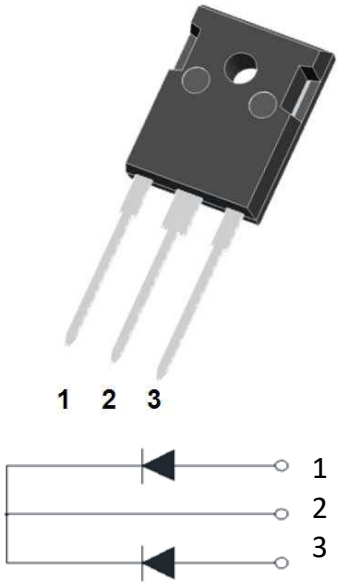
Ultra-Fast Recovery Diodes 60A FRED



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 (Tj=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	MUR6030PTS
Device marking code			MUR6030PTS
Repetitive Peak Reverse Voltage	V_{RRM}	V	300
Average Rectified Output Current @60Hz sine wave, R-load, T_C(FIG.1)	I_O	A	60
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Tj=25℃	I_{FSM}	A	350
Current Squared Time @1ms≤t≤8.3ms Tj=25℃，	I^2t	A^2s	373
Storage Temperature	T_{stg}	℃	-55 ~ +175
Junction Temperature	Tj	℃	-55 ~ +175
Typical Junction capacitance @4V,1MHz	Cj	pF	260

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	I_{FM}=30.0A @Tj=25℃		-	1.18	1.40
			I_{FM}=30.0A @Tj=125℃			0.98	1.20
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	uA	V_{RM}=V_{RRM} Tj=25℃		-	-	60
	I_{RRM2}		V_{RM}=V_{RRM} Tj=150℃		-	-	600
Reverse Recovery Time	Trr	ns	I_F=0.5A I_{RM}=1A I_{RR}=0.25A Tj=25℃		-	29	40
			Tj=25℃	I_F=30A di/dt=-200A/us V_{RM}=200V	-	40	-
			Tj=125℃		-	54	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	2.97	-
			Tj=125℃		-	6.76	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	59	-
			Tj=125℃		-	182	-

■Thermal Characteristics （Tj=25℃ Unless otherwise specified）

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

■ Characteristics(Typical)

