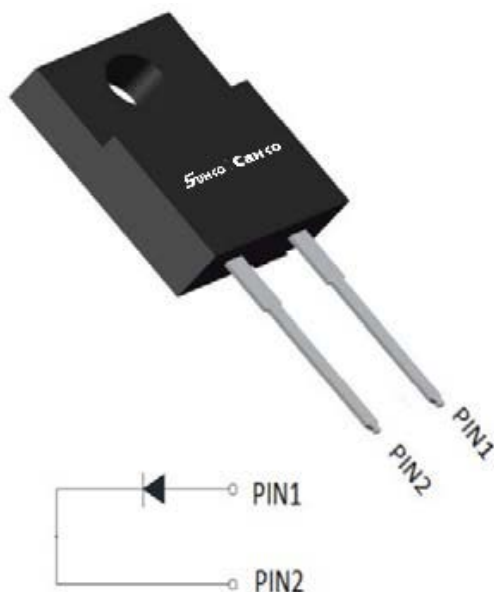


Ultra-Fast Recovery Diodes 16A FRED



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, -
- **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	MURL1660F
Device marking code			MURL1660F
Repetitive Peak Reverse Voltage	V _{RRM}	V	600
Average Rectified Output Current @60Hz sine wave, R-load, T _c =102°C	I _O	A	16
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _j =25°C	I _{FSM}	A	150
Current Squared Time @1ms≤t≤8.3ms T _j =25°C,	I ² t	A ² s	93
Storage Temperature	T _{stg}	°C	-55 ~ +175
Junction Temperature	T _j	°C	-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°C 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°C	-	1.3	1.8
			I _{FM} =16.0A@T _j =125°C	-	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°C	-	-	5.0
	I _{RRM2}		V _{RM} =V _R RM T _j =125°C	-	-	200
Reverse Recovery Time	T _{rr}	ns	I _F =0.5A I _{RM} =1A I _{RR} =0.25A	-	-	75-
			T _j =25°C	-	110	-
			T _j =125°C	-	180	-
Peak recovery current	I _{RRM}	A	T _j =25°C	-	5.0	-
			T _j =125°C	-	9.5	-
Reverse recovery charge	Q _{rr}	nC	T _j =25°C	-	280	-
			T _j =125°C	-	900	-

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

PARAMETER		SYMBOL	UNIT	MURL1660F
Thermal Resistance	Between junction and case	R _{θJ-C}	°C/W	4.0

■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MURL1660F	Approximate 1.6	50	1000	5000	Tube

■Characteristics (Typical)

