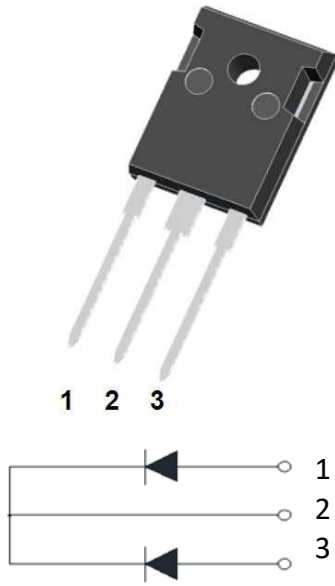


## Ultra-Fast Recovery Diodes 60A FRED



### 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-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	MUR6030PTS
Device marking code			MUR6030PTS
Repetitive Peak Reverse Voltage	VRRM	V	300
Average Rectified Output Current @60Hz 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	350
Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C,	I <sup>2</sup> t	A <sup>2</sup> s	373
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	260



# MUR6030PTS

## ■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	$V_{FM}$	V	$I_{FM}=30.0A @ T_j=25^{\circ}C$	-	1.18	1.40
			$I_{FM}=30.0A @ T_j=125^{\circ}C$		0.98	1.20
DC reverse current at rated DC blocking voltage per diode	$I_{RRM1}$	uA	$V_{RM}=V_{RRM}$ $T_j=25^{\circ}C$	-	-	60
	$I_{RRM2}$		$V_{RM}=V_{RRM}$ $T_j=150^{\circ}C$	-	-	600
Reverse Recovery Time	$T_{rr}$	ns	$I_F=0.5A$ $I_{RM}=1A$ $I_{RR}=0.25A$ $T_j=25^{\circ}C$	-	29	40
			$T_j=25^{\circ}C$	-	40	-
			$T_j=125^{\circ}C$	-	54	-
Peak recovery current	$I_{RRM}$	A	$T_j=25^{\circ}C$	-	2.97	-
			$T_j=125^{\circ}C$			
Reverse recovery charge	$Q_{rr}$	nC	$T_j=25^{\circ}C$	-	59	-
			$T_j=125^{\circ}C$	-	182	-

## ■Thermal Characteristics ( $T_j=25^{\circ}C$ Unless otherwise specified )

PARAMETER		SYMBOL	UNIT	MUR6030PTS
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	$^{\circ}C/W$	1.0
	Between junction and Air	$R_{\theta J-A}$	$^{\circ}C/W$	50

## ■ Characteristics(Typical)

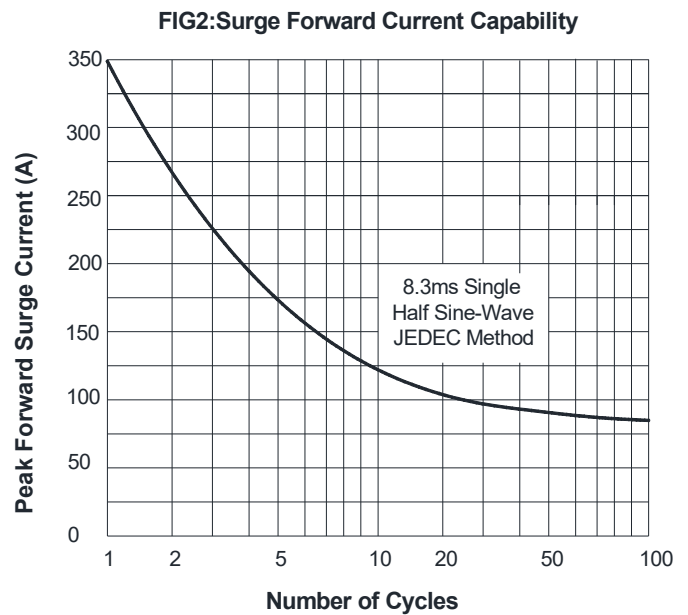
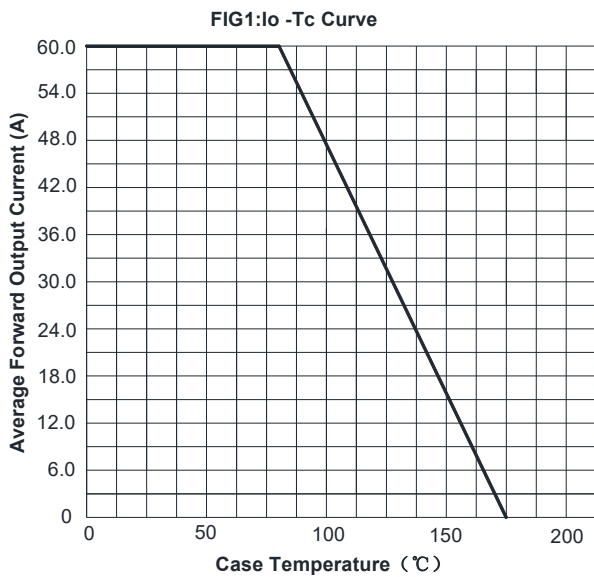


