



Features

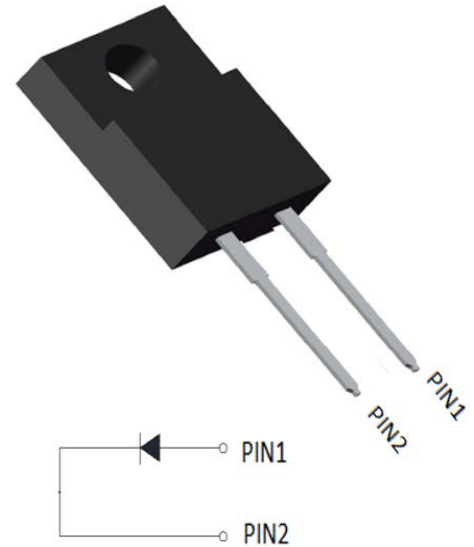
- Adopt FRD chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

Typical Applications

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

Mechanical Data

- **Package:** 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 (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MTSR860F
Device marking code			MTSR860F
Repetitive Peak Reverse Voltage	V_{RRM}	V	600
Average Rectified Output Current @60Hz sine wave, R-load, Tc(FIG.1)	I_O	A	8
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Ta=25°C	I_{FSM}	A	120
Current Squared Time @1ms≤t≤8.3ms Tj=25°C,	I^2t	A ² s	41
Storage Temperature	T_{stg}	°C	-55 ~ +175
Junction Temperature	T_j	°C	-55 ~ +175
Junction capacitance @4V,1MHz	C_j	pF	40

■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	$I_{FM}=8.0A$ @ $T_j=25^{\circ}C$	-	1.55	1.7
			$I_{FM}=8.0A$ @ $T_j=150^{\circ}C$		1.15	1.3
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	uA	$V_{RM}=V_{RRM}$ $T_j=25^{\circ}C$	-	-	10
	I_{RRM2}		$V_{RM}=V_{RRM}$ $T_j=150^{\circ}C$	-	40	200
Reverse Recovery Time	T_{RR}	ns	$I_F=0.5A$ $I_{RM}=1A$ $I_{RR}=0.25A$ $T_j=25^{\circ}C$	-	20	25
Peak recovery current	I_{RRM}	A	$T_j=25^{\circ}C$	-	3.45	-
			$T_j=125^{\circ}C$	-	6.25	-
Reverse recovery charge	Q_{rr}	nC	$T_j=25^{\circ}C$	-	106.58	-
			$T_j=125^{\circ}C$	-	283.26	-

■Thermal Characteristics ($T_A=25^{\circ}C$ Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MTSR860F
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	$^{\circ}C/W$	4.0
	Between junction and Air	$R_{\theta J-A}$	$^{\circ}C/W$	50

■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MTSR860F	Approximate 1.6	50	1000	5000	Tube

■Characteristics (Typical)

