

Features

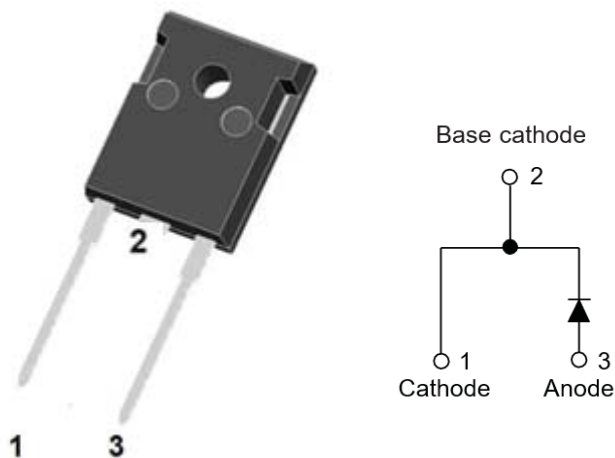
- Adopt FRD chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

Typical Applications

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

Mechanical Data

- **Package:** TO-247AC
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 ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

	V_{RSM} V	V_{RRM} V
MUR30120PL	1200	1200

■Maximum Ratings ($T_j=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR30120PL
Device marking code			MUR30120PL
Repetitive Peak Reverse Voltage	V_{RRM}	V	1200
Average Rectified Output Current @60Hz half sine-wave, R-load, T_c (FIG.1)	I_o	A	30
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, $T_j=25^{\circ}\text{C}$	I_{FSM}	A	210
Current Squared Time @1ms≤t≤8.3ms $T_j=25^{\circ}\text{C}$	I^2t	A ² s.	183
Single Pulse Avalanche Energy @ $T_p=40\mu\text{s}$, $T_j=25^{\circ}\text{C}$, L=15mH	EAS	mJ	2.7
Storage Temperature	T_{stg}	°C	-55 ~ +175
Junction Temperature	T_j	°C	-55 ~ +175
Typical Junction capacitance @4V,1MHz	C_j	pF	97

■Electrical Characteristics (T_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V _{FM}	V	I _{FM} =30.0A T _j =25°C	-	2.8	3.3
			I _{FM} =30.0A T _j =125°C	-	2.1	2.8
DC reverse current at rated DC blocking voltage per diode	I _{RRM1}	uA	V _{RM} =V _{RRM} T _j =25°C	-	-	5.0
	I _{RRM2}		V _{RM} =V _{RRM} T _j =125°C	-	-	200
Reverse Recovery Time	T _{rr}	ns	I _F =0.5A I _{RM} =1A I _{RR} =0.25A T _j =25°C	-	38	55
			T _j =25°C	-	185	-
			T _j =125°C	-	272	-
Peak recovery current	I _{RRM}	A	T _j =25°C	-	5.4	-
			T _j =125°C	-	12.6	-
Reverse recovery charge	Q _{rr}	nC	T _j =25°C	-	509	-
			T _j =125°C	-	1722	-

■Thermal Characteristics (T_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR30120PL
Thermal Resistance Between junction and case	R _{θJ-C}	°C/W	0.4

■Characteristics (Typical)

