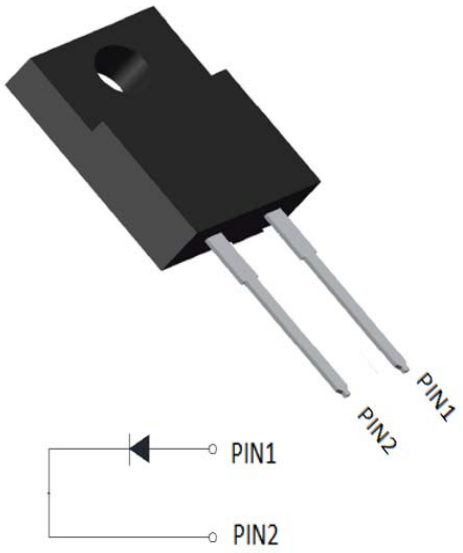
Ultra-Fast Recovery Diodes 15A FRED



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**: ITO-220AC
  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℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	MURL1560F
Device marking code			MURL1560F
Repetitive Peak Reverse Voltage	V_{RRM}	V	600
Average Rectified Output Current @60Hz 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℃	I_{FSM}	A	150
Current Squared Time @1ms≤t≤8.3ms Tj=25℃，	I^2t	A^2s	93
Storage Temperature	T_{stg}	℃	-55 ~ +175
Junction Temperature	T_j	℃	-55 ~ +175
Junction capacitance @4V,1MHz	Cj	pF	92
Mounting torque @recommend torque：5kg·cm	Tor	kg·cm	8

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	IFM=15.0A @Tj=25℃		-	1.35	1.5
			IFM=15.0A @Tj=150℃		-	1.18	-
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	uA	VRM=VRRM Tj=25℃		-	-	10
	I_{RRM2}		VRM=VRRM Tj=150℃		-	30	200
Reverse Recovery Time	T_{rr}	ns	IF=0.5A IRM=1A IRR=0.25A Tj=25℃		-	40	75
			Tj=25℃	IF=15A di/dt=-200A/us VRM=400V	-	82.54	-
			Tj=125℃		-	127.02	-
Peak recovery current	I_{RRM}	A	Tj=25℃		-	6.50	-
			Tj=125℃		-	12.05	-
Reverse recovery charge	Q_{rr}	nC	Tj=25℃		-	265.77	-
			Tj=125℃		-	778.94	-

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

PARAMETER		SYMBOL	UNIT	MURL1560F
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	℃/W	4.0
Thermal Resistance	Between junction and Air	$R_{\theta J-A}$	℃/W	50

■Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MURL1560F	Approximate 1.6	50	1000	5000	Tube

■Characteristics (Typical)