FIG1:I_o-T_c Curve

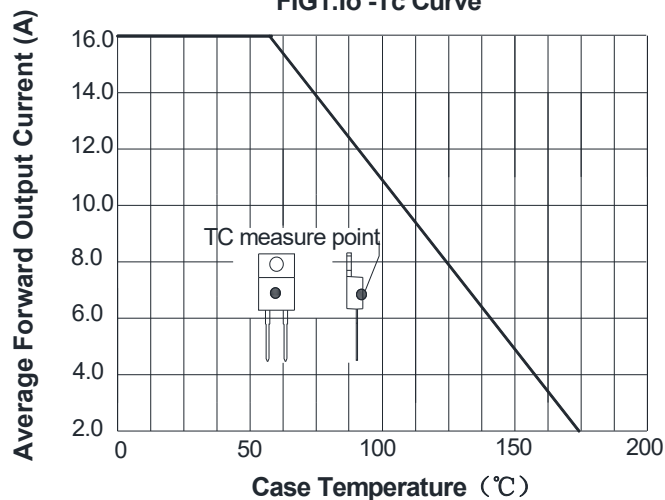


FIG2: Surge Forward Current Capability

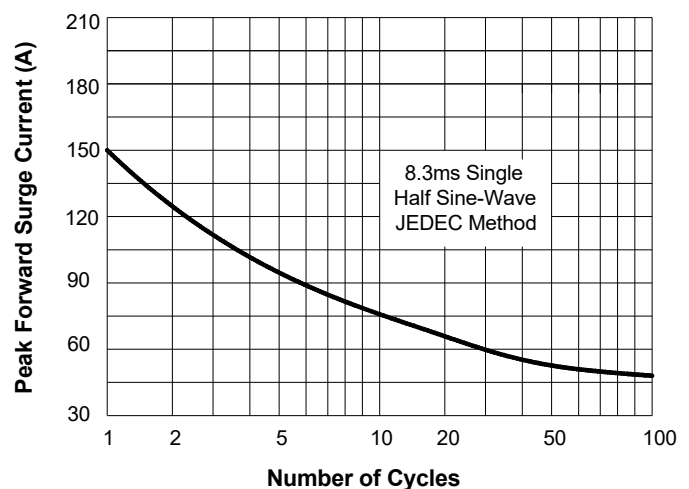


FIG3: Forward Voltage

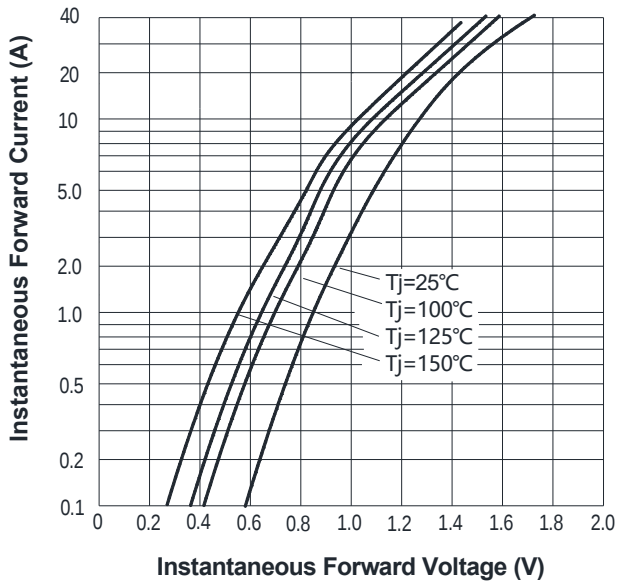


FIG.4: Instantaneous Reverse Characteristics