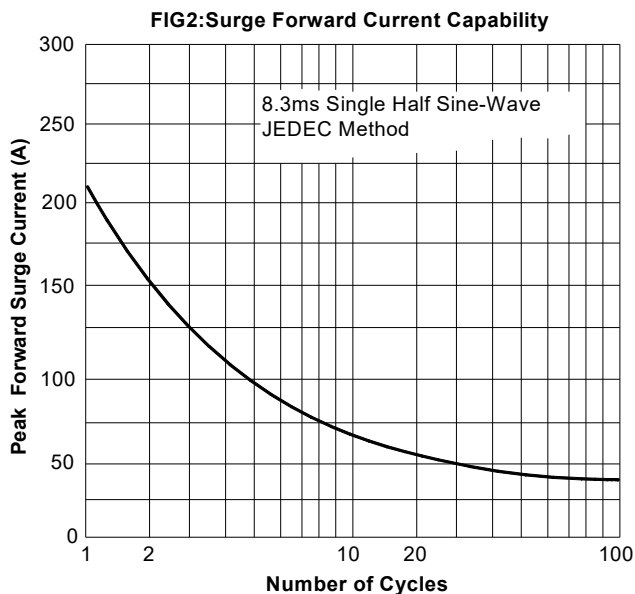
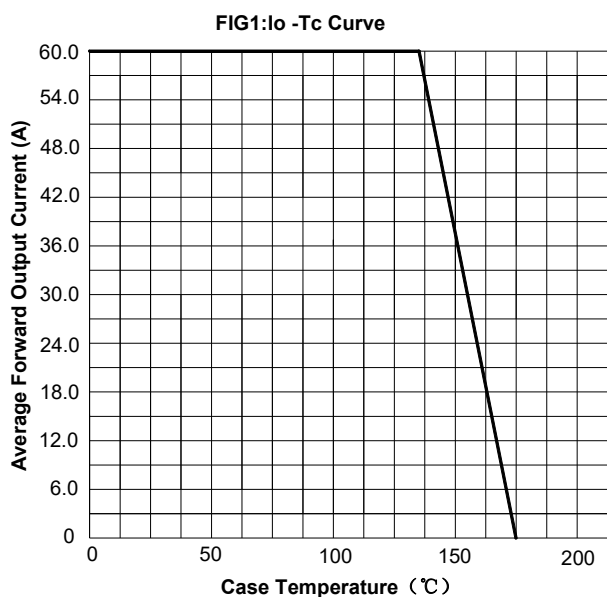


