Speedy Diode - Short Reverse Recovery Time, Fast Recovery Diode

| V_{RRM}	600 V	I_F	15 A
$V_{F(TYP)}$	1.8 V	$T_{RR(TYP)}$	42 ns

ITO-220AC

Features

- Fast recovery
- Suppressed switching loss with low T_{RR}
- Soft recovery characteristic for better EMI
- High junction temperature 150 ^{o}C
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: ITO-220AC molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.055 ounces, 1.56 grams

Application

- PFC, UPS, PV Inverter, EV Charging Station, Welder
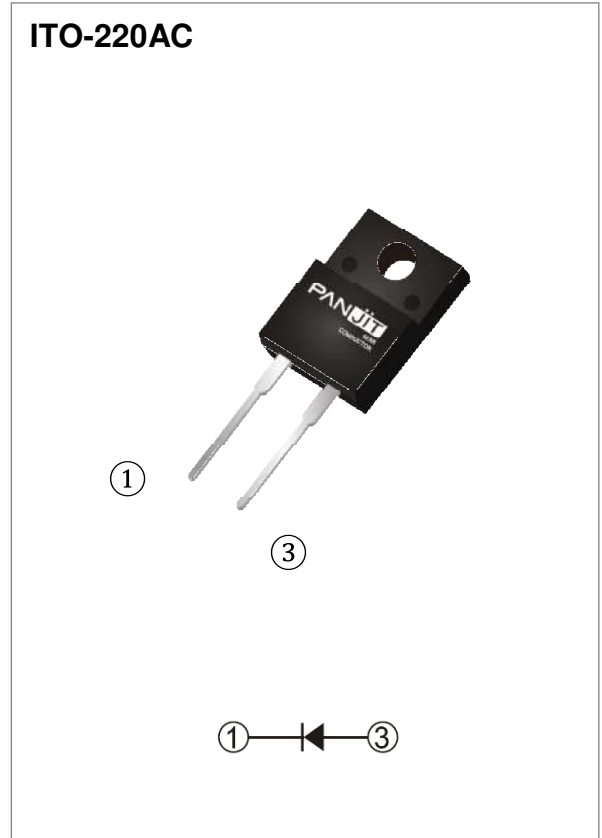
Maximum Ratings and Thermal Characteristics (T$_C$ = 25 ^{o}C unless otherwise specified)

PARAMETER	SYMBOL	LIMIT	UNITS
Repetitive Peak Reverse Voltage	V_{RRM}	600	V
DC Blocking Voltage	V_{DC}	600	V
Diode Forward Current @ Tc=105 ^{o}C	$I_{F(AV)}$	15	A
Repetitive Peak Surge Current *tp = 8.3 ms, sine-wave, D=0.5*	I_{FRM}	30	A
Peak Forward Surge Current *tp = 8.3 ms, single half sine-wave*	I_{FSM}	140	A
Maximum Power Dissipation	P_{total}	57	W
Operating Junction Temperature Range	T_J	-55~150	^{o}C
Storage Temperature Range	T_{STG}	-55~150	^{o}C

Electrical Characteristics (T$_C$ = 25 ^{o}C unless otherwise specified)

| PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward voltage drop	V$_F$	I$_F$ = 15 A, T$_J$ = 25 ^{o}C	-	1.8	2.3	V
		I$_F$ = 15 A, T$_J$ = 125 ^{o}C	-	1.45	-	
Reverse leakage current	I$_R$	V$_R$ = 600 V, T$_J$ = 25 ^{o}C	-	-	100	µA
		V$_R$ = 600 V, T$_J$ = 125 ^{o}C	-	-	500	µA
Reverse recovery time	T$_{RR}$	I$_F$=0.5A, I$_R$=1A, I$_{RR}$=0.25A T$_J$ = 25 ^{o}C	-	-	40	ns
		I$_F$ = 1 A, V$_R$ = 30 V, di/dt = 300 A/µs, T$_J$ = 25 ^{o}C	-	-	30	ns
Reverse recovery time	T$_{RR}$	I$_F$ = 15 A, V$_R$ = 400 V, di/dt = 300 A/µs, T$_J$ = 25 ^{o}C	-	42	65	ns
Peak recovery current	I$_{RRM}$		-	3.3	-	A
Reverse recovery charge	Q$_{RR}$		-	70	-	nC
Softness factor = tb / ta	S		-	1.65	-	
Reverse recovery time	T$_{RR}$	I$_F$ = 15 A, V$_R$ = 400 V, di/dt = 300 A/µs, T$_J$ = 125 ^{o}C	-	62	-	ns
Peak recovery current	I$_{RRM}$		-	7.4	-	A
Reverse recovery charge	Q$_{RR}$		-	320	-	nC
Softness factor = tb / ta	S		-	0.4	-	
Thermal Resistance	R$_{\theta JC}$		-	-	2.2	^{o}C/W

