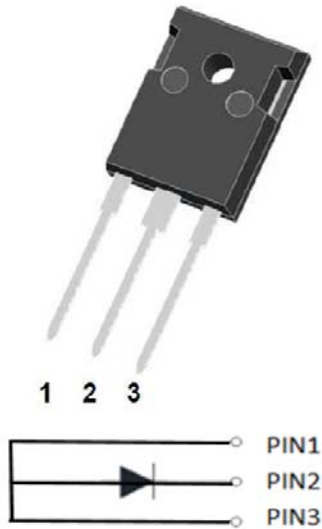


## Ultra-Fast Recovery Rectifier Diodes



### 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<sub>j</sub>=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 <sub>c</sub> (FIG.1)	I <sub>o</sub>	A	60
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>j</sub> =25°C	I <sub>FSM</sub>	A	450
Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C	I <sup>2</sup> t	A <sup>2</sup> s.	664
Single Pulse Avalanche Energy @ T <sub>p</sub> =40uS, T <sub>j</sub> =25°C,L=15mH	EAS	mJ	7.5
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +175
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +175
Typical Junction capacitance @4V,1MHz	C <sub>j</sub>	pF	170



# MUR60120PLS

## ■Electrical Characteristics (T<sub>j</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
instantaneous forward voltage drop per diode	VFM	V	I <sub>FM</sub> =60.0A T <sub>j</sub> =25°C	-	3.0	3.3
			I <sub>FM</sub> =60.0A T <sub>j</sub> =125°C	-	2.3	2.8
DC reverse current at rated DC blocking voltage per diode	I <sub>RRM1</sub>	uA	V <sub>RM</sub> =V <sub>R<sub>RM</sub></sub> T <sub>j</sub> =25°C	-	-	5.0
	I <sub>RRM2</sub>		V <sub>RM</sub> =V <sub>R<sub>RM</sub></sub> T <sub>j</sub> =125°C	-	-	200
Reverse Recovery Time	T <sub>rr</sub>	ns	I <sub>F</sub> =0.5A I <sub>RM</sub> =1A I <sub>RR</sub> =0.25A T <sub>j</sub> =25°C	-	45	70
			T <sub>j</sub> =25°C	-	130	-
			T <sub>j</sub> =125°C	-	192	-
Peak recovery current	I <sub>RRM</sub>	A	T <sub>j</sub> =25°C	-	4.7	-
			T <sub>j</sub> =125°C	-	14.5	-
Reverse recovery charge	Q <sub>rr</sub>	nC	T <sub>j</sub> =25°C	-	300	-
			T <sub>j</sub> =125°C	-	1350	-

## ■Thermal Characteristics (T<sub>j</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR60120PLS
Thermal Resistance Between junction and case	R <sub>θJ-C</sub>	°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)

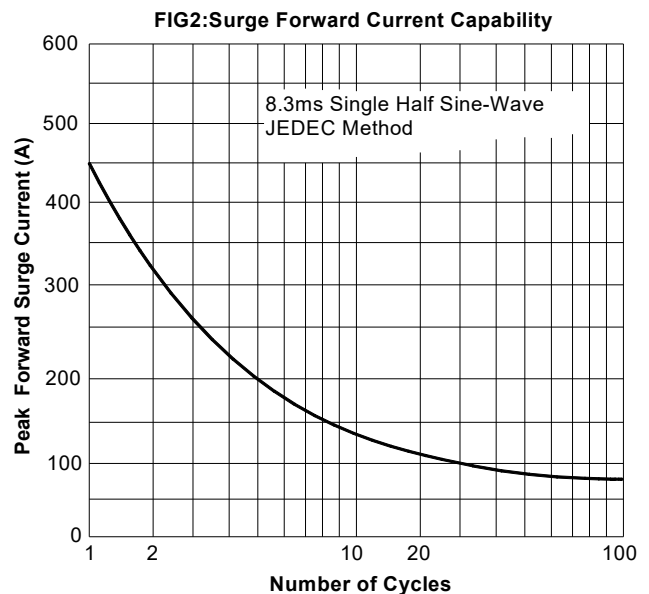
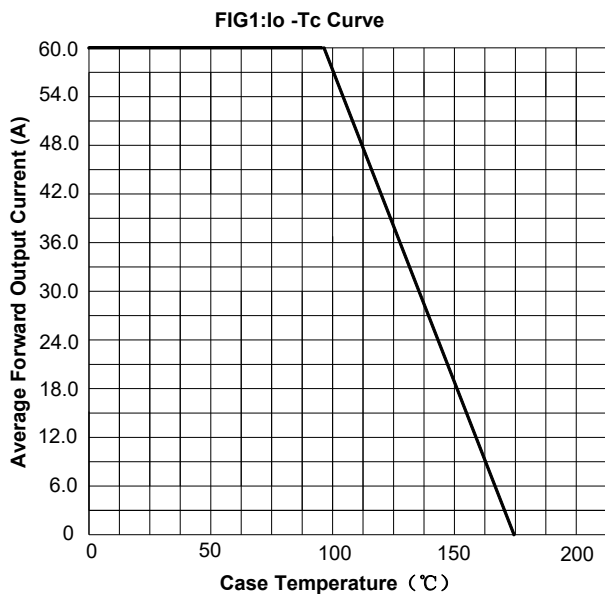