FIG3: Forward Voltage

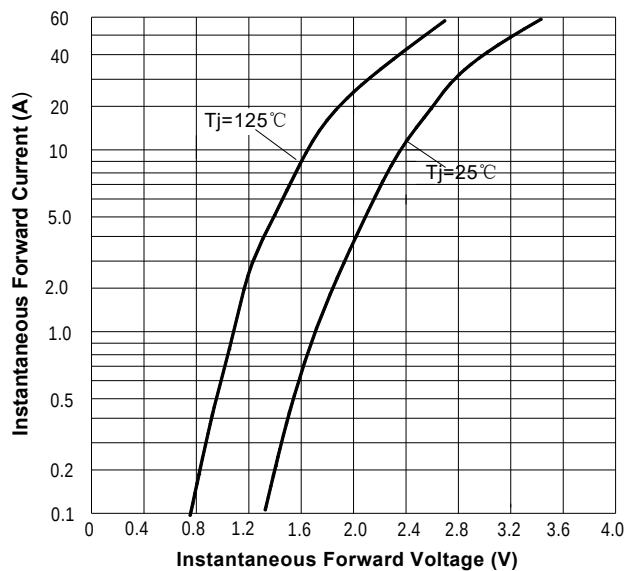


FIG4: Typical Reverse Characteristics

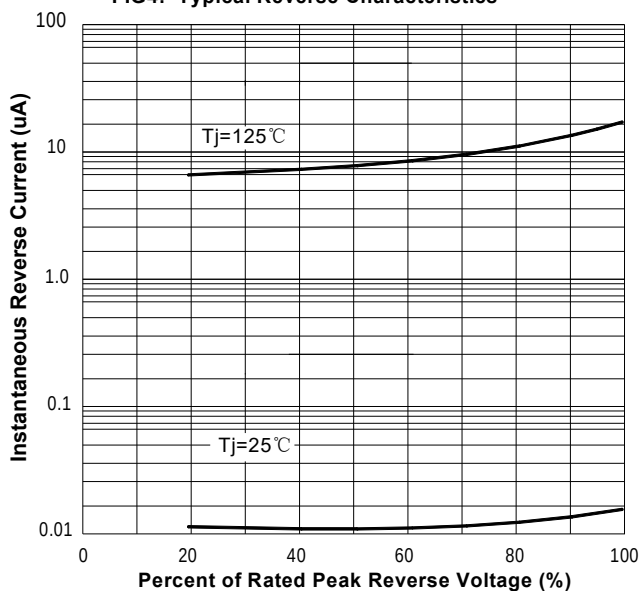
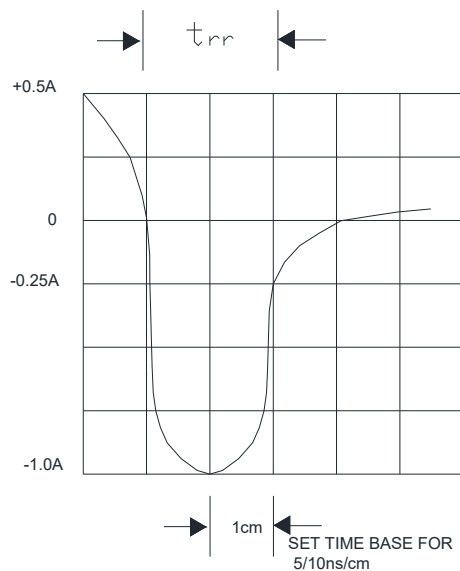
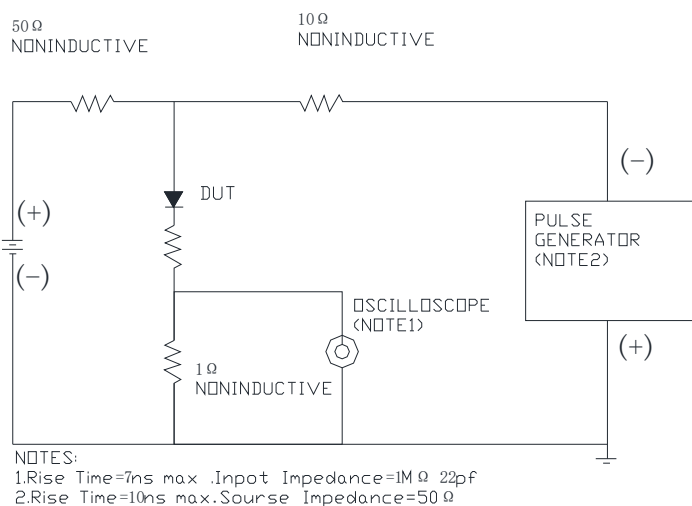
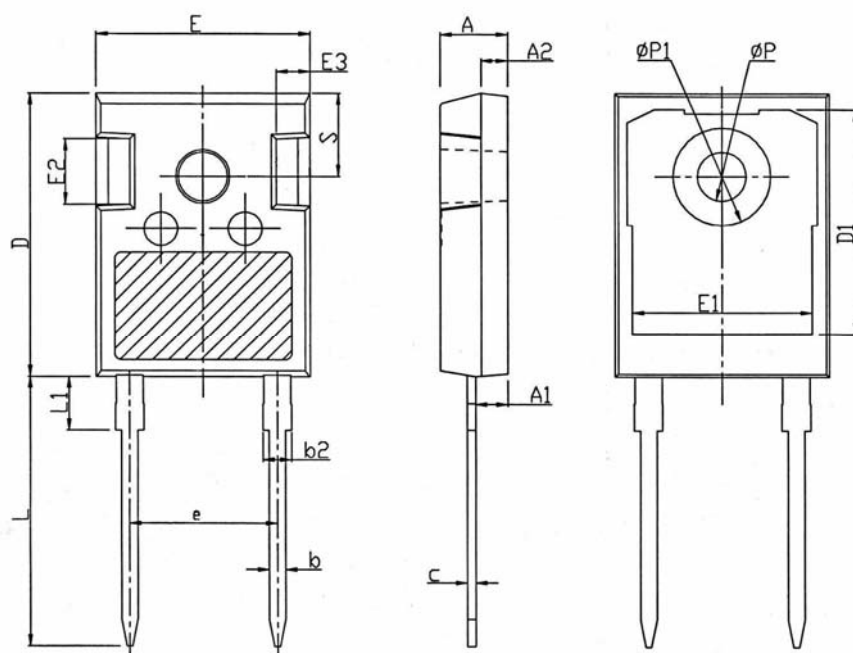


FIG.5 Diagram of circuit and Testing wave form of reverse recovery time



■Outline Dimensions



TO-247AC		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.11	1.36
b2	1.91	2.21
c	0.51	0.75
D	20.70	21.30
D1	16.25	16.85
E	15.50	16.10
E1	13.00	13.60
E2	4.80	5.20
E3	2.30	2.70
e	10.88BSC	
L	19.62	20.22
L1	-	4.30
φ P	3.40	3.80
φ P1	-	7.30
S	6.15BSC	

■Ordering Information

Packge	Packing	Box Size L×W×H(mm)	Quatity(pcs/box)	Carton Size L×W×H(mm)	Quatity(pcs/carton)
TO-247AC	30pcs/Tube	570×155×50	450	580×340×125	1800