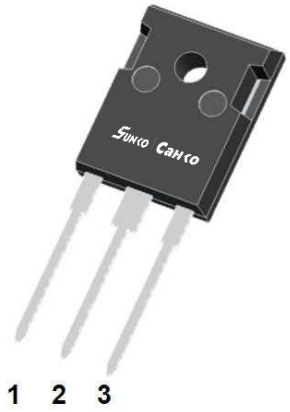
Ultra-Fast Recovery Diodes 30A*2 FRED



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
- 2000V Insulating capability

Typical Applications

- Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Mechanical Data

- **Package**: TO-247AB
  Inner-Insulated Instructure
  Molding compound meets UL 94 V-0 flammability rating, -
- **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	MURI6060PT
Device marking code			MURI6060PT
Repetitive Peak Reverse Voltage	V_{RRM}	V	600
Average Rectified Output Current @60Hz sine wave, R-load, Tc(FIG.1)	I_O	A	60
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Tj=25℃	I_{FSM}	A	440
Current Squared Time @1ms≤t≤8.3ms Tj=25℃,	I^2t	A^2s	800
Single Pulse Avalanche Energy @ Tp=40uS, Tj=25℃,L=15mH	EAS	mJ	470
Storage Temperature	Tstg	℃	-55 ~ +175
Junction Temperature	Tj	℃	-55 ~ +175
Typical Junction capacitance @4V,1MHz	Cj	pF	195

MURI6060PT

■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℃		-	1.45	1.6
			I_{FM}=30.0A @Tj=150℃			1.25	1.45
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	uA	V_{RM}=V_{RRM} Tj=25℃		-	-	5.0
	I_{RRM2}		V_{RM}=V_{RRM} Tj=150℃		-	45	200
Reverse Recovery Time	Trr	ns	I_F=0.5A I_{RM}=1A I_{RR}=0.25A Tj=25℃		-	38	50
			Tj=25℃	I_F=30A di/dt=-200A/us V_{RM}=200V	-	112.5	-
			Tj=125℃		-	175.5	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	5.5	-
			Tj=125℃		-	13	-
Reverse recovery charge	Qrr	nC	Tj=25℃		-	300	-
			Tj=125℃		-	1150	-

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

PARAMETER		SYMBOL	UNIT	MURI6060PT
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	℃/W	1.0
	Between junction and Air	$R_{\theta J-A}$	℃/W	40

■ Characteristics(Typical)