TYPICAL CHARACTERISTIC CURVES
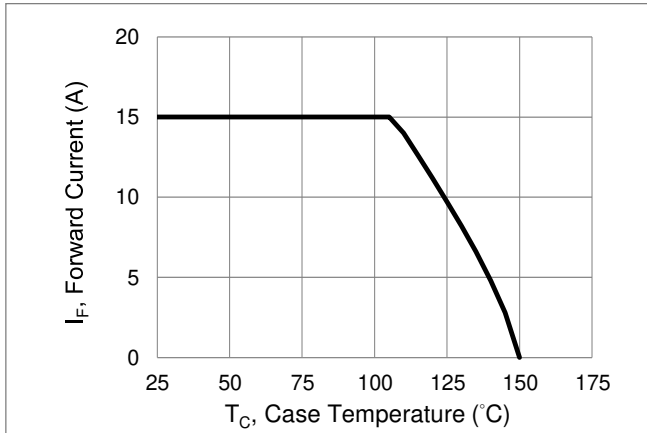
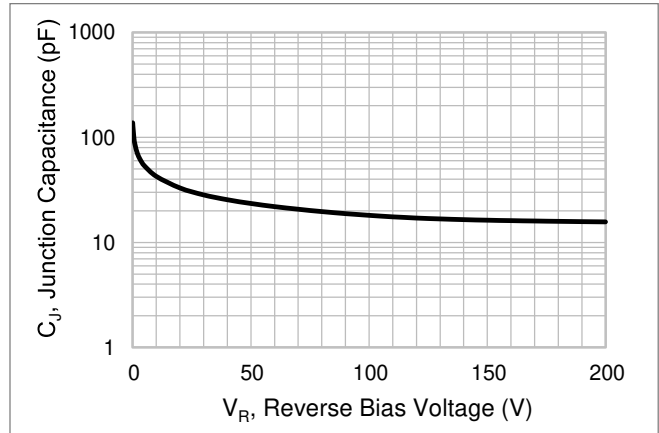**Fig.1 Forward Current Derating Curve**

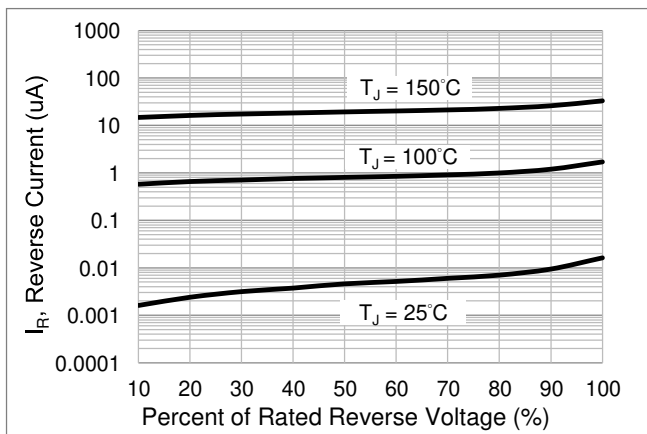**Fig.2 Typical Junction Capacitance**
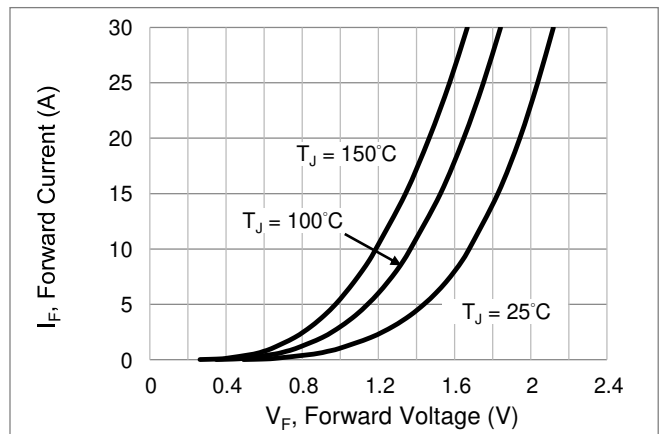