FIG3: Forward Voltage

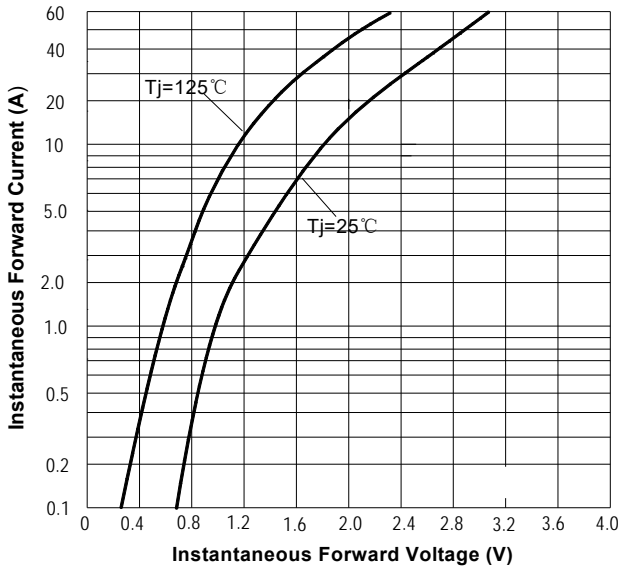


FIG4: Typical Reverse Characteristics

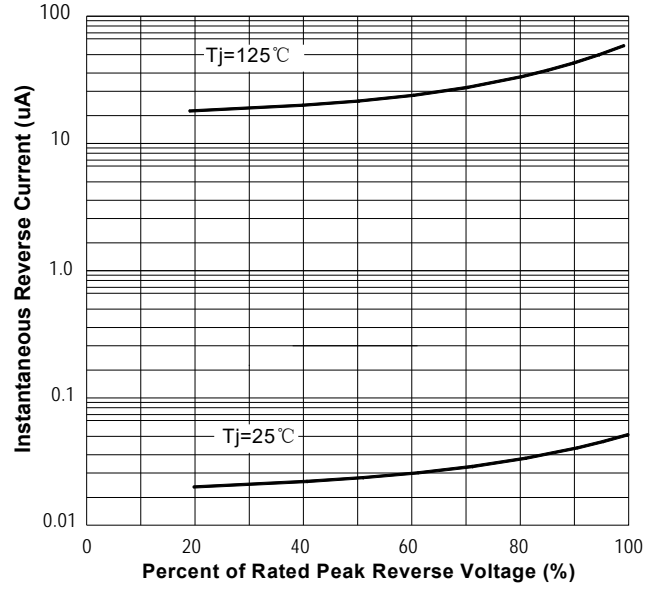
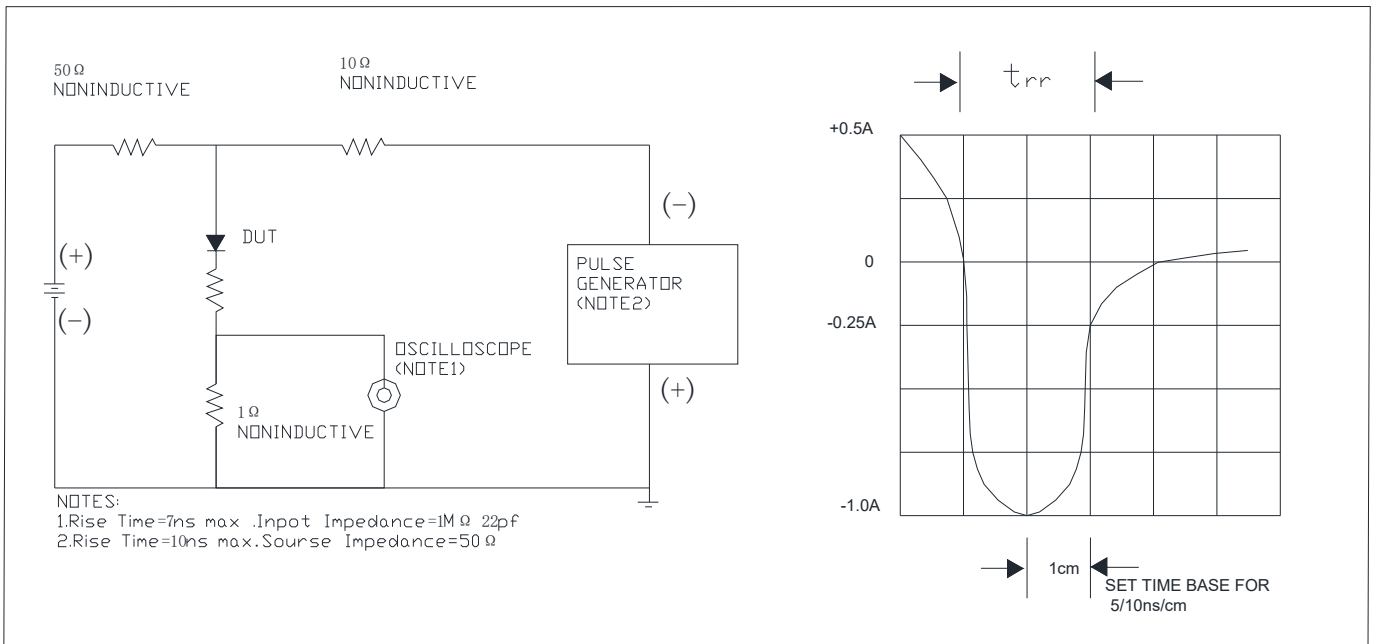


