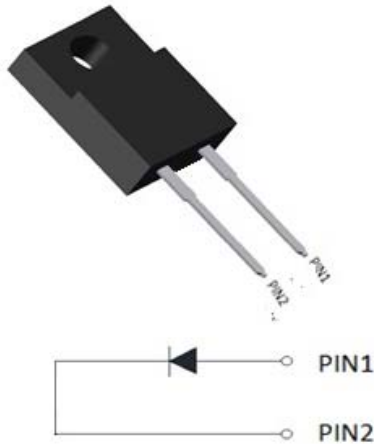


Ultra-Fast Recovery Rectifier Diodes



Features

- High frequency operation
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Adopt GPP chip
- Passivation for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

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

Limiting Values (Absolute Maximum Rating)

PARAMETER	SYMBOL	UNIT	SF1040F
Device Marking Code			SF1040F
Repetitive Peak Reverse Voltage	VRRM	V	400
Average Rectified Output Current @60Hz half sine wave, R-load, Tc(FIG.1)	I _o	A	10
Surge(Non-repetitive)Forward Current @60Hz half -sine wave, 1 cycle, Ta=25°C	IFSM	A	125
Current Squared Time @1ms≤t<8.3ms Tj=25°C	I ² t	A ² s	65
Storage Temperature	Tstg	°C	-55 ~ +150
Junction Temperature	Tj	°C	-55 ~ +150

Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	SF1040F
Maximum instantaneous forward voltage drop per diode	VFM	V	IFM=10.0A	1.3
Maximum DC reverse current at rated DC blocking voltage per diode	I _{RRM1}	µA	V _{RM} =V _{VRRM} T _a =25°C	10
	I _{RRM2}		V _{RM} =V _{VRRM} T _a =125°C	500
Reverse Recovery Time	T _{rr}	ns	I _F =0.5A I _{RM} =1A I _{RR} =0.25A	35

Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	SF1040F
Thermal Resistance Between junction and case	R _{θJ-C}	°C/W	2.5

Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SF1040F	Approximate 1.39	50	1000	5000	Tube

Characteristics (Typical)

