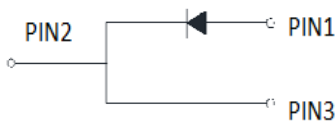


## Ultra-Fast Recovery Diodes 8A FRED Pt



### 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, 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	MURL860
Device marking code			MURL860
Repetitive Peak Reverse Voltage	VRRM	V	600
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>a</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 ~ +150
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +150
Junction capacitance @4V,1MHz	C <sub>j</sub>	pF	115



# MURL860

## ■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	-	1.05	1.3	
			IFM=8.0A @Tj=150°C			1.0	
DC reverse current at rated DC blocking voltage per diode	$I_{RRM1}$	uA	VRM=VRRM Tj=25°C	-	-	10	
	$I_{RRM2}$		VRM=VRRM Tj=150°C	-	25	50	
Reverse Recovery Time	Trr	ns	IF=0.5A IRM=1A IRR=0.25A Tj=25°C	-	42	75	
Peak recovery current	$I_{RRM}$	A	Tj=25°C	IF=8A di/dt=-200A/us VRM=200V	-	158.32	-
			Tj=125°C		-	320.27	-
Reverse recovery charge	Qrr	nC	Tj=25°C		-	210.46	-
			Tj=125°C		-	700.86	-

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

PARAMETER		SYMBOL	UNIT	MURL860
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
MURL860	Approximate 1.8	50	1000	5000	Tube

## ■Characteristics (Typical)

FIG1:Io -Tc Curve

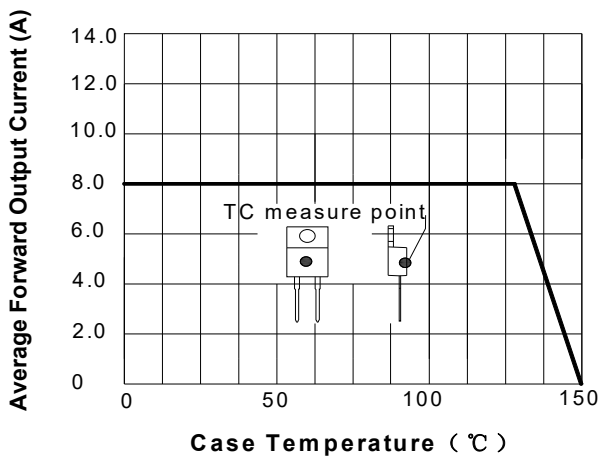
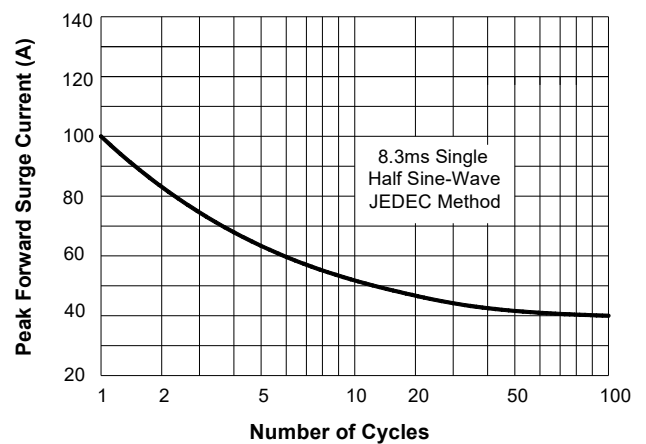
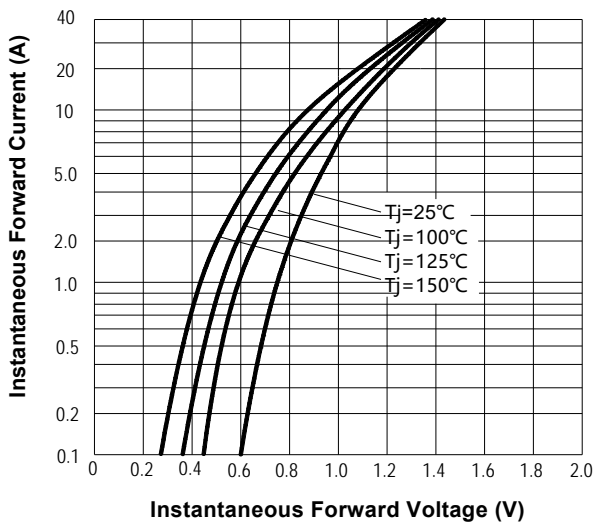


