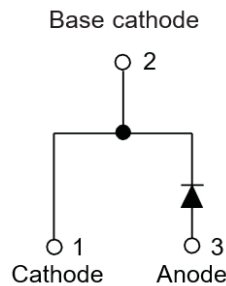


Ultra-Fast Recovery Diodes 15A FRED



Features

- High frequency operation
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

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_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MUR15120PL
Device marking code			MUR15120PL
Repetitive Peak Reverse Voltage	VRRM	V	1200
Average Rectified Output Current @60Hz half sine-wave, R-load, T _c (FIG.1)	I _o	A	15
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _j =25°C	IFSM	A	120
Current Squared Time @1ms≤t≤8.3ms T _j =25°C	I ² t	A ² s.	59
Storage Temperature	T _{stg}	°C	-55 ~ +175
Junction Temperature	T _j	°C	-55 ~ +175
Typical Junction capacitance @4V,1MHz	C _j	pF	32



MUR15120PL-B1-W5094HF

■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} =15A T _j =25°C	-	2.0	2.4
			I _{FM} =15A T _j =125°C	-	1.65	2.1
DC reverse current at rated DC blocking voltage per diode	I _{RRM1}	μA	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	-	50	75
			T _j =25°C	-	111.9	-
			T _j =125°C	-	189.9	-
Peak recovery current	I _{RRM}	A	T _j =25°C	-	18.2	-
			T _j =125°C	-	25.6	-
Reverse recovery charge	Q _{rr}	nC	T _j =25°C	-	1018.6	-
			T _j =125°C	-	2401.6	-

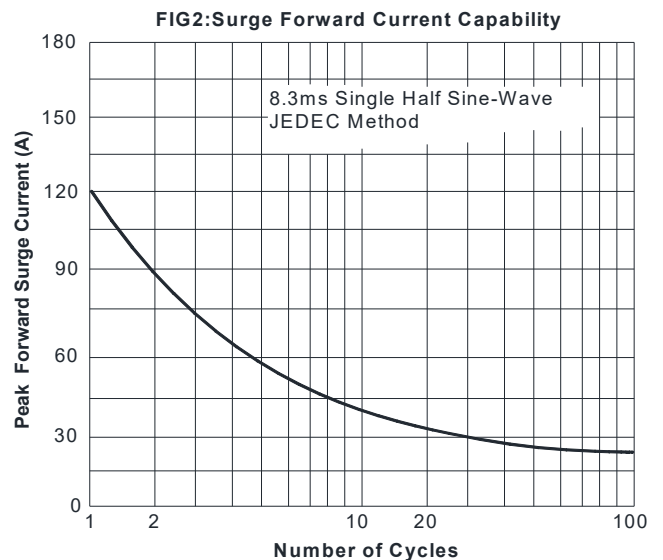
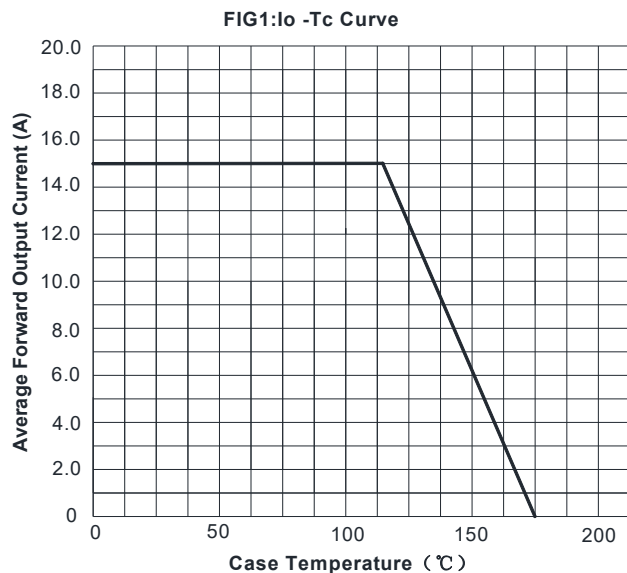
■Thermal Characteristics (T_j=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MUR15120PL
Thermal Resistance	Between junction and case	R _{θJ-C}	°C/W	2.0
	Between junction and Air	R _{θJ-A}	°C/W	40