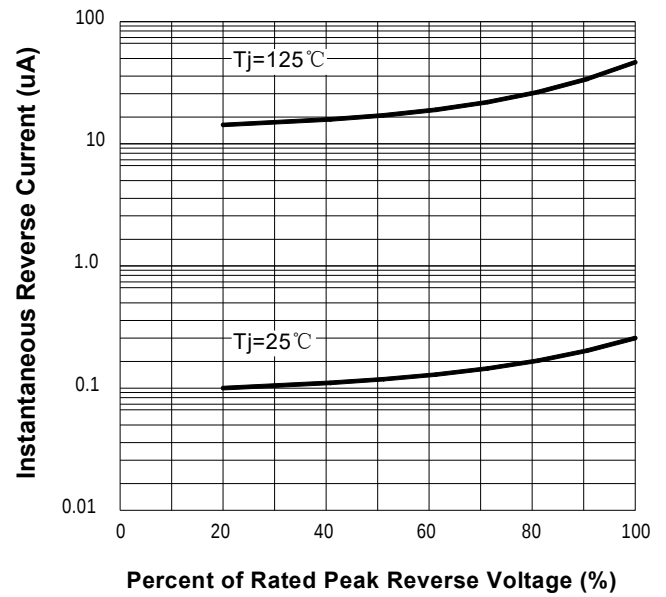
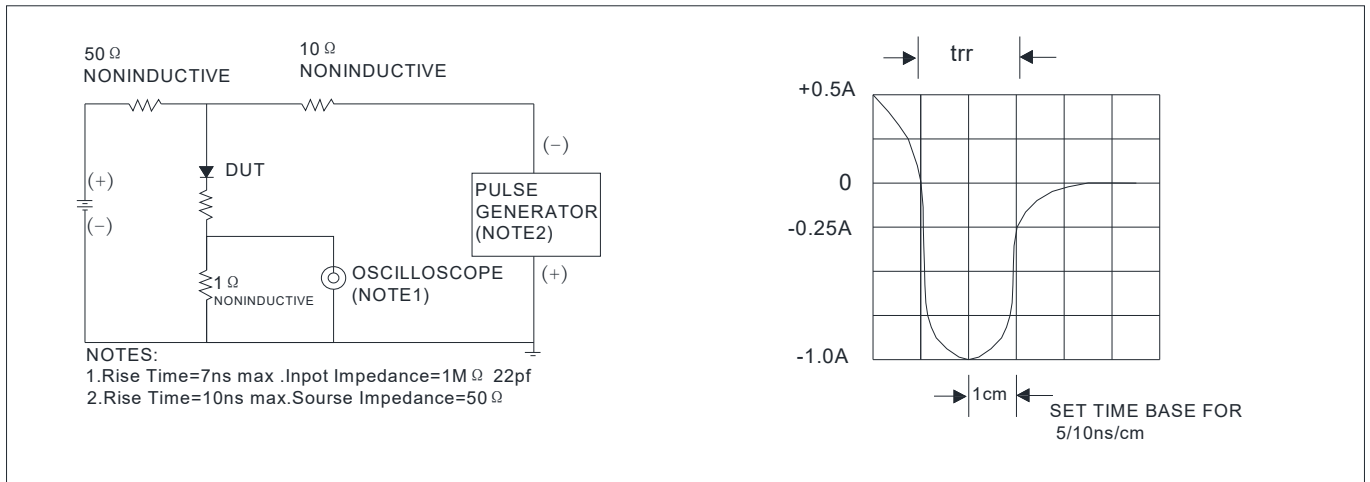
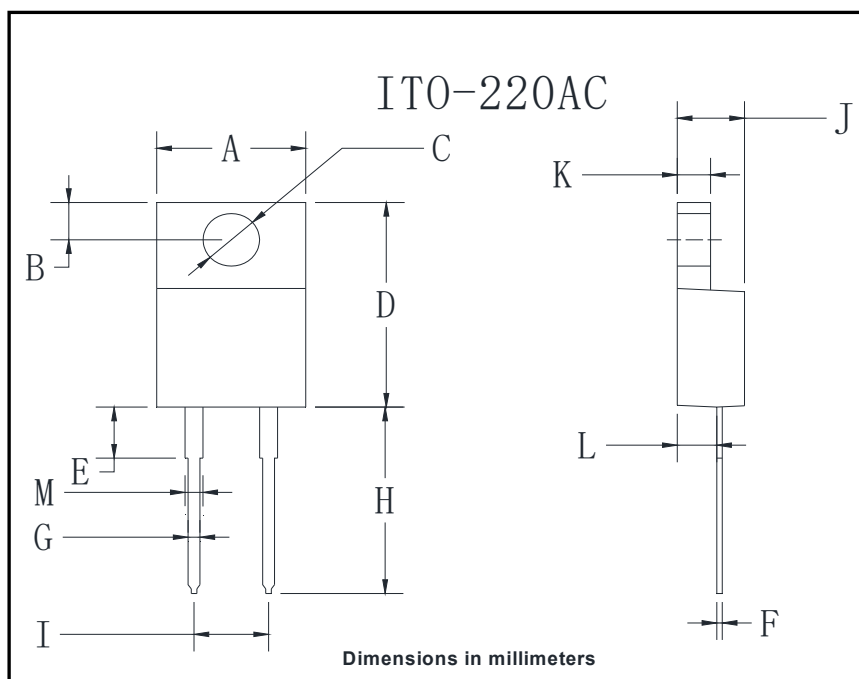


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■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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