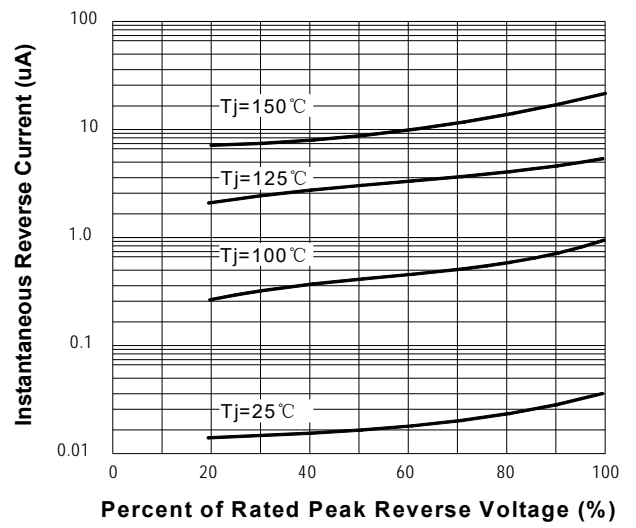
FIG2:Surge Forward Current Capability



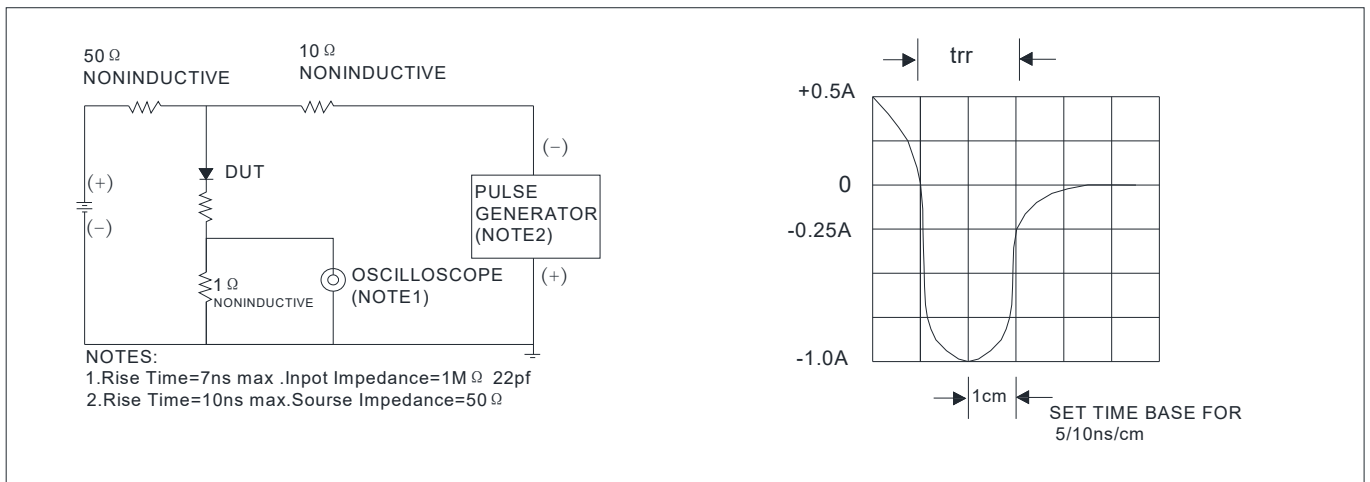
**FIG3: Forward Voltage**



**FIG.4: Instantaneous Reverse Characteristics**

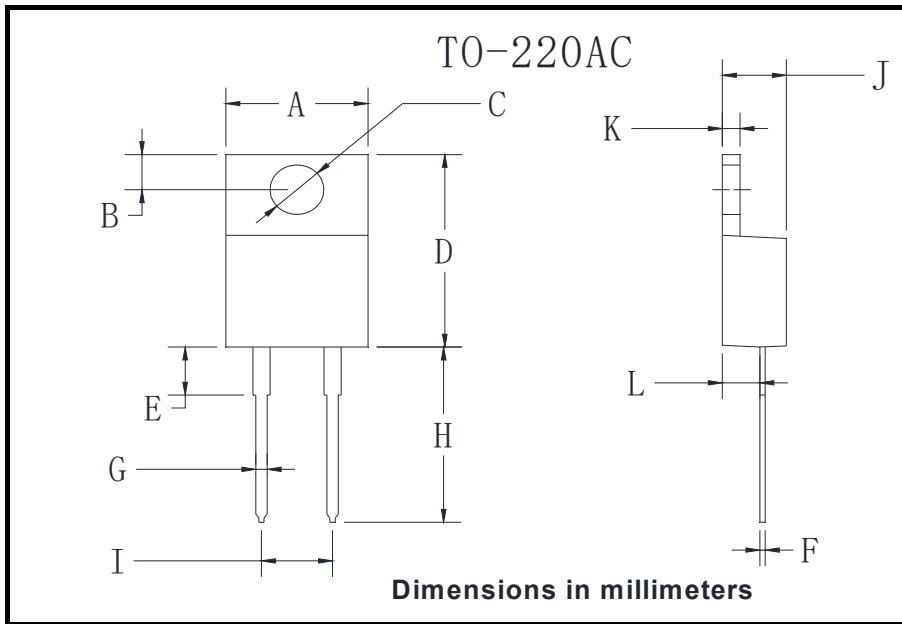


**FIG.5: Diagram of circuit and Testing wave form of reverse recovery time**





## ■Outline Dimensions



TO-220AC		
Dim	Min	Max
A	9.95	10.35
B	2.55	2.95
C	3.75	4.05
D	14.95	15.25
E	3.75	4.25
F	0.26	0.5
G	0.68	0.94
H	13.3	13.9
I	4.86	5.26
J	4.38	4.78
K	1.14	1.4
L	2.37	2.79



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