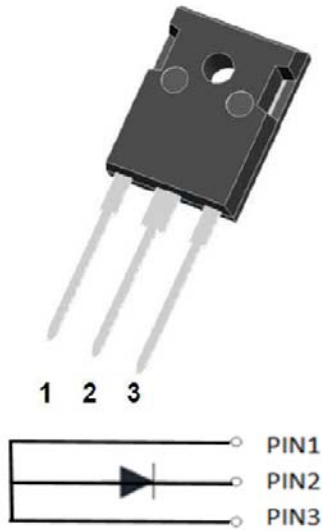


Ultra-Fast Recovery Diodes 60A FRED



Features

- High frequency operation
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

Typical Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Mechanical Data

- **Package:** TO-247AB
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	MUR60120PLS
Device marking code			MUR60120PLS
Repetitive Peak Reverse Voltage	VRRM	V	1200
Average Rectified Output Current @60Hz half sine-wave, R-load, T _c (FIG.1)	I _o	A	60
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _j =25°C	I _{FSM}	A	450
Current Squared Time @1ms≤t≤8.3ms T _j =25°C	I ² t	A ² s.	664
Single Pulse Avalanche Energy @ T _p =40uS, T _j =25°C,L=15mH	EAS	mJ	7.5
Storage Temperature	T _{stg}	°C	-55 ~ +175
Junction Temperature	T _j	°C	-55 ~ +175
Typical Junction capacitance @4V,1MHz	C _j	pF	170



MUR60120PLS

■Electrical Characteristics (T_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
instantaneous forward voltage drop per diode	VFM	V	I _{FM} =60.0A T _j =25°C	-	3.0	3.3
			I _{FM} =60.0A T _j =125°C	-	2.3	2.8
DC reverse current at rated DC blocking voltage per diode	I _{RRM1}	uA	V _{RM} =V _{R_{RM}} T _j =25°C	-	-	5.0
	I _{RRM2}		V _{RM} =V _{R_{RM}} T _j =125°C	-	-	200
Reverse Recovery Time	T _{rr}	ns	I _F =0.5A I _{RM} =1A I _{RR} =0.25A T _j =25°C	-	45	70
			T _j =25°C	-	240	-
			T _j =125°C	-	293	-
Peak recovery current	I _{RRM}	A	T _j =25°C	-	5.45	-
			T _j =125°C	I _F =60A di/dt=-200A/us V _{RM} =960V	-	13.25
Reverse recovery charge	Q _{rr}	nC	T _j =25°C	-	630	-
			T _j =125°C	-	2850	-

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

PARAMETER	SYMBOL	UNIT	MUR60120PLS
Thermal Resistance Between junction and case	R _{θJ-C}	°CW	0.4

■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR60120PLS	Approximate 6.0	30	360	1800	Tube

■Characteristics (Typical)

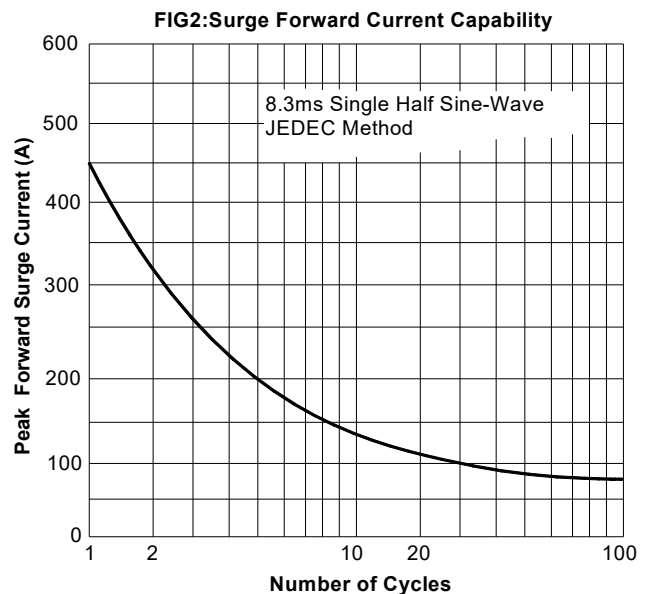
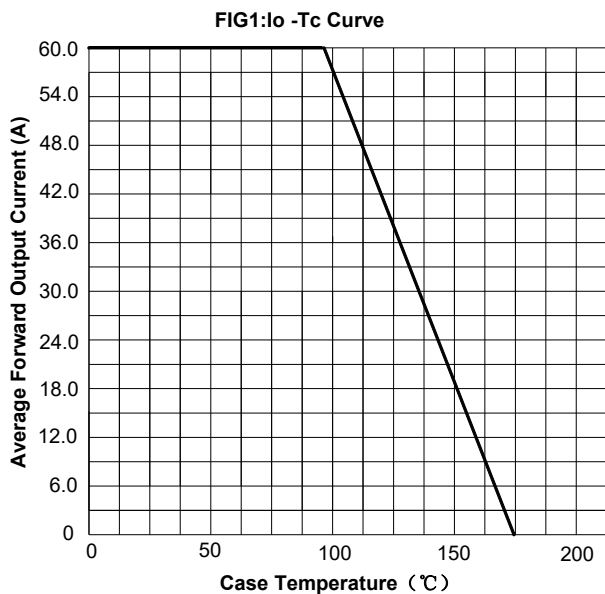


