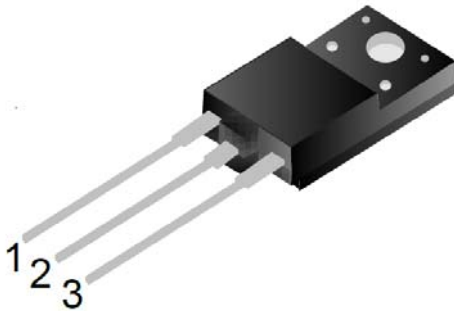


## Ultra-Fast Recovery Diodes 30A\*2 FRED



### 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-3PF  
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	MUR6060FPT
Device marking code			MUR6060FPT
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	V	600
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	300
Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C,	I <sup>2</sup> t	A <sup>2</sup> s	373
Single Pulse Avalanche Energy @ Tp=40uS, T <sub>j</sub> =25°C,L=15mH	EAS	mJ	385
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	195



# MUR6060FPT

## ■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	$V_{FM}$	V	$I_{FM}=30.0A$ @ $T_j=25^{\circ}C$	-	1.45	1.6
			$I_{FM}=30.0A$ @ $T_j=150^{\circ}C$		1.25	1.45
DC reverse current at rated DC blocking voltage per diode	$I_{RRM1}$	uA	$V_{RM}=V_{RRM}$ $T_j=25^{\circ}C$	-	-	5.0
	$I_{RRM2}$		$V_{RM}=V_{RRM}$ $T_j=150^{\circ}C$	-	65	200
Reverse Recovery Time	$T_{rr}$	ns	$I_F=0.5A$ $I_{RM}=1A$ $I_{RR}=0.25A$ $T_j=25^{\circ}C$	-	38	50
			$T_j=25^{\circ}C$	-	112.5	-
			$T_j=125^{\circ}C$	-	175.5	-
Peak recovery current	$I_{RRM}$	A	$T_j=25^{\circ}C$	-	5.5	-
			$T_j=125^{\circ}C$	-	13	-
Reverse recovery charge	$Q_{rr}$	nC	$T_j=25^{\circ}C$	-	300	-
			$T_j=125^{\circ}C$	-	1150	-

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

PARAMETER		SYMBOL	UNIT	MUR6060FPT
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	$^{\circ}C/W$	3

