

8A, 20V - 150V Schottky Barrier Rectifier

FEATURES

- AEC-Q101 qualified available
- Low power loss, high efficiency
- Guard ring for over-voltage protection
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

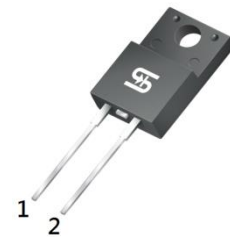
APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- DC to DC converter

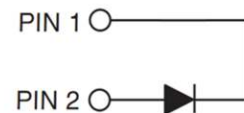
MECHANICAL DATA

- Case: ITO-220AC
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Mounting torque: 0.56 N·m maximum
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 1.70g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	8	A
V_{RRM}	20 - 150	V
I_{FSM}	150	A
T_{JMAX}	125, 150	°C
Package	ITO-220AC	
Configuration	Single die	



ITO-220AC



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	SRAF 820	SRAF 830	SRAF 840	SRAF 850	SRAF 860	SRAF 890	SRAF 8100	SRAF 8150	UNIT
Marking code on the device		SRAF 820	SRAF 830	SRAF 840	SRAF 850	SRAF 860	SRAF 890	SRAF 8100	SRAF 8150	
Repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	90	100	150	V
Reverse voltage total rms value	$V_{R(RMS)}$	14	21	28	35	42	63	70	105	V
Forward current	I_F	8								A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	150								A
Critical rate of rise of off-state voltage	dv/dt	10,000								V/ μs
Junction temperature	T_J	-55 to +125				-55 to +150				°C
Storage temperature	T_{STG}	-55 to +150								°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-case resistance	$R_{\theta JC}$	5	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	SRAF820 SRAF830 SRAF840	$I_F = 8\text{A}, T_J = 25^\circ\text{C}$	V_F	-	0.55	V
	SRAF850 SRAF860			-	0.70	V
	SRAF890 SRAF8100			-	0.85	V
	SRAF8150			-	0.95	V
Reverse current @ rated V_R ⁽²⁾	SRAF820 SRAF830 SRAF840 SRAF850 SRAF860	$T_J = 25^\circ\text{C}$	I_R	-	500	μA
	SRAF890 SRAF8100 SRAF8150			-	100	μA
	SRAF820 SRAF830 SRAF840	$T_J = 100^\circ\text{C}$		-	15	mA
	SRAF850 SRAF860			-	10	mA
	SRAF890 SRAF8100 SRAF8150			-	-	mA
	SRAF820 SRAF830 SRAF840 SRAF850 SRAF860			$T_J = 125^\circ\text{C}$	-	-
	SRAF890 SRAF8100 SRAF8150	-			5	mA

Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION		
ORDERING CODE ⁽¹⁾⁽²⁾	PACKAGE	PACKING
SRAF8x	ITO-220AC	50 / Tube
SRAF8xH	ITO-220AC	50 / Tube

Notes:

1. "x" defines voltage from 20V(SRAF820) to 150V(SRAF8150)
2. "H" means AEC-Q101 qualified