FIG3: Forward Voltage

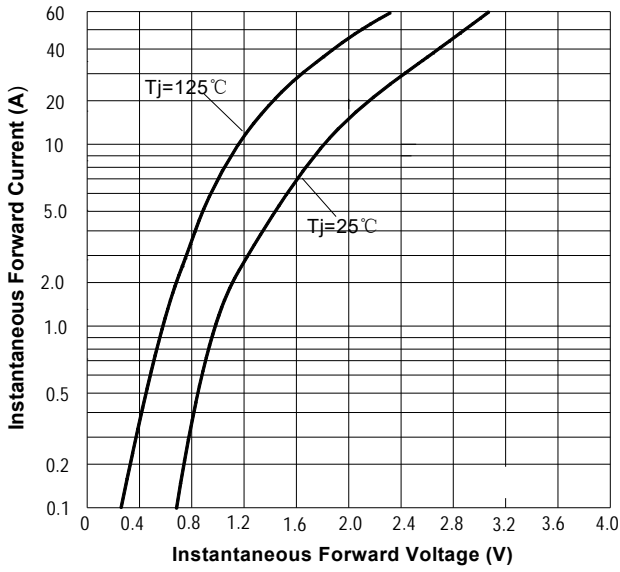


FIG4: Typical Reverse Characteristics

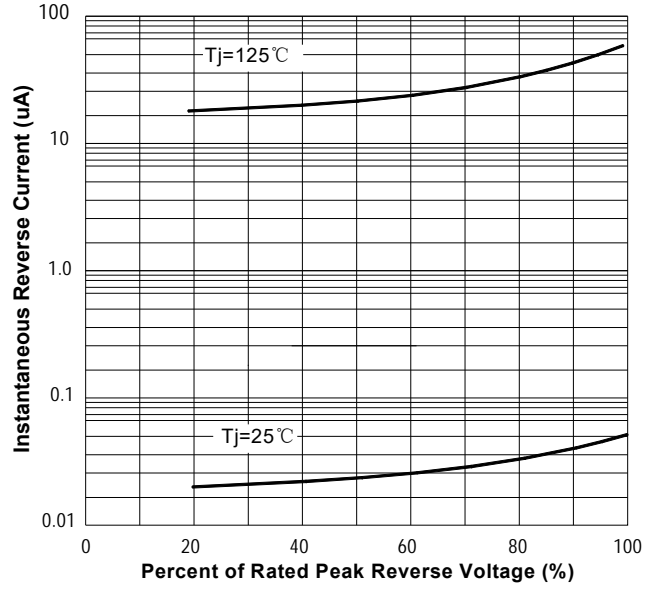
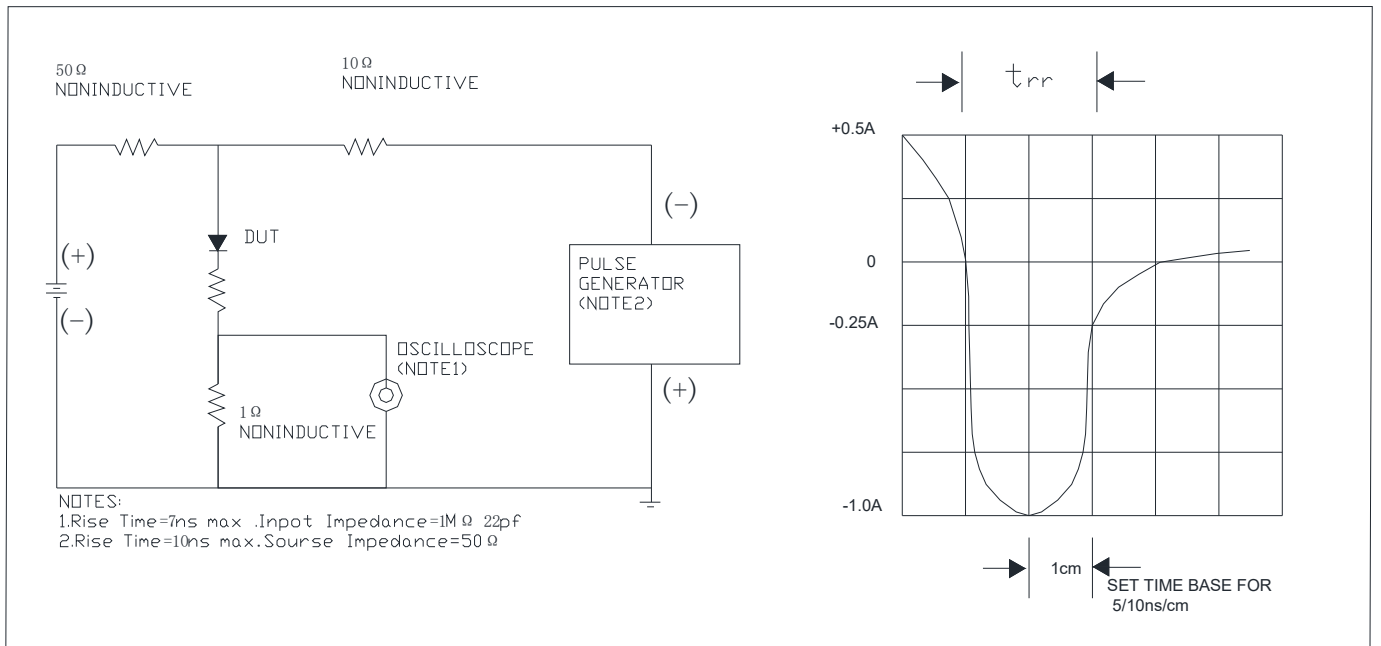