FIG1: I_o -Tc Curve

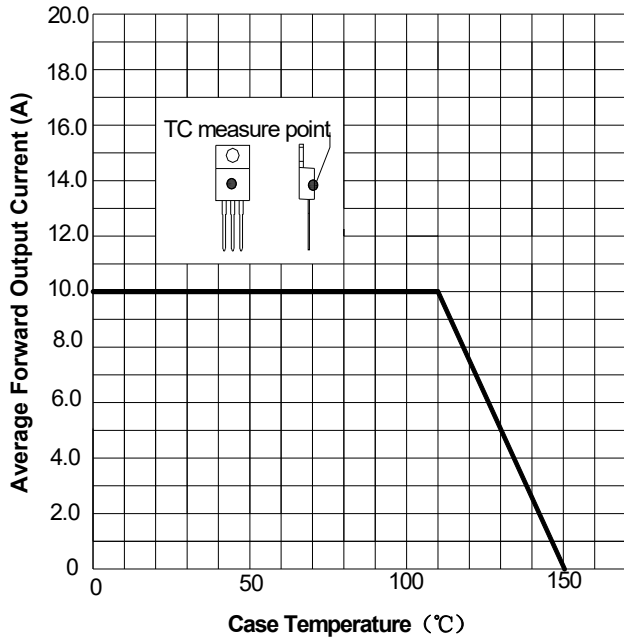


FIG2: Surge Forward Current Capability

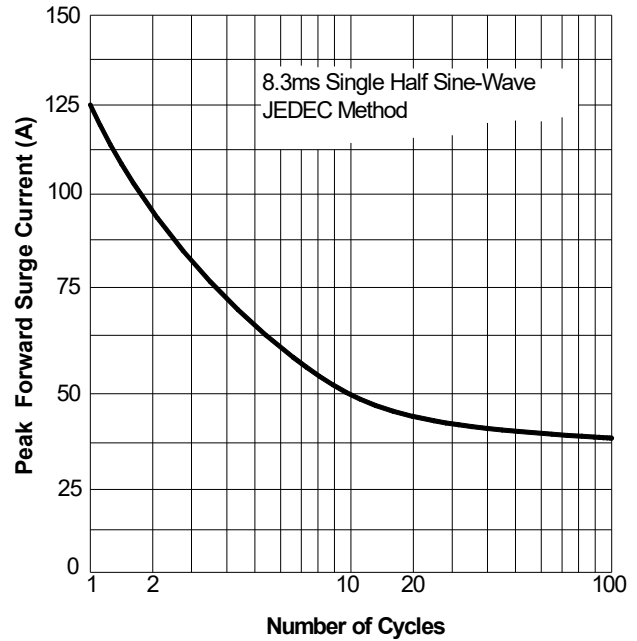


FIG3: Forward Voltage

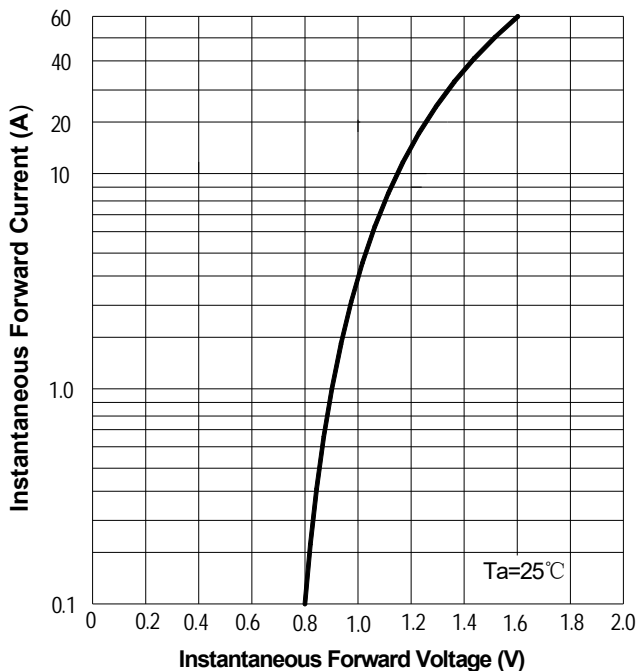


FIG4: Typical Reverse Characteristics

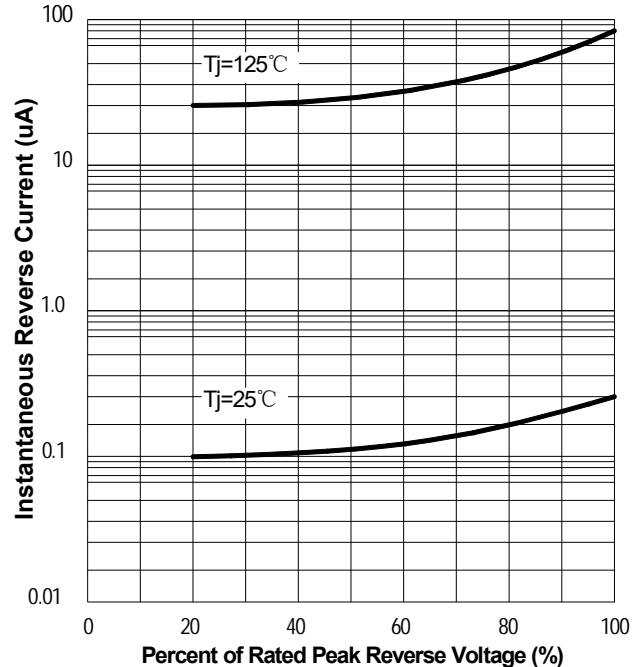
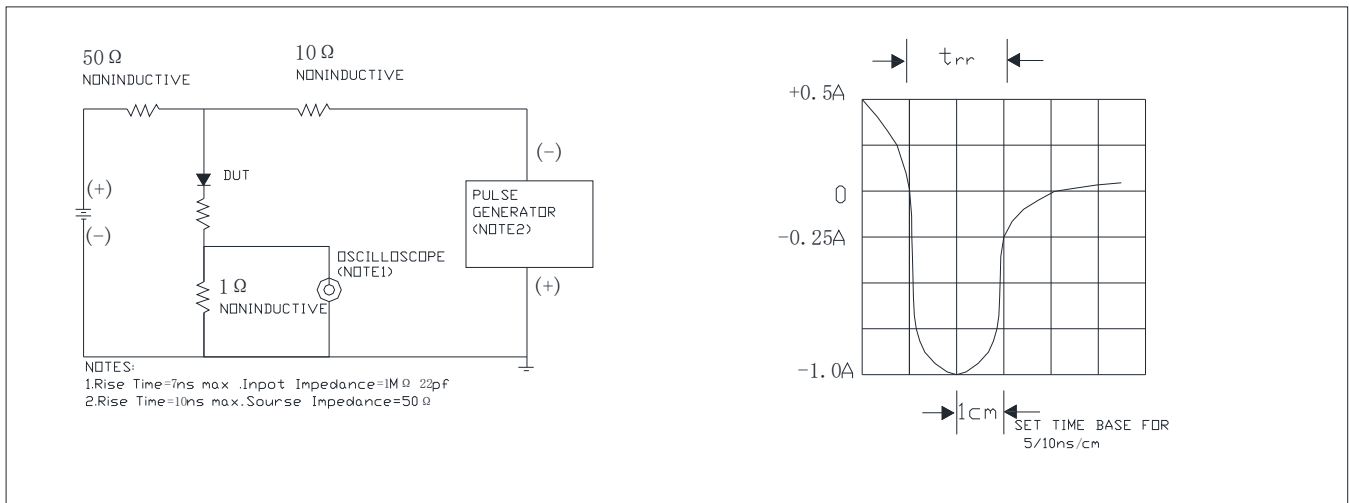