FIG1: I_o - T_c Curve

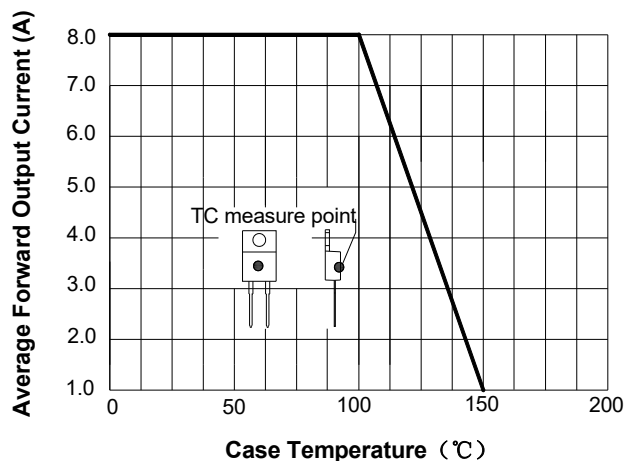


FIG2: Surge Forward Current Capability

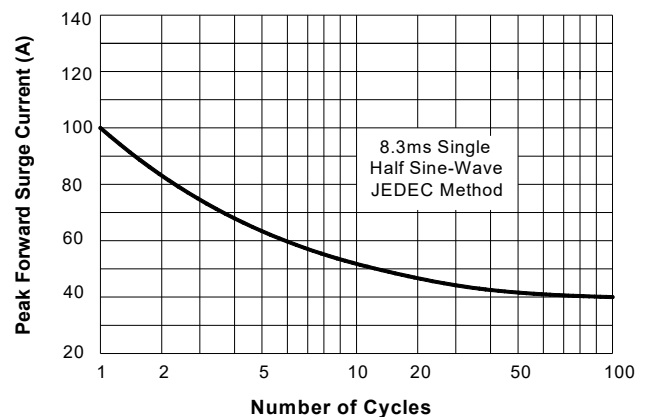


FIG3: Forward Voltage

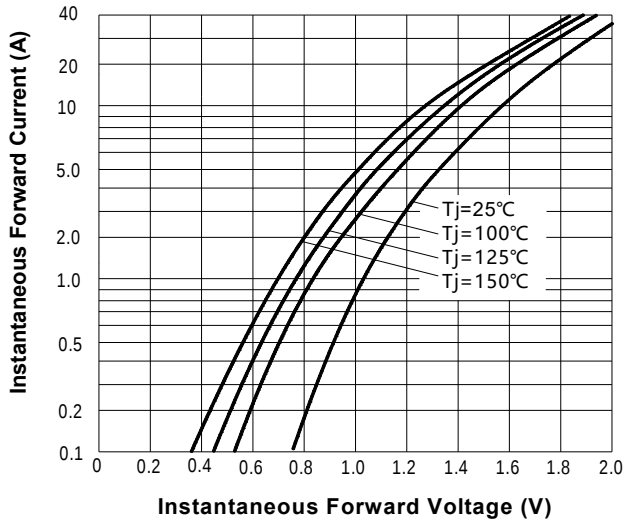


FIG.4: Instantaneous Reverse Characteristics

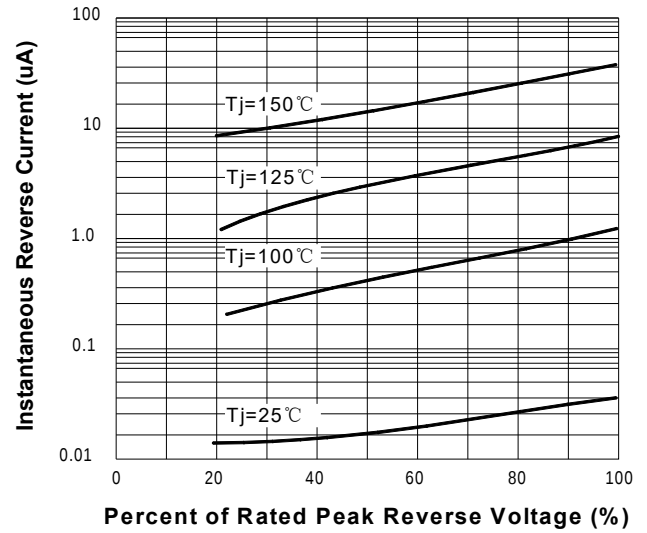
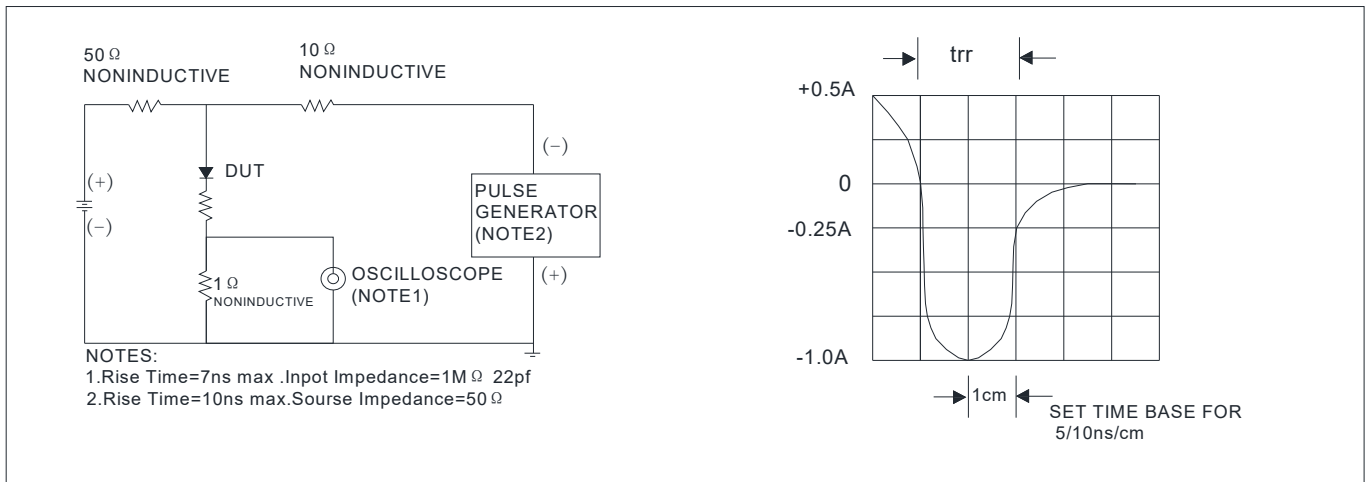
