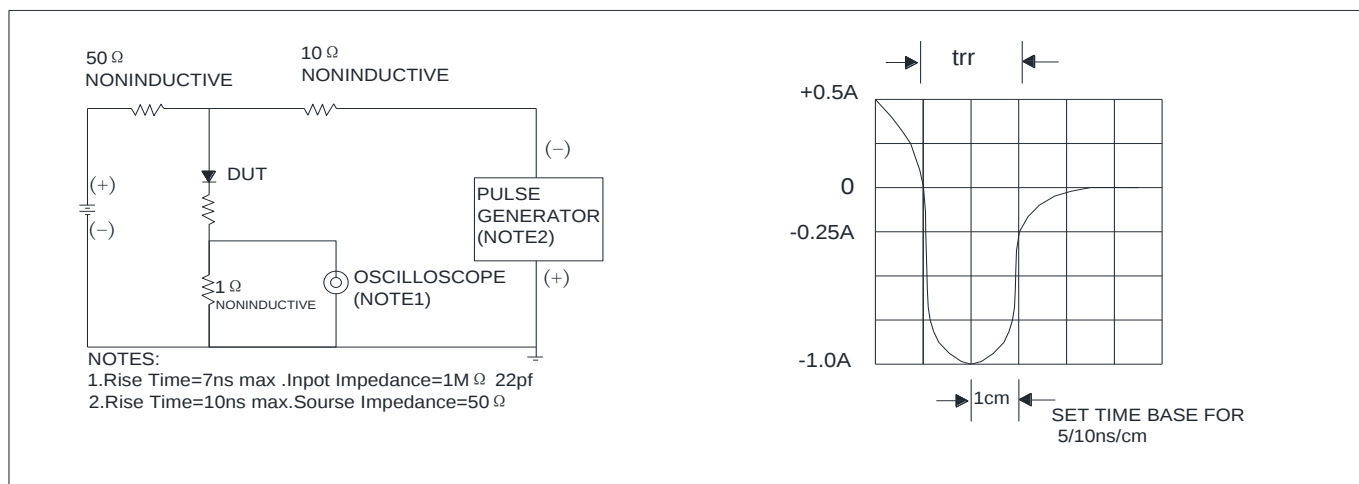
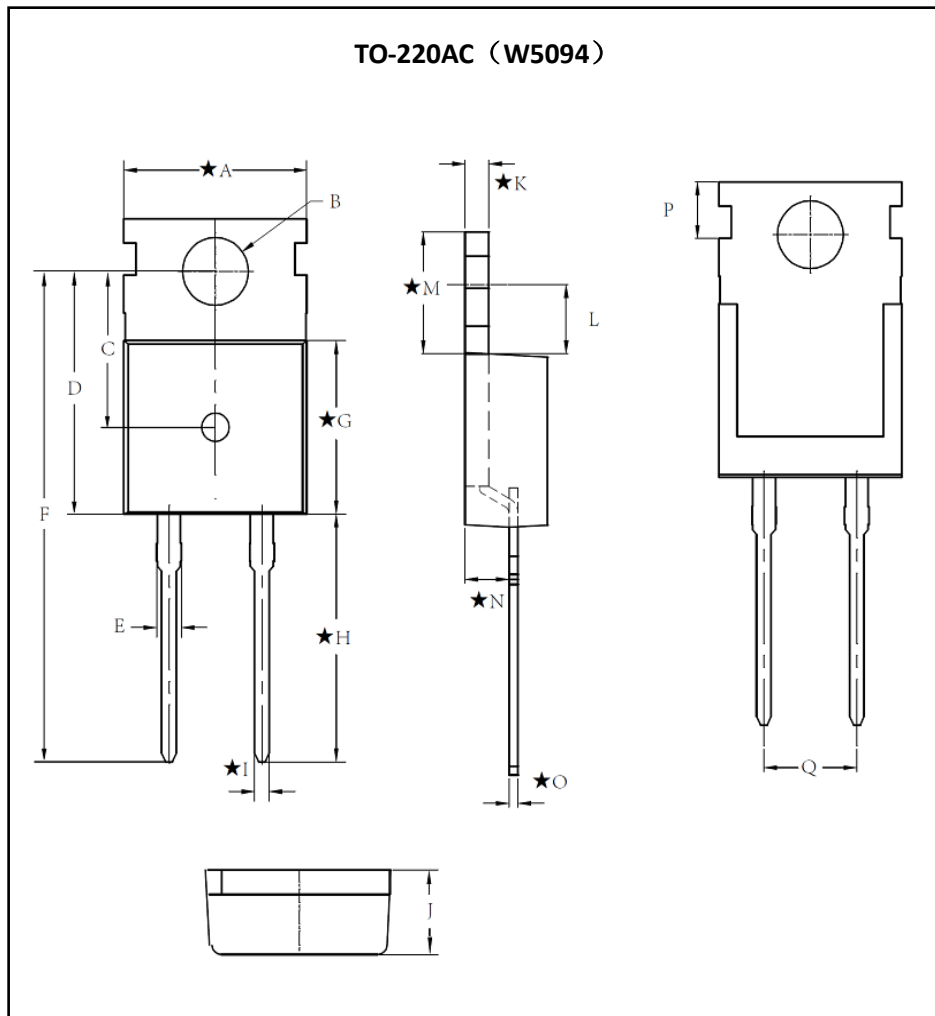


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■Outline Dimensions



TO-220AC		
Dim	Min	Max
A	9.9	10.1
B	TYP 3.6	
C	8.06	8.46
D	12.67	13.07
E	1.28	1.42
F	25.7	26.3
G	9.0	9.4
H	12.93	13.33
I	TYP 0.8	
J	4.3	4.7
K	1.285	1.315
L	3.47	3.87
M	6.27	6.67
N	2.2	2.6
O	0.485	0.515
P	2.8	3.2
Q	TYP 5.08	

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