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

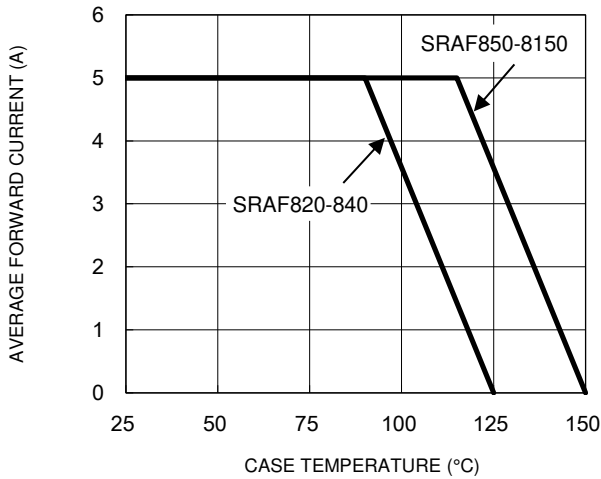


Fig.2 Typical Junction Capacitance

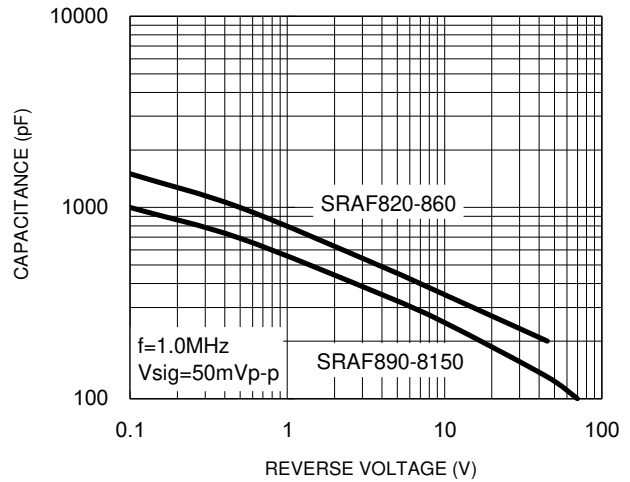


Fig.3 Typical Reverse Characteristics

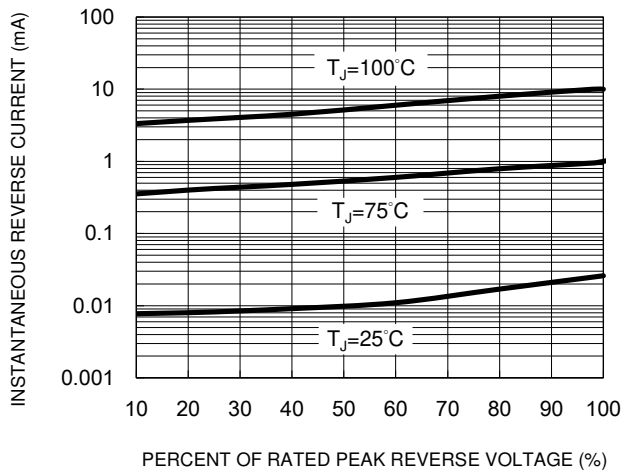


Fig.4 Typical Forward Characteristics

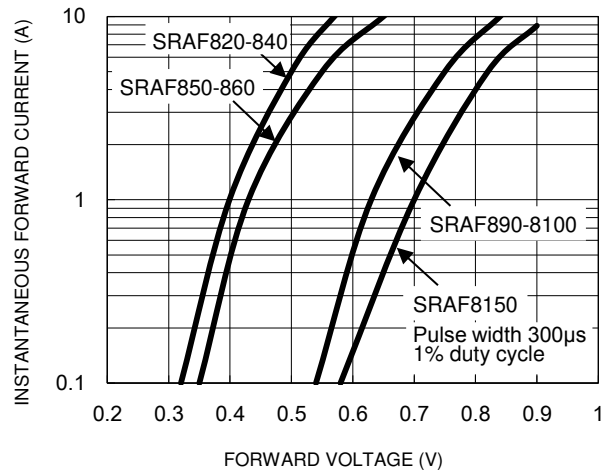
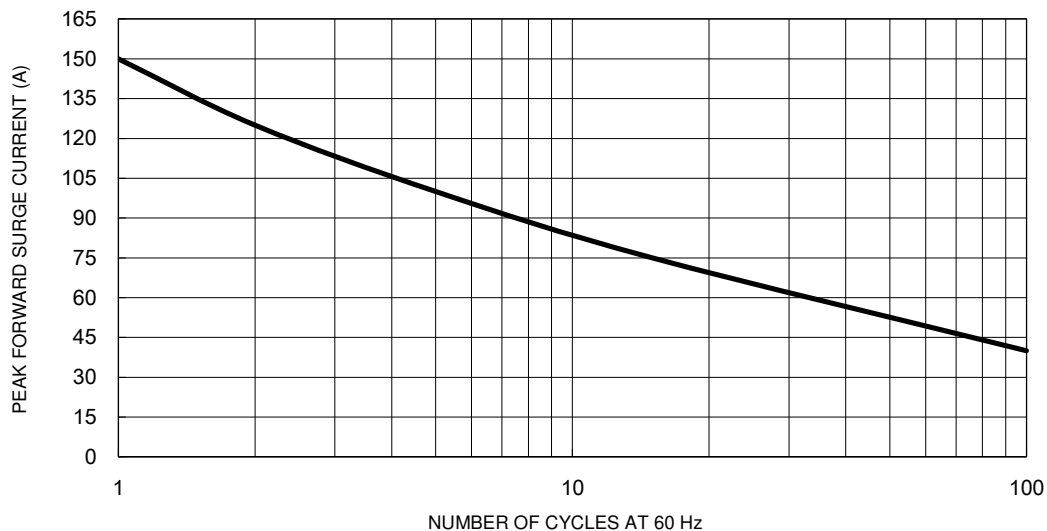


