

Ultra-Fast Recovery Diodes 16A 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

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	MURL1660F
Device marking code			MURL1660F
Repetitive Peak Reverse Voltage	VRRM	V	600
Average Rectified Output Current @60Hz sine wave, R-load, T _c =102	I _O	A	16
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 T _j =25	I ² t	A ² s	93
Storage Temperature	T _{stg}		-55 ~ +175
Junction Temperature	T _j		-55 ~ +175
Mounting torque @recommend torque 5kg cm	Tor	kg cm	8
Typical Junction capacitance @4V,1MHz	C _j	pF	95



MURL1660F

■Electrical Characteristics $T_j=25$ Unless otherwise specified

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Min	Typ	Max
instantaneous forward voltage drop per diode	V _{FM}	V	I _{FM} =16.0A@T _j =25		-	1.3	1.8
			I _{FM} =16.0A@T _j =125		-	1.2	1.6
Maximum DC reverse current at rated DC blocking voltage per diode	I _{RRM1}	μA	V _{RM} =V _R RM T _j =25		-	-	5.0
	I _{RRM2}		V _{RM} =V _R RM T _j =125		-	-	200
Reverse Recovery Time	T _{rr}	ns	I _F =0.5A I _{RM} =1A I _{RR} =0.25A		-	-	75-
			T _j =25		-	110	-
			T _j =125		-	180	-
			T _j =25		-	5.0	-
Peak recovery current	I _{RRM}	A	T _j =125	I _F =16A di/dt=-200A/μs V _{RM} =200V	-	9.5	-

FIG.4: Instantaneous Reverse Characteristics

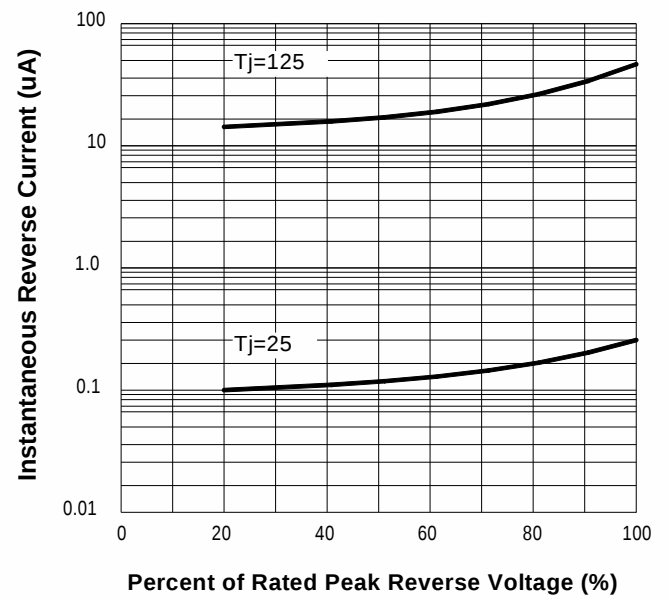
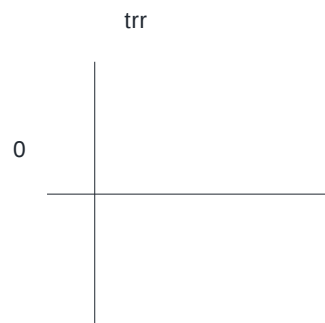
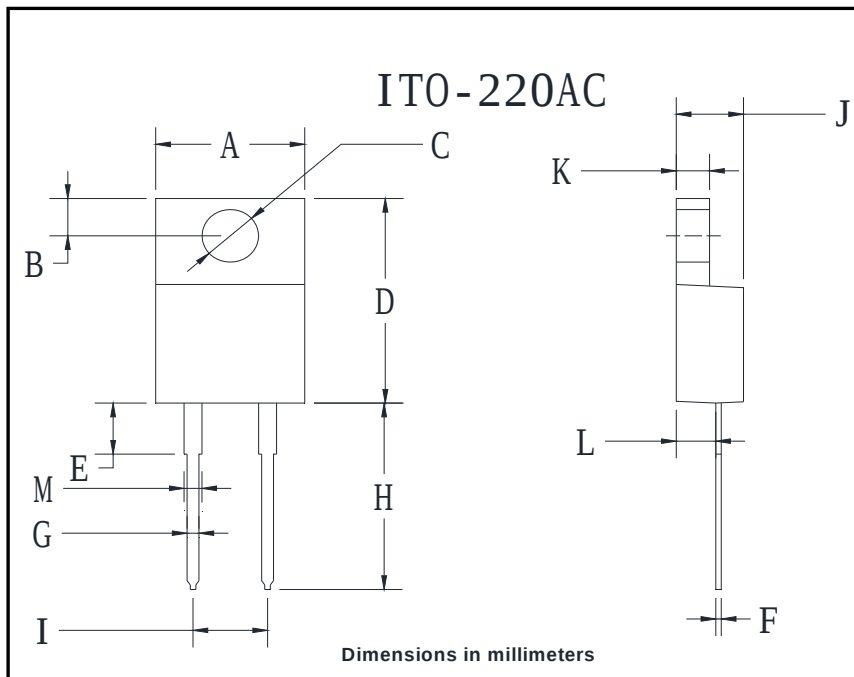


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time





■Outline Dimensions



IT0-220AC		
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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