FIG3: Forward Voltage

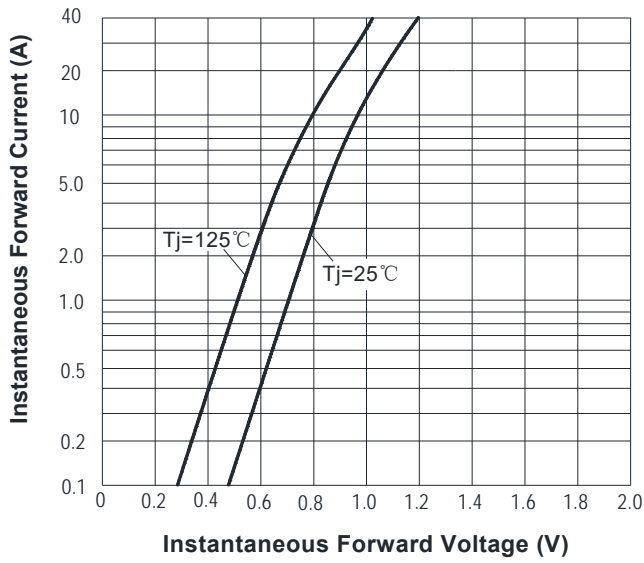


FIG.4: Instantaneous Reverse Characteristics

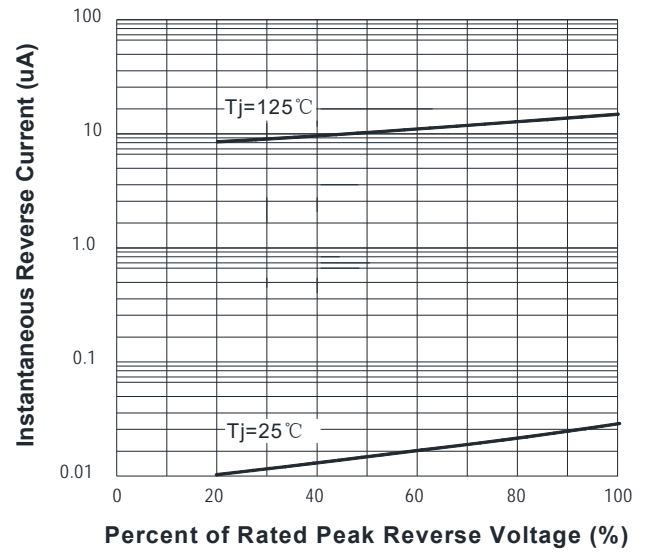
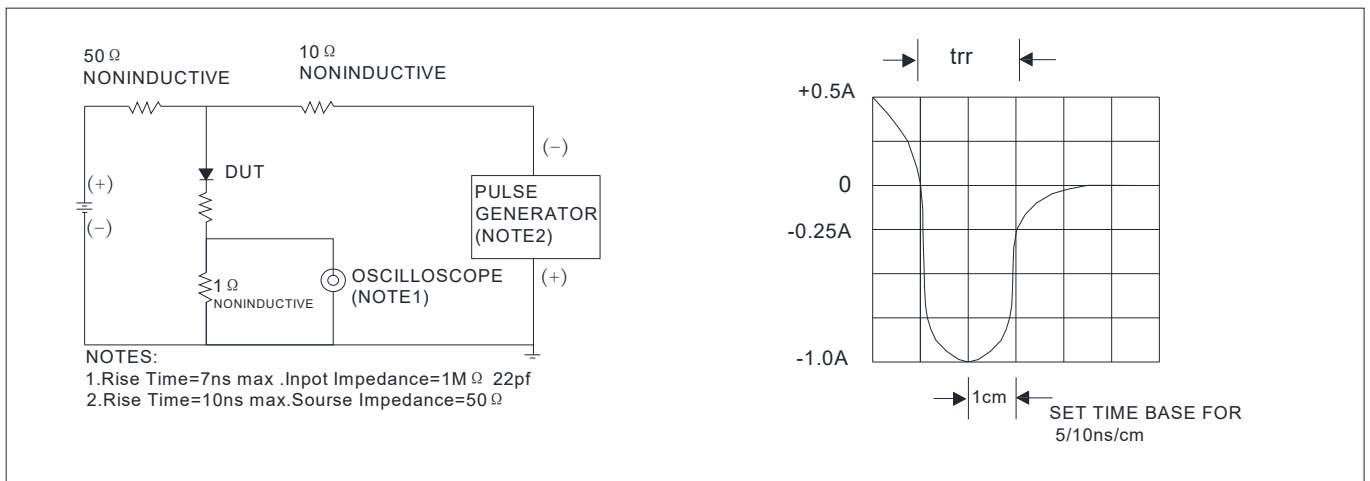


