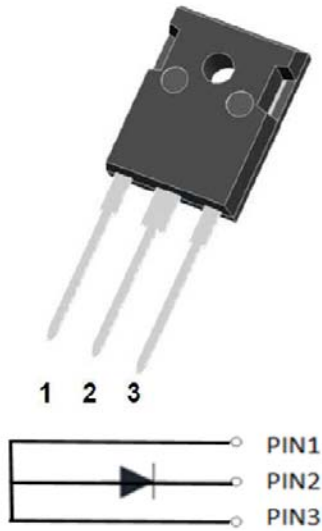


Ultra-Fast Recovery Diodes 60A FRED



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	I _F =60A di/dt=-200A/us V _{RM} =960V	5.45	-	
			T _j =125°C		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)

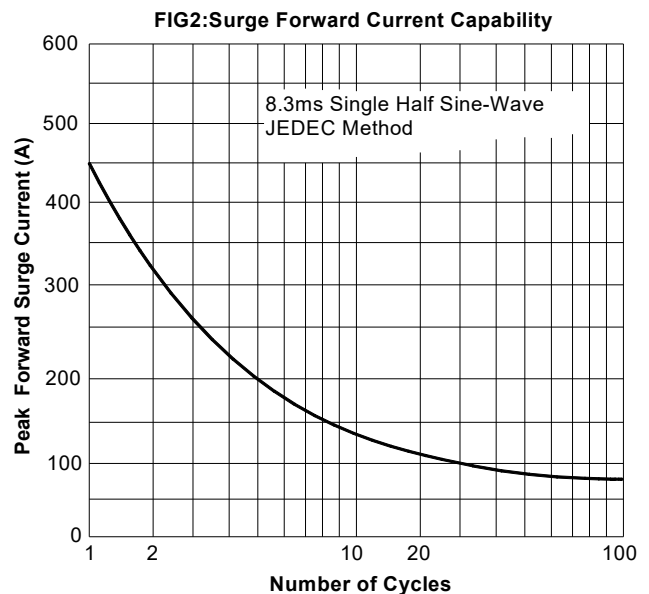
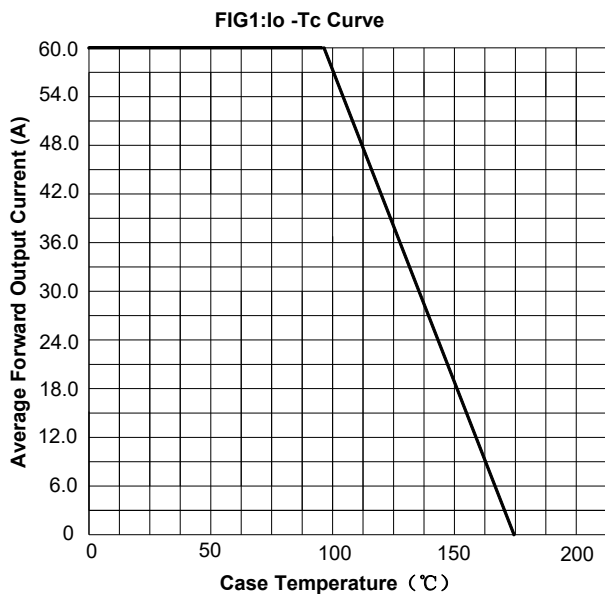