Fig.3 Typical Reverse Characteristics

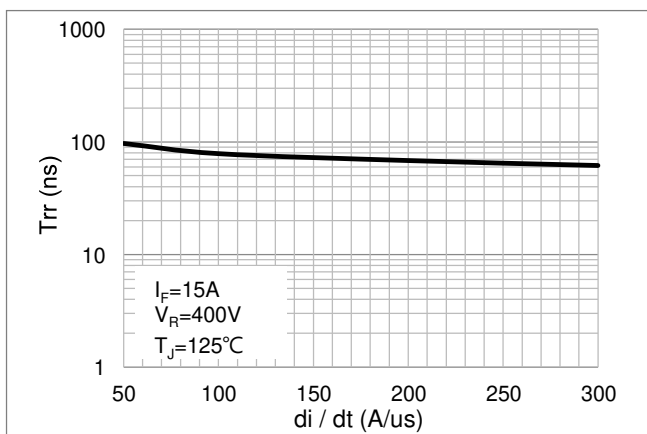**Fig.4 Typical Forward Characteristics**

Fig.5 Typical Reverse Recovery Time Versus di/dt

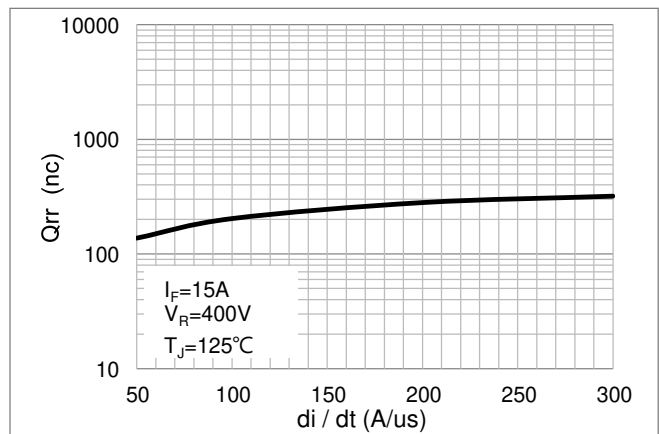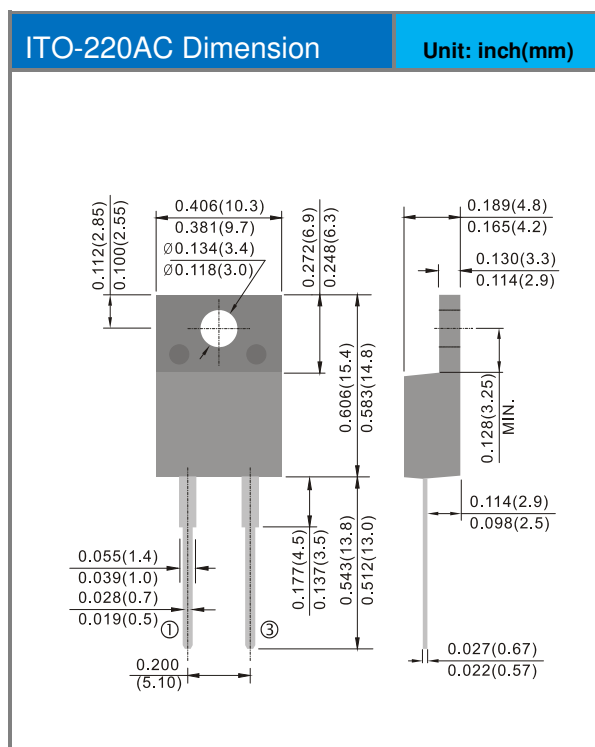**Fig.6 Typical Reverse Recovery Charges Versus di/dt**

Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PSDF1560S1	ITO-220AC	50pcs / Tube	SDF1560S1

Packaging Information

ITO-220AC Dimension — Unit: inch(mm)

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