FIG1:Io -Tc Curve

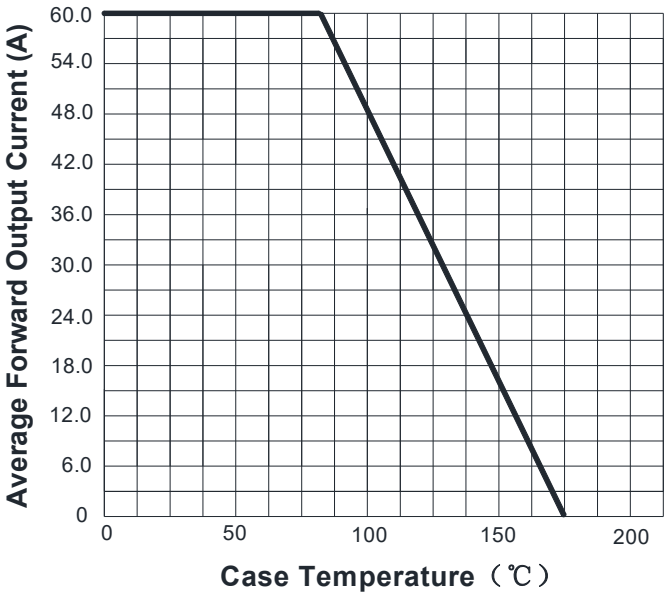


FIG2:Surge Forward Current Capability

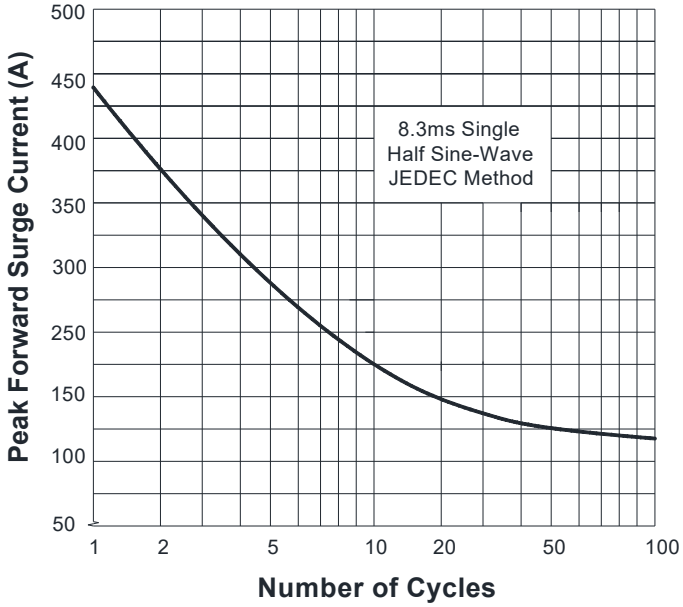


FIG3: Forward Voltage

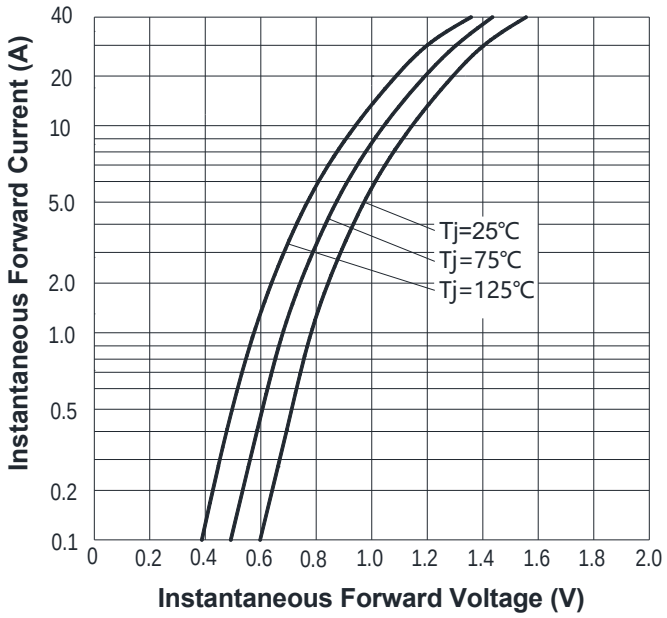


FIG.4: Instantaneous Reverse Characteristics

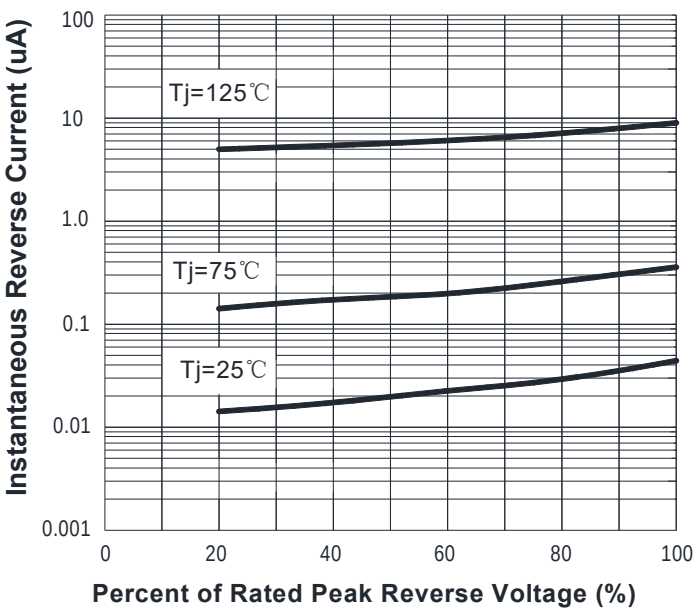
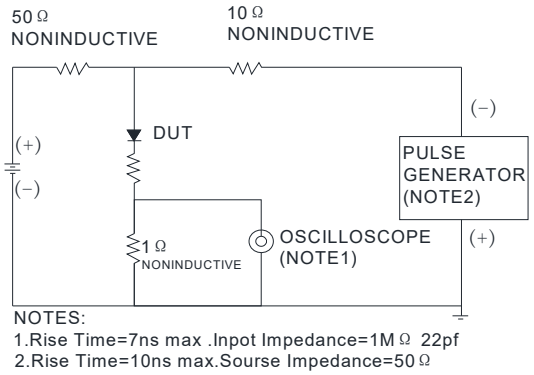
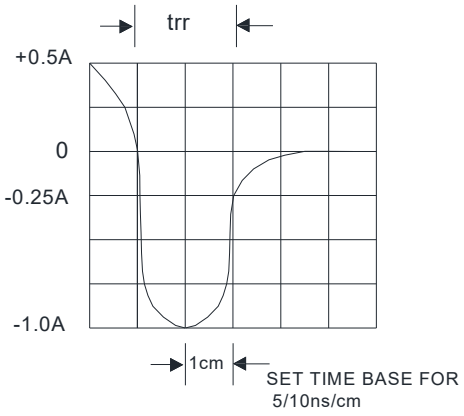
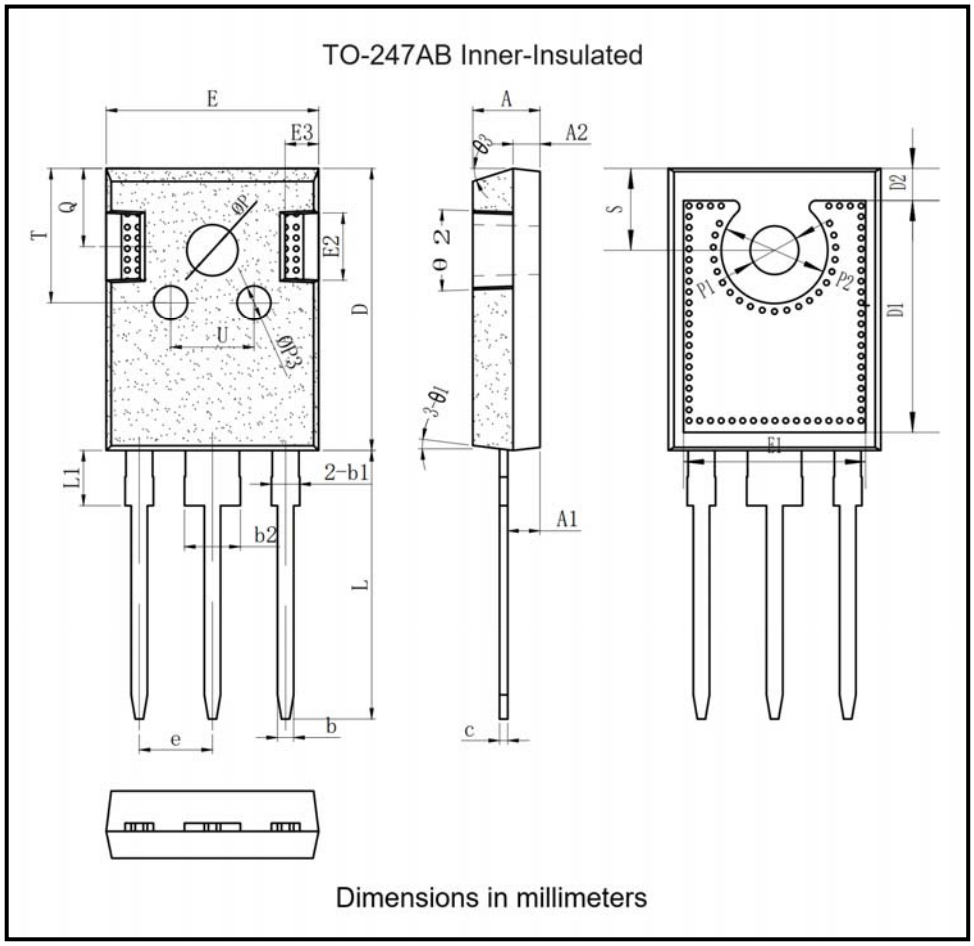


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time





■Outline Dimensions



TO-247AB		
Dim	Min	Max
A	4.90	5.10
A1	2.31	2.51
A2	1.90	2.10
b	1.15	1.25
b1	1.95	2.25
b2	2.95	3.25
C	0.55	0.65
D	20.90	21.30
D1	17.10	17.50
D2	2.25	2.55
E	15.70	15.90
E1	13.38	13.68
E2	4.90	5.10
E3	2.40	2.60
e	5.40	5.48
L	19.80	20.15
L1	-	4.30
ΦP	3.60	3.80
ΦP1	3.45	3.65
ΦP2	7.75	8.05
ΦP3	2.40	2.60
Q	5.60	6.00
S	6.05	6.25
T	9.80	10.20
U	6.00	6.40
θ1	7°BSC	
θ2	3°BSC	
θ3	15°BSC	

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