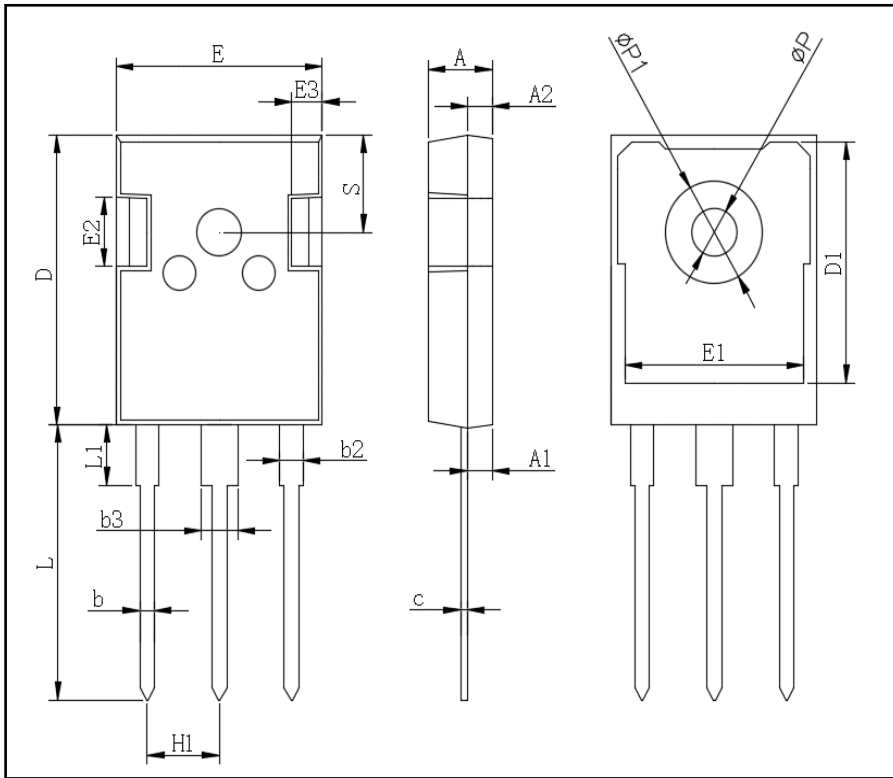
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time





# MUR6030PTS

## ■ Outline Dimensions



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



# MUR6030PTS

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