FIG1:Io -Tc Curve

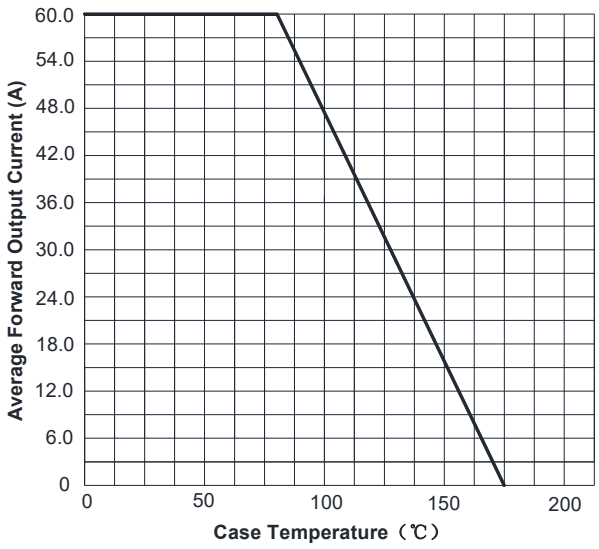


FIG2:Surge Forward Current Capability

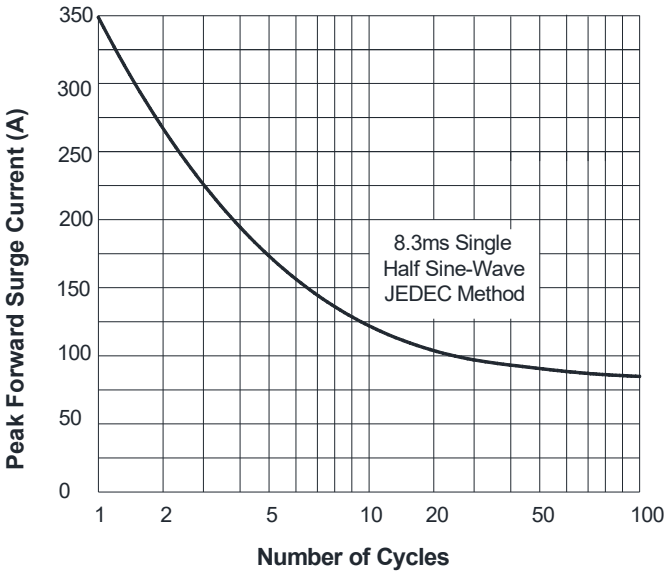


FIG3: Forward Voltage

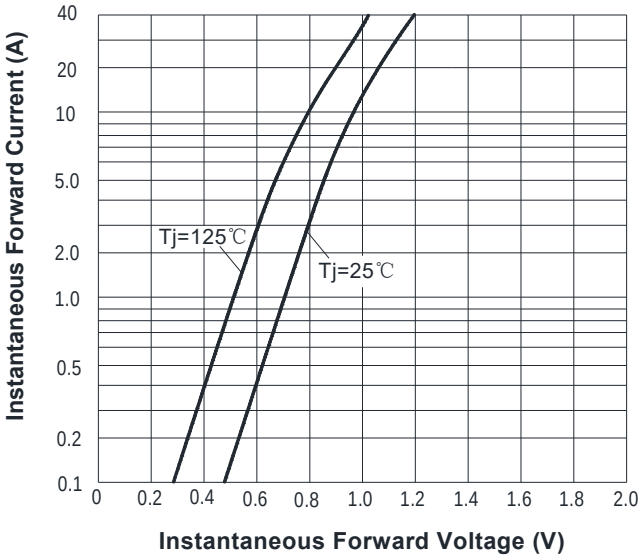


FIG.4: Instantaneous Reverse Characteristics

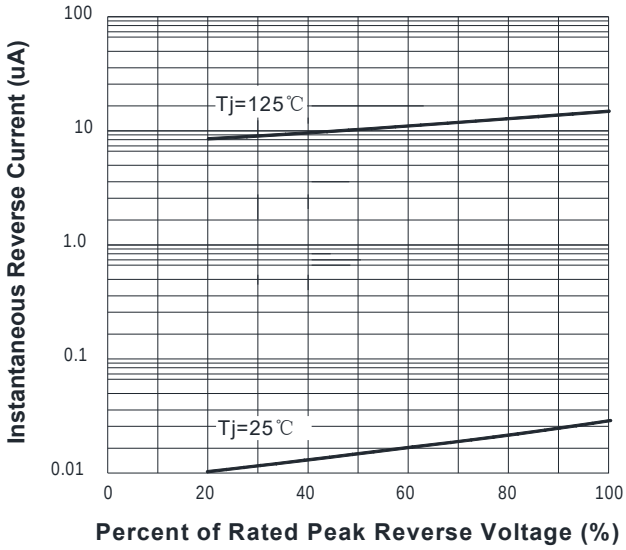
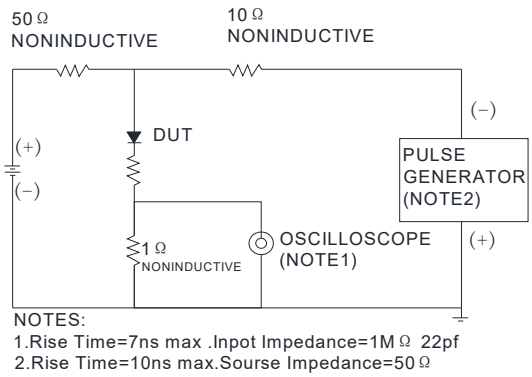
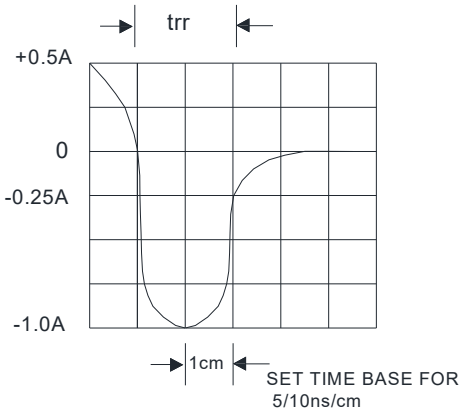
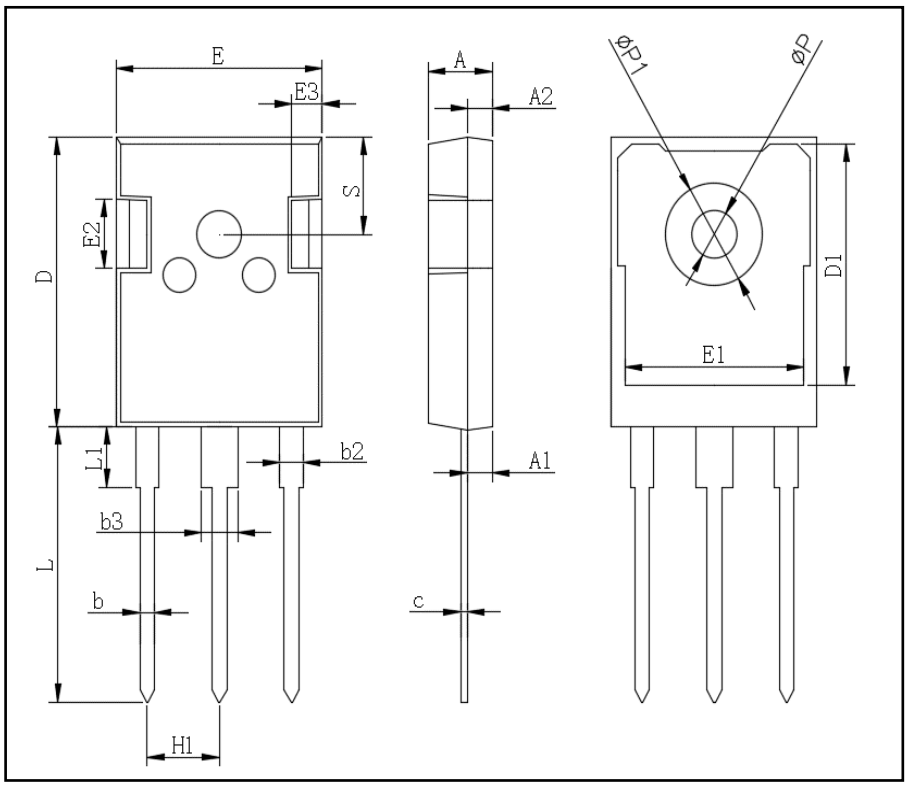


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time





■ 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
ΦP	3.40	3.80
ΦP1	-	7.30
S	6.15TYP	
H1	5.44TYP	
b3	2.80	3.20

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