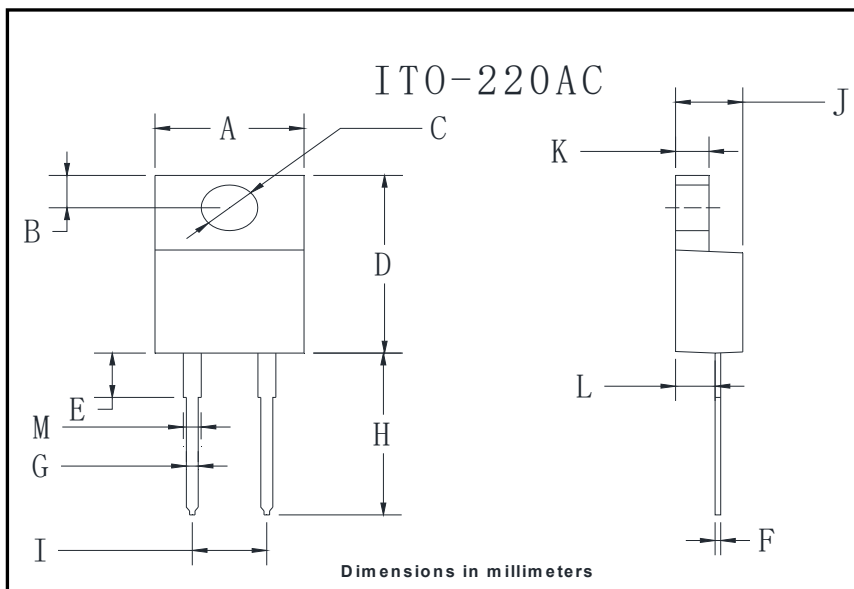


FIG.5 Diagram of circuit and Testing wave form of reverse recovery time



Outline Dimensions



ITO-220AC		
Dim	Min	Max
A	9.7	10.7
B	2.15	3.25
C	2.6	3.8
D	14.4	15.9
E	3.1	4.5
F	0.4	0.8
G	0.4	0.9
H	12.7	14.2
I	3.6	5.9
J	3.9	5.1
K	2.1	3.56
L	2.1	3.2
M	1.0	1.8



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