



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

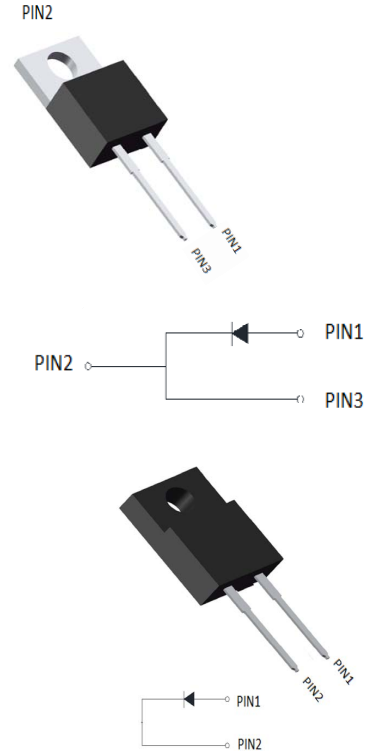
Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Mechanical Data

- **Package:** TO-220AC 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)

TYPE	V _{RSM} V	V _R RM V
MTSR2060	600	600
MTSR2060F	600	600



PARAMETER	SYMBOL	UNIT	MTSR2060/MTSR2060F
Device marking code			MTSR2060/MTSR2060F
Repetitive Peak Reverse Voltage	V _{RRM}	V	600
Average Rectified Output Current @60Hz sine wave, R-load, T _c (FIG.1)	I _O	A	20
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _j =25°C	I _{FSM}	A	180
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
Typical Junction capacitance @4V,1MHz	C _j	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=20.0A @Tj=25°C	-	1.9	2.8
			IFM=20.0A @Tj=150°C	-	1.5	-
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	uA	VRM=VRRM Tj=25°C	-	-	10
	I_{RRM2}		VRM=VRRM Tj=150°C	-	30	200
Reverse Recovery Time	T_{rr}	ns	IF=0.5A IRM=1A IRR=0.25A Tj=25°C	-	20	25
			Tj=25°C	-	37.45	-
			Tj=125°C	-	69.15	-
Peak recovery current	I_{RRM}	A	Tj=25°C	-	2.45	-
			Tj=125°C	-	5.75	-
Reverse recovery charge	Q_{rr}	nC	Tj=25°C	-	74.62	-
			Tj=125°C	-	200.70	-

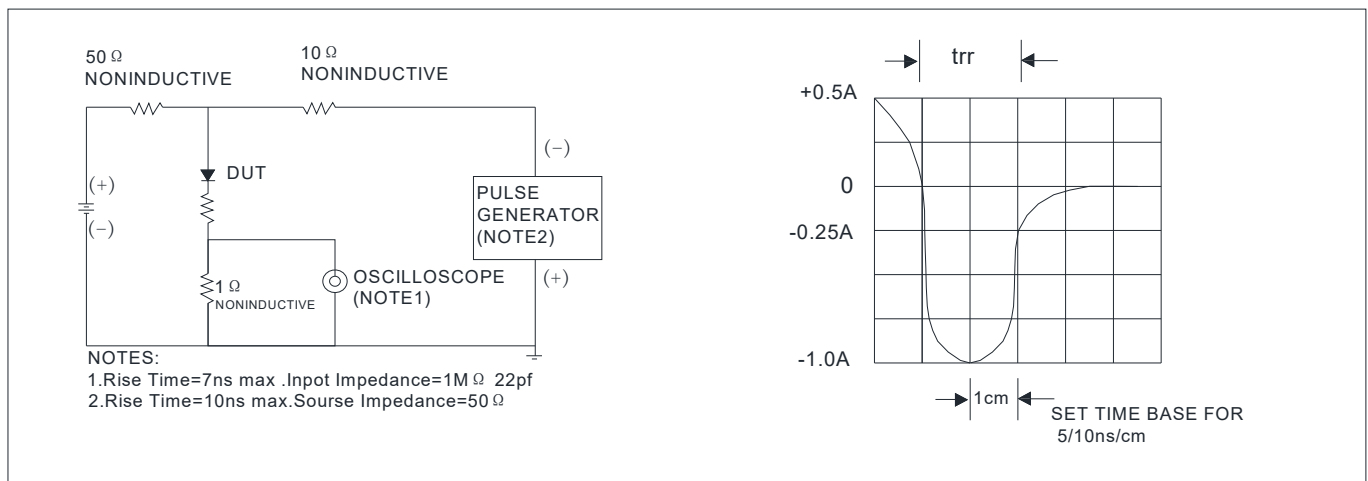
■Thermal Characteristics (Tj=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MTSR2060/MTSR2060F
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	°CW	4.0
Thermal Resistance	Between junction and Air	$R_{\theta J-A}$	°CW	50