## ■ Characteristics(Typical)

FIG1: $I_o$  - $T_c$  Curve

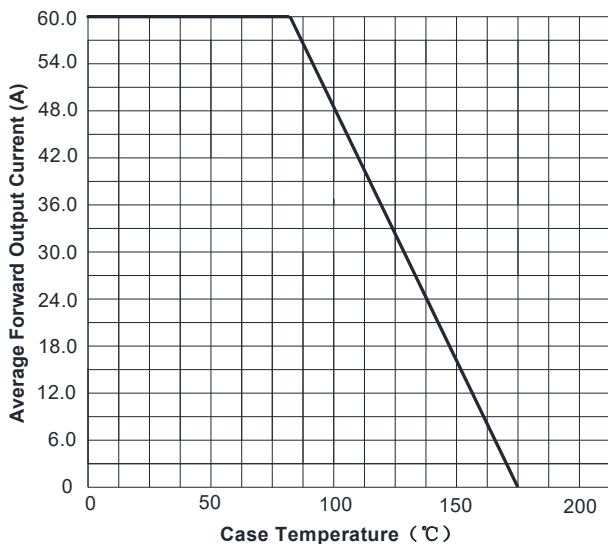


FIG2:Surge Forward Current Capability

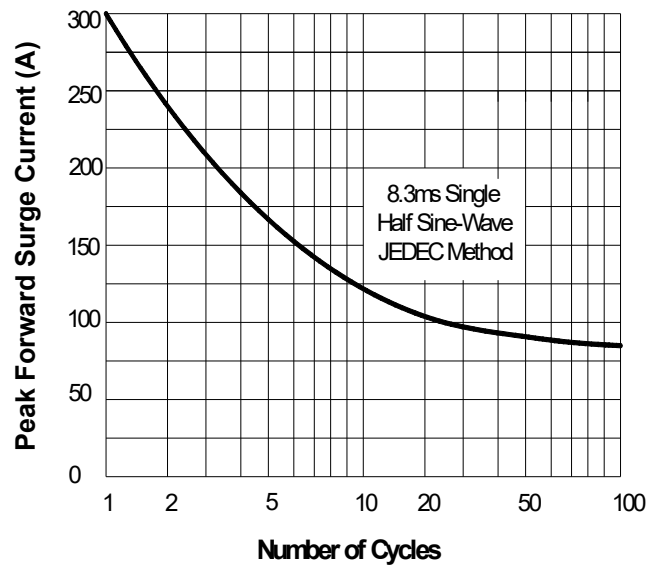


FIG3: Forward Voltage

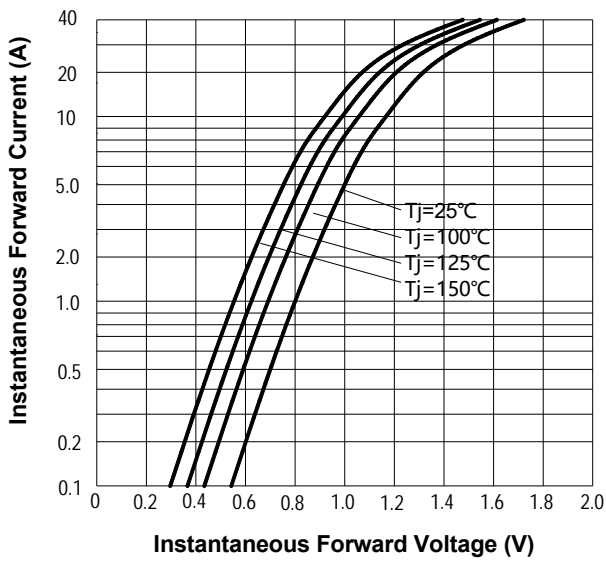


FIG.4: Instantaneous Reverse Characteristics

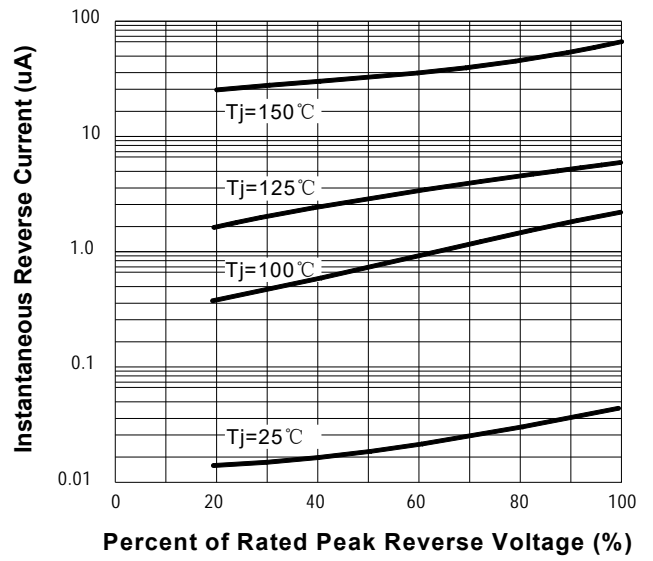
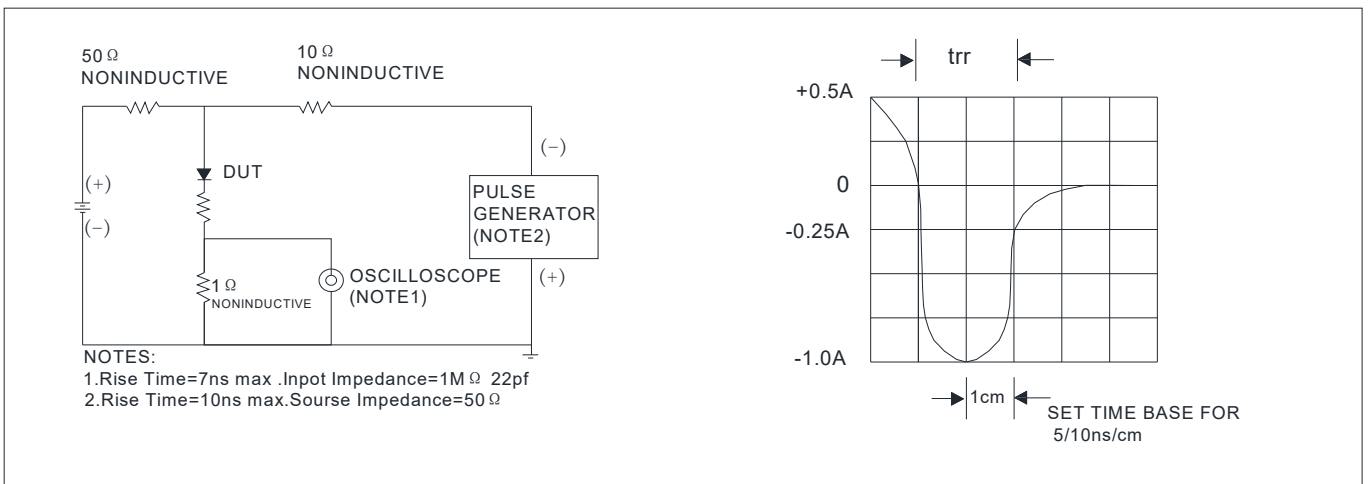