FIG3: Forward Voltage

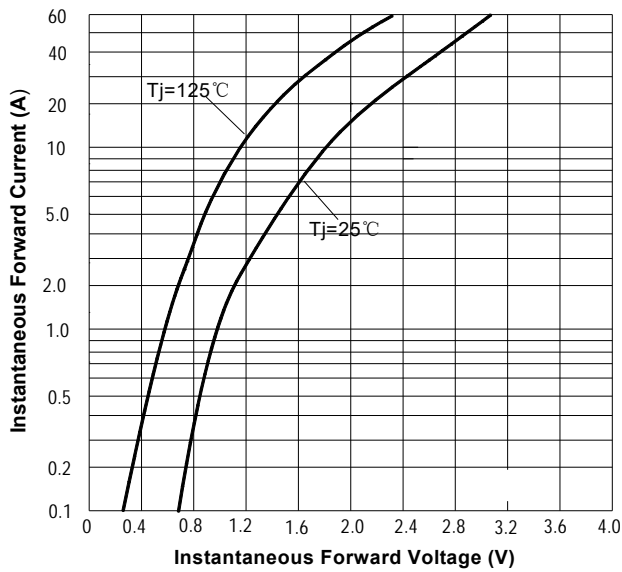


FIG4: Typical Reverse Characteristics

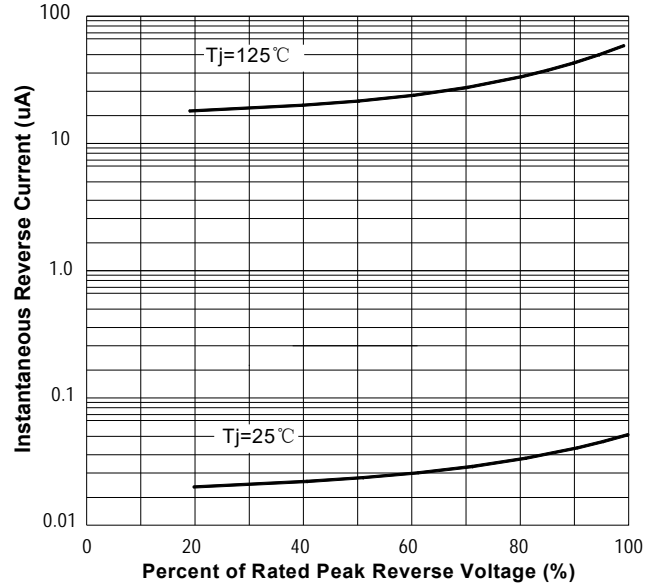
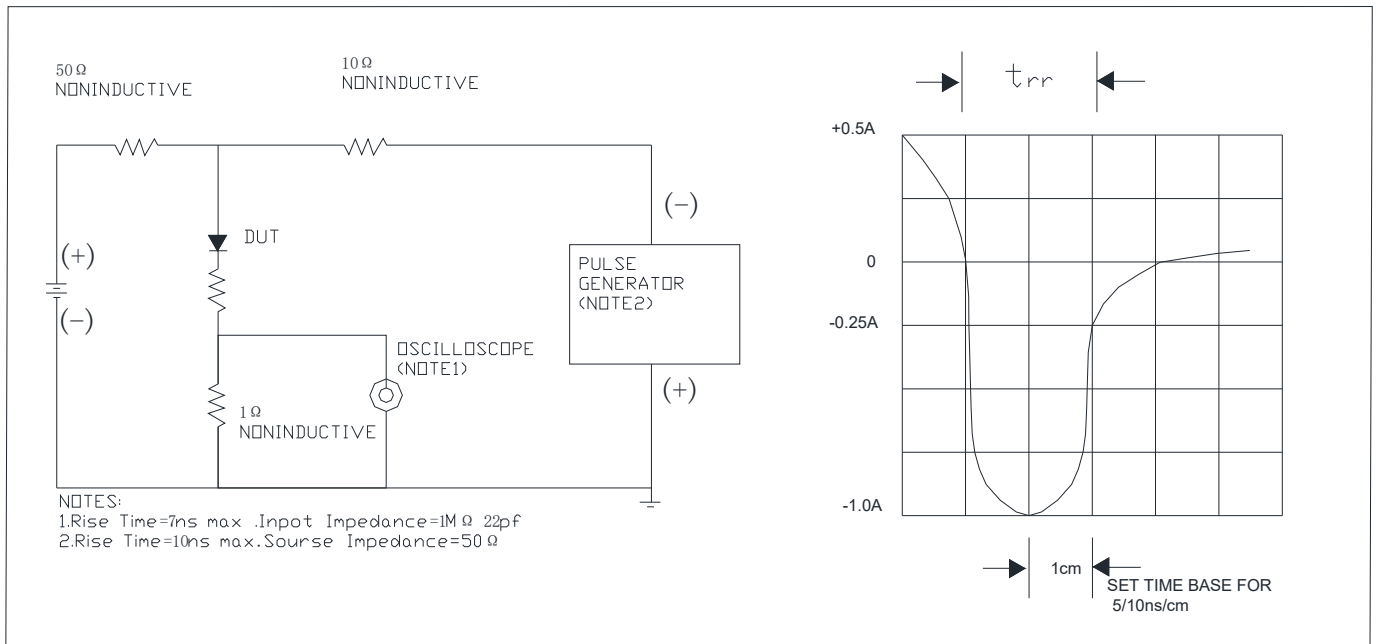


FIG.5 Diagram of circuit and Testing wave form of reverse recovery time

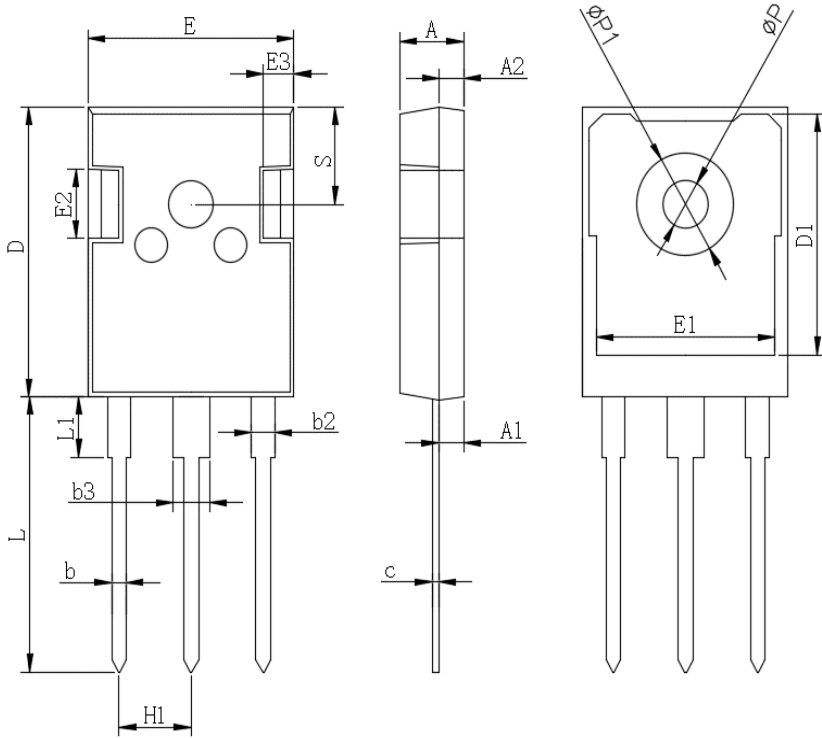




MUR60120PLS

■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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The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

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