■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MUR15120PL	Approximate 6.0	30	360	1800	Tube

■Characteristics (Typical)





MUR15120PL-B1-W5094HF

FIG3: Forward Voltage

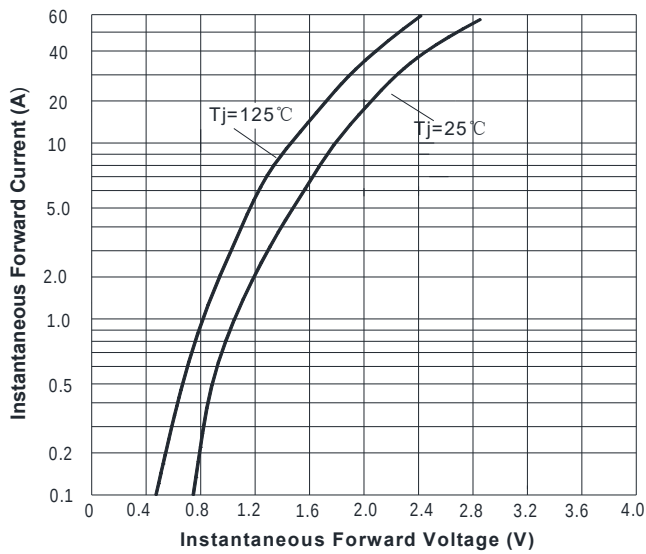


FIG4: Typical Reverse Characteristics

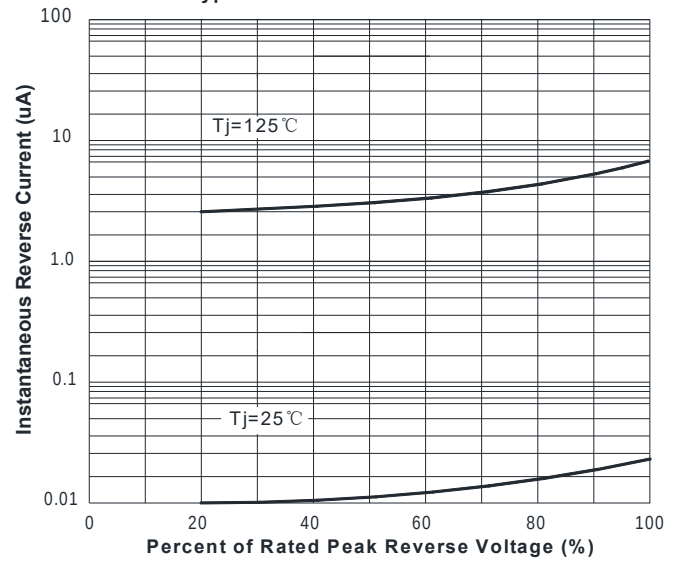
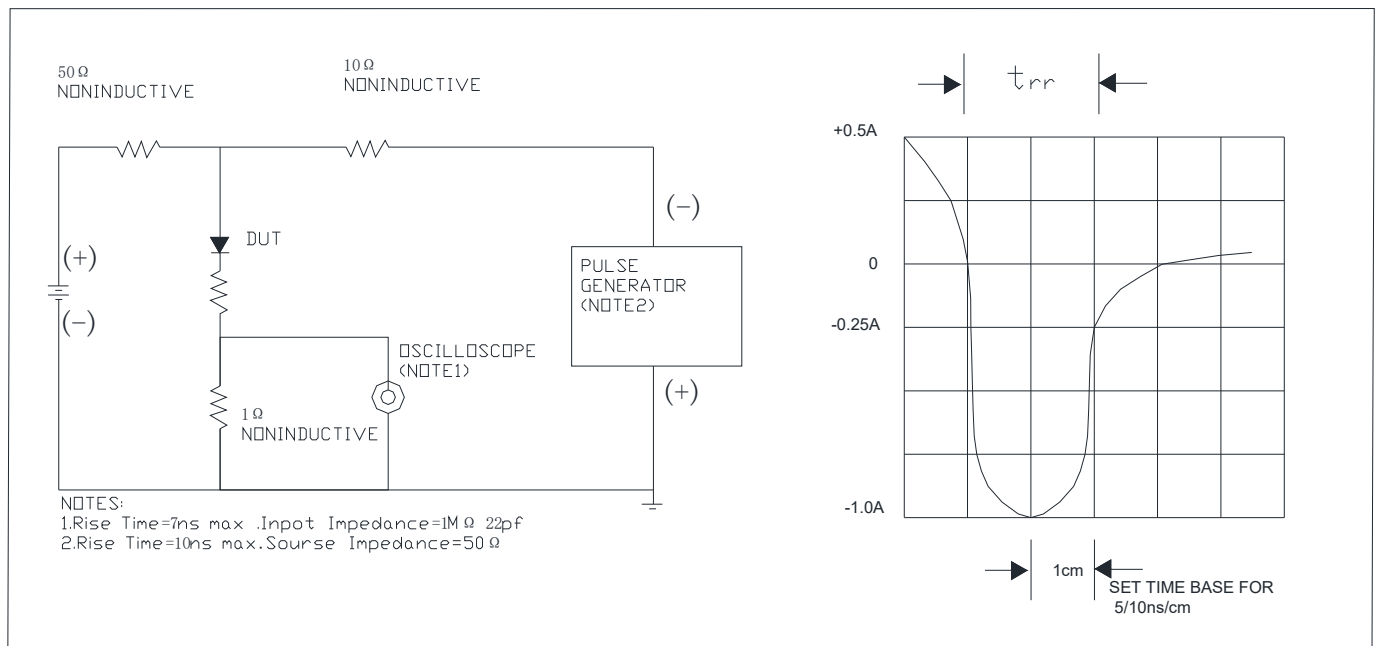
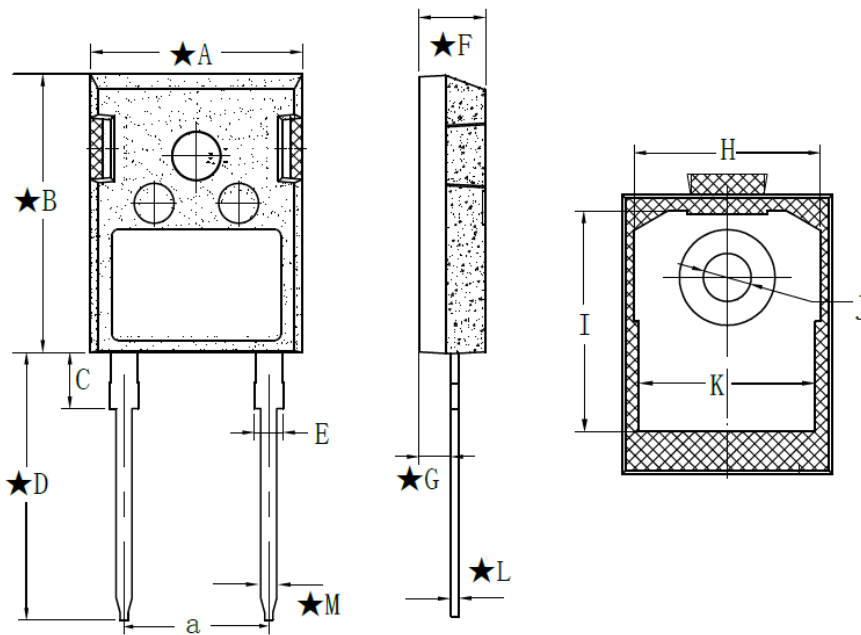


FIG.5 Diagram of circuit and Testing wave form of reverse recovery time





■Outline Dimensions



SYMBOL	MIN	MAX
★A	15.72	16.12
★B	20.7	21.1
C	4.02	4.42
★D	19.9	20.3
E	2	2.3
★F	4.8	5.2
★G	2.3	2.5
H	TYP14.02	
I	TYP16.55	
J	3.5	3.7
K	TYP13.26	
★L	0.58	0.62
★M	1.15	1.25
★a	TYP10.872	

★为关键尺寸

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