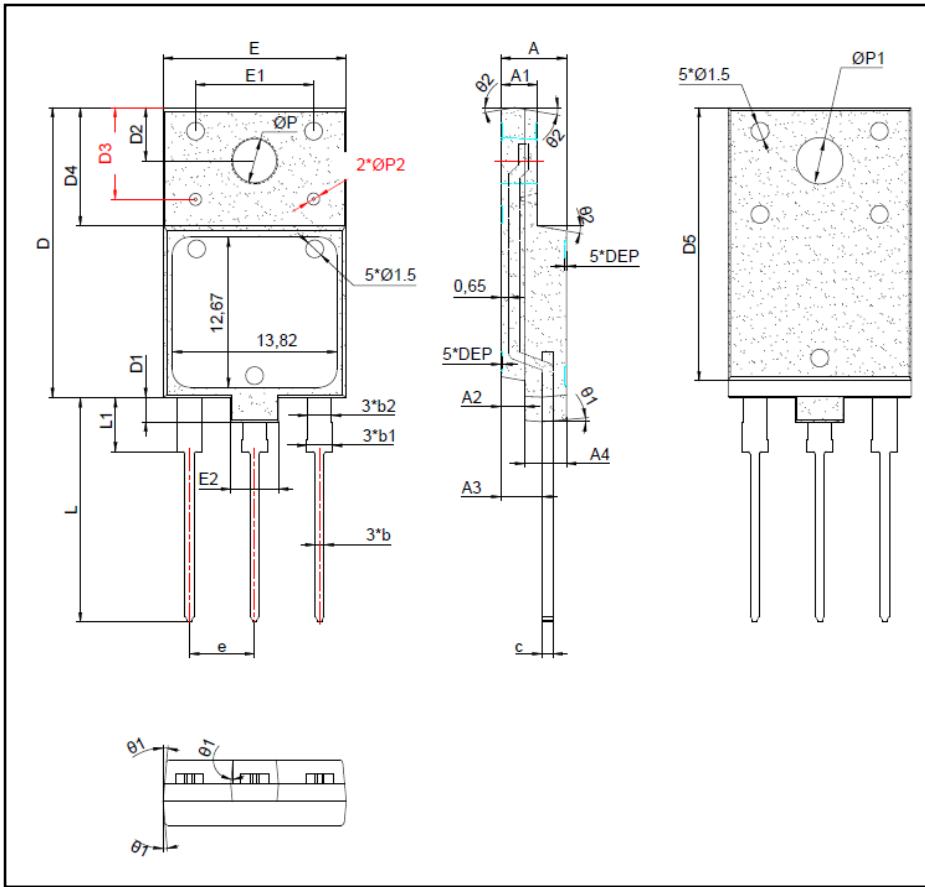
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time





# MUR6060FPT

## ■ Outline Dimensions



TO-3PF		
Dim	Min	Max
A	5.30	5.70
A1	2.85	3.25
A2	1.85	2.15
A3	3.30	3.60
A4	3.35	3.65
b	0.68	0.83
b1	2.06	3.26
b2	1.92	2.08
c	0.82	0.98
D	24.20	24.60
D1	1.85	2.25
D2	3.35	4.65
D3	7.55	7.85
D4	9.76	10.16
D5	22.75	23.25
E	15.15	15.55
E1	9.75	10.25
E2	3.85	4.15
e	5.40	5.50
L	18.70	19.10
L1	4.40	4.70
ØP	3.57	3.77
ØP1	3.80	4.00
ØP2	0.90	1.10
θ 1	2°	8°
θ 2	7°	13°
DEP	0.00	0.15



# MUR6060FPT

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