FIG.5 Diagram of circuit and Testing wave form of reverse recovery time

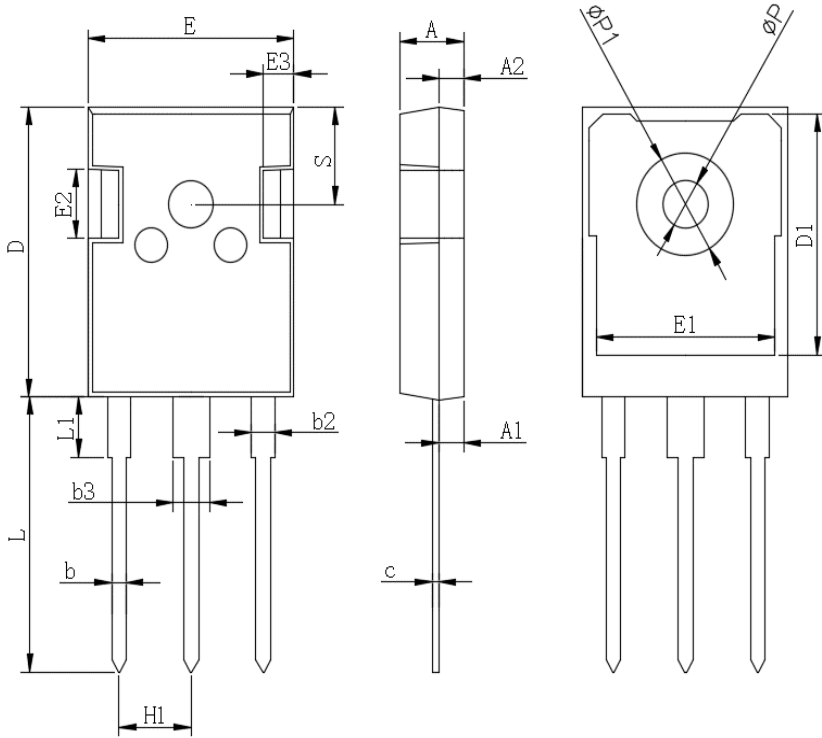




MUR60120PLS

■Outline Dimensions

TO-247AB



TO-247AB		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.0	1.4
b2	1.91	2.21
C	0.5	0.7
D	20.70	21.30
D1	16.25	16.85
E	15.50	16.10
E1	13.0	13.6
E2	4.80	5.20
E3	2.30	2.70
L	19.62	20.22
L1	-	4.30
ϕP	3.40	3.80
$\phi P1$	-	7.30
S	6.15TYP	
H1	5.44TYP	
b3	2.80	3.20



MUR60120PLS

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