FIG.5 Diagram of circuit and Testing wave form of reverse recovery time

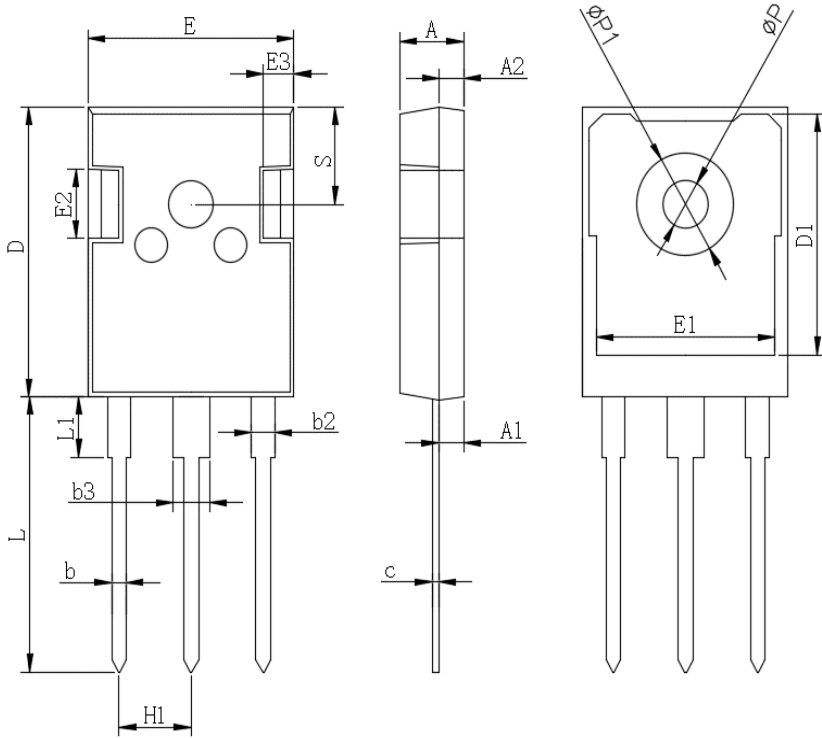




# MUR60120PLS

## ■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
$\Phi P$	3.40	3.80
$\Phi P1$	-	7.30
S	6.15TYP	
H1	5.44TYP	
b3	2.80	3.20



## MUR60120PLS

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