■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MTSR2060/MTSR2060F	Approximate 1.6	50	1000	5000	Tube

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





■ Characteristics (Typical)

FIG1: I_o -T_c Curve

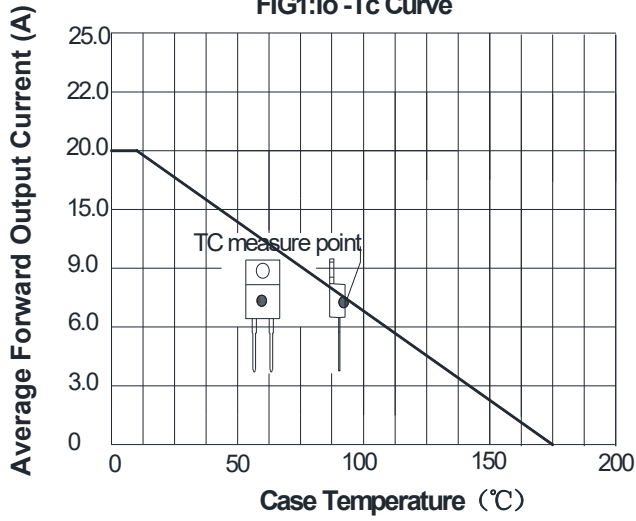


FIG2: Surge Forward Current Capability

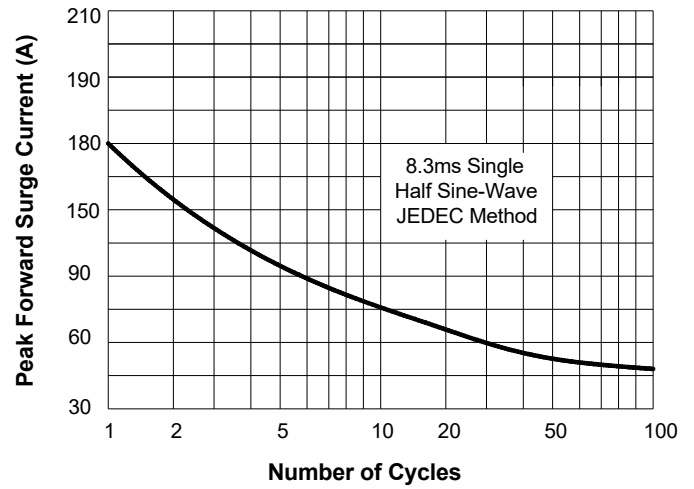


FIG3: Forward Voltage

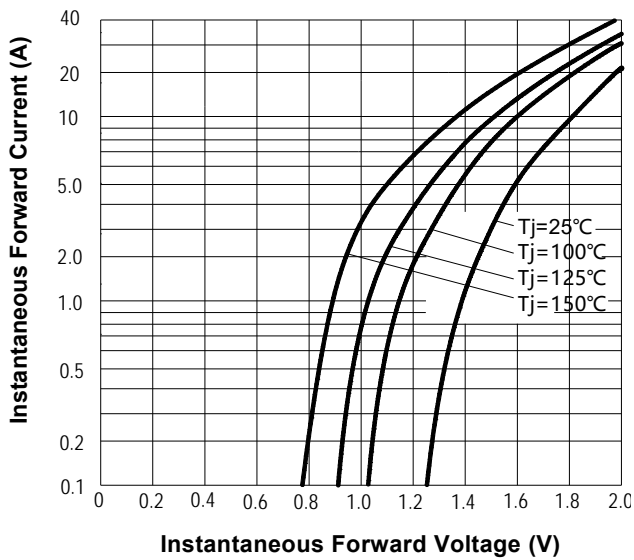
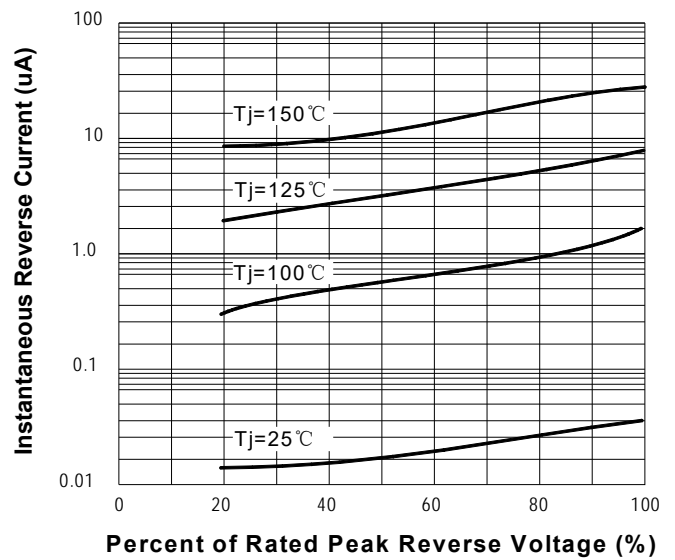
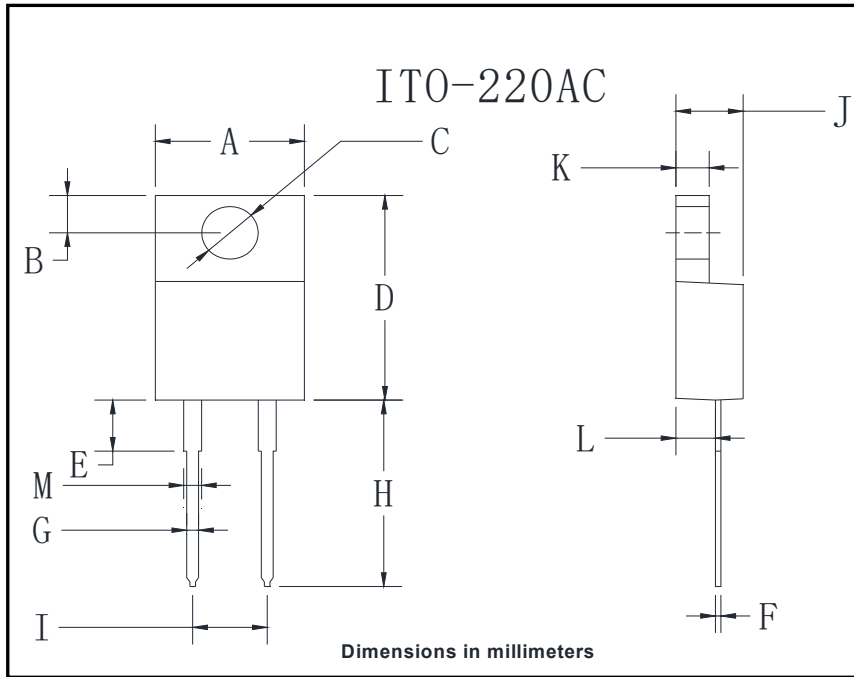