FIG1:Io -Tc Curve

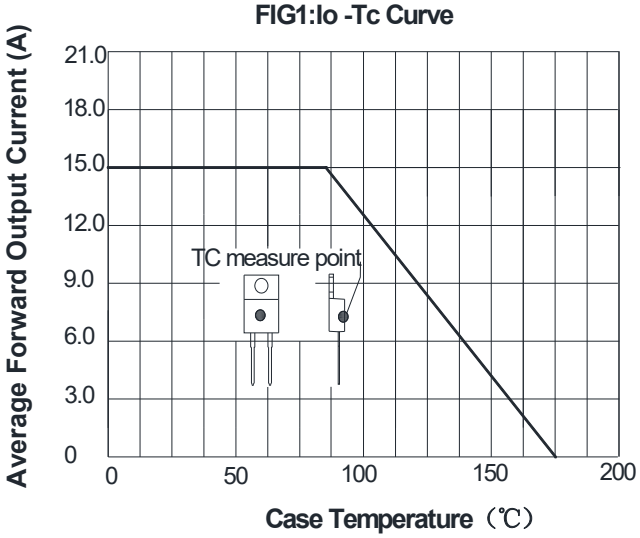


FIG2:Surge Forward Current Capability

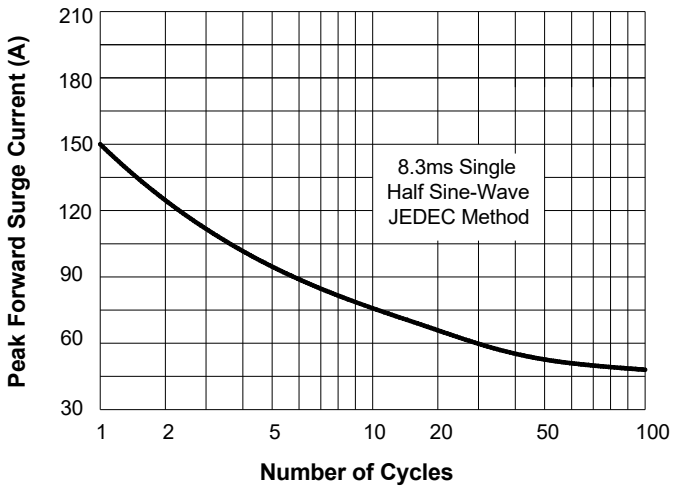


FIG3: Forward Voltage

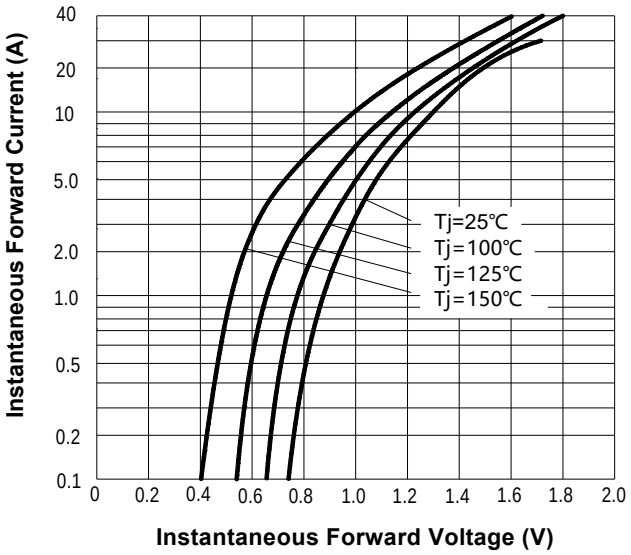


FIG.4: Instantaneous Reverse Characteristics

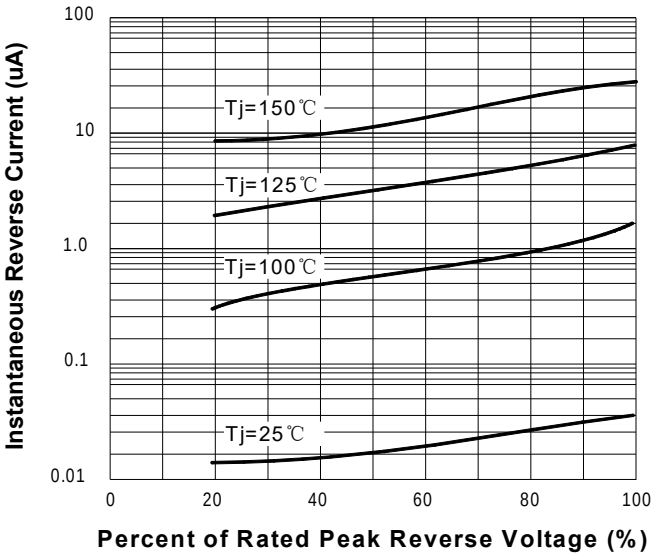
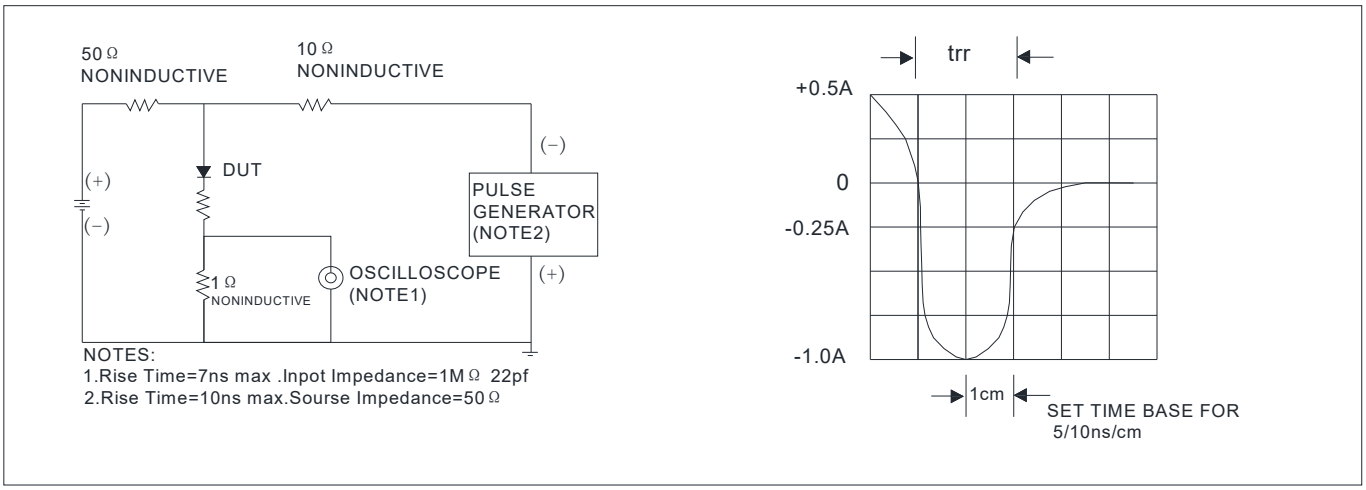