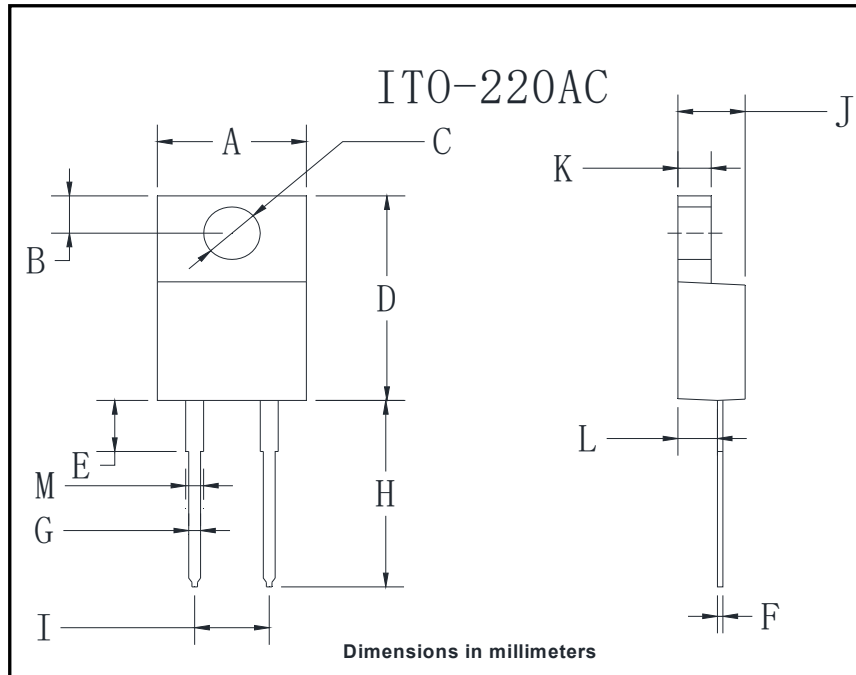


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time





■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

Packge	Packing	Box Size L×W×H(mm)	Quatity(pcs/box)	Carton Size L×W×H(mm)	Quatity(pcs/carton)
ITO-220	50pcs/Tube	558×148×38	1000	565×225×170	5000