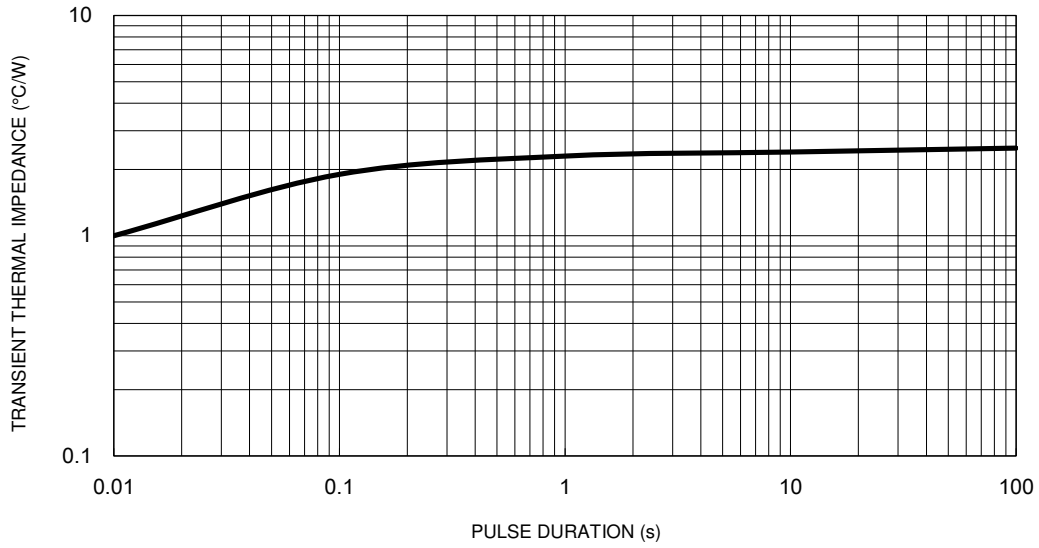
Fig.5 Maximum Non-Repetitive Forward Surge Current



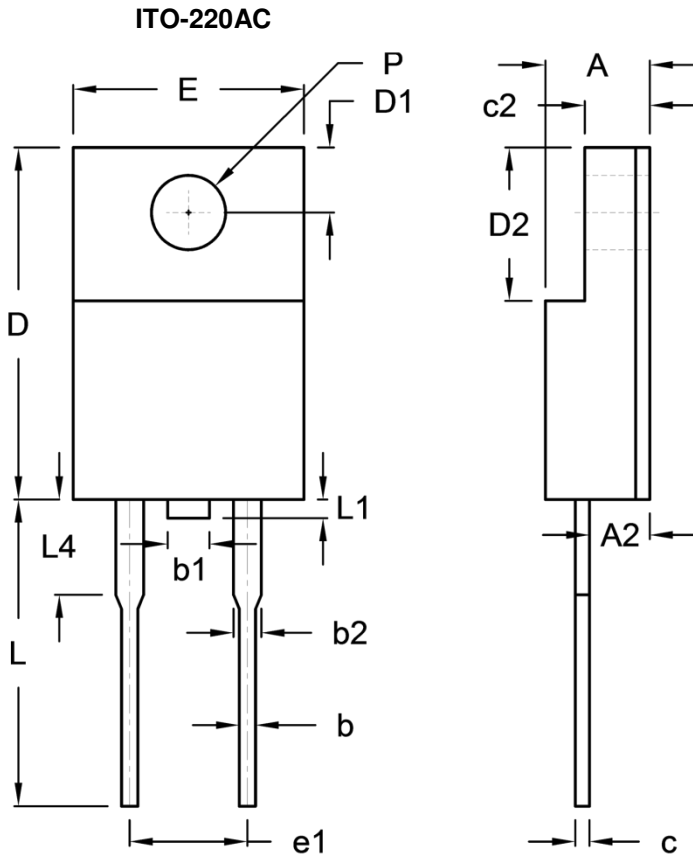
CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.6 Typical Transient Thermal Characteristics



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A2	2.30	2.90	0.091	0.114
b	0.50	0.90	0.020	0.035
b1	-	1.80	-	0.071
b2	0.95	1.45	0.037	0.057
c	0.46	0.76	0.018	0.030
c2	2.50	3.10	0.098	0.114
D	14.80	15.50	0.583	0.610
D1	2.40	3.20	0.094	0.126
D2	6.30	6.90	0.248	0.272
E	9.60	10.30	0.378	0.406
e1	4.95	5.20	0.195	0.205
L	12.60	13.80	0.496	0.543
L1	0.00	1.60	0.000	0.063
L4	-	4.10	-	0.161
P	3.00	3.40	0.118	0.134

MARKING DIAGRAM



- P/N = Marking Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

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