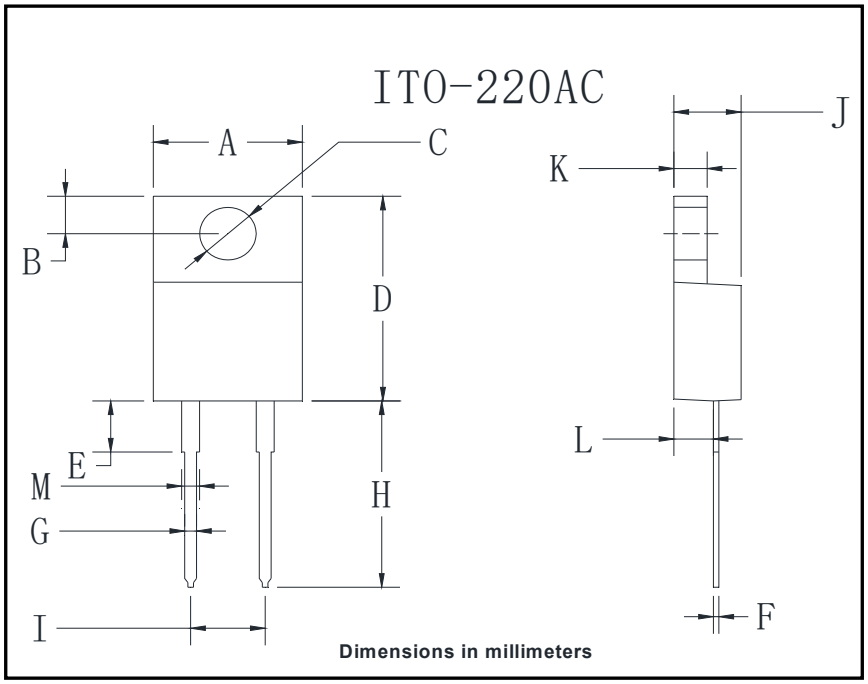


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■Outline Dimensions



ITO-220AC		
Dim	Min	Max
A	9.8	10.2
B	2.25	2.75
C	2.95	3.45
D	14.75	15.25
E	3.5	4.1
F	0.45	0.75
G	0.45	0.75
H	13.35	14.15
I	4.97	5.23
J	4.3	4.8
K	2.5	2.74
L	2.58	2.82
M	1.03	1.43

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