FIG4: Instantaneous Reverse Characteristics

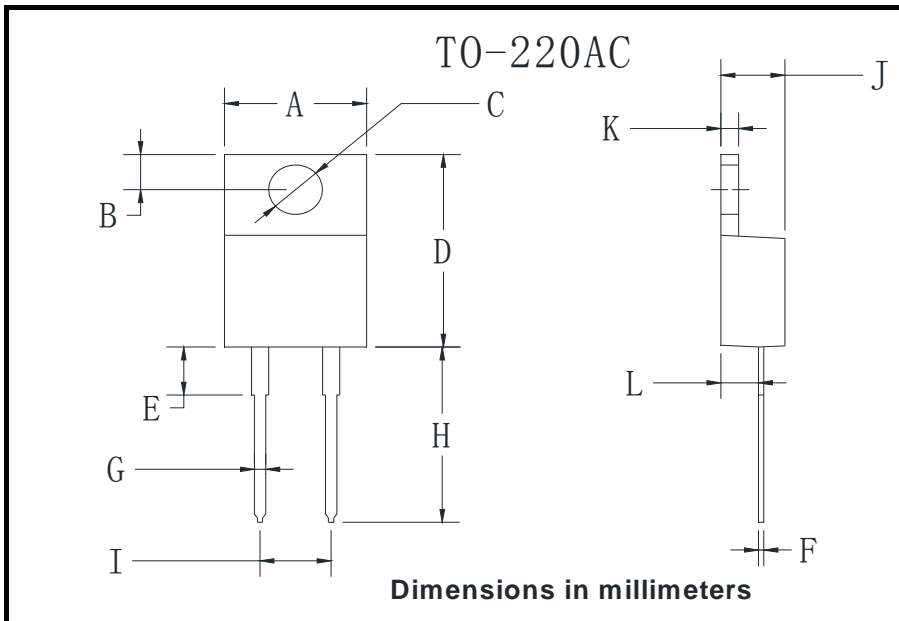




Outline Dimensions



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



TO-220AC		
Dim	Min	Max
A	9.95	10.35
B	2.55	2.95
C	3.75	4.05
D	14.95	15.25
E	3.75	4.25
F	0.26	0.5
G	0.68	0.94
H	13.3	13.9
I	4.86	5.26
J	4.38	4.78
K	1.14	1.4
L	2.37	2.79

Package	Packing	Box Size LxWxH(mm)	Quantity(pcs/box)	Carton Size LxWxH(mm)	Quantity(pcs/carton)
TO-220AC	50pcs/Tube	558x148x38	1000	565x225x175	5000