

## 30A, 20V - 150V Schottky Barrier Rectifier

### FEATURES

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

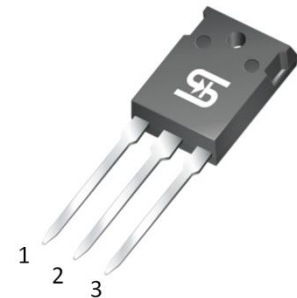
### APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Monitor
- DC to DC converters
- TV

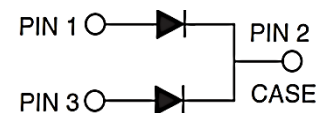
### MECHANICAL DATA

- Case: TO-247AD (TO-3P)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Mounting torque: 1.13 N·m maximum
- Polarity: As marked
- Weight: 6.10g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	30	A
$V_{RRM}$	20 - 150	V
$I_{FSM}$	300	A
$T_{JMAX}$	125, 150	°C
Package	TO-247AD (TO-3P)	
Configuration	Dual dies	



TO-247AD (TO-3P)



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	SR 3020 PT	SR 3030 PT	SR 3040 PT	SR 3050 PT	SR 3060 PT	SR 3090 PT	SR 30100 PT	SR 30150 PT	UNIT
Marking code on the device		SR 3020 PT	SR 3030 PT	SR 3040 PT	SR 3050 PT	SR 3060 PT	SR 3090 PT	SR 30100 PT	SR 30150 PT	
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	$I_F$	30								A
Surge peak forward current 8.3ms single half sine wave superimposed on rated load	$I_{FSM}$	300								A
Junction temperature	$T_J$	-55 to +125				-55 to +150				°C
Storage temperature	$T_{STG}$	-55 to +150								°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>UNIT</b>
Junction-to-case thermal resistance	$R_{\theta JC}$	1.5	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
<b>PARAMETER</b>		<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	SR3020PT SR3030PT SR3040PT	$I_F = 15\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	0.55	V
	SR3050PT SR3060PT			-	0.70	V
	SR3090PT SR30100PT			-	0.90	V
	SR30150PT			-	1.00	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	SR3020PT SR3030PT SR3040PT SR3050PT SR3060PT	$T_J = 25^\circ\text{C}$	$I_R$	-	1000	$\mu\text{A}$
	SR3090PT SR30100PT SR30150PT			-	500	$\mu\text{A}$
	SR3020PT SR3030PT SR3040PT	$T_J = 100^\circ\text{C}$		-	20	mA
	SR3050PT SR3060PT			-	15	mA
	SR3090PT SR30100PT SR30150PT			-	10	mA

**Notes:**

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

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE</b> <sup>(1)(2)</sup>	<b>PACKAGE</b>	<b>PACKING</b>
SR30xPT	TO-247AD (TO-3P)	30 / Tube
SR30xPTH	TO-247AD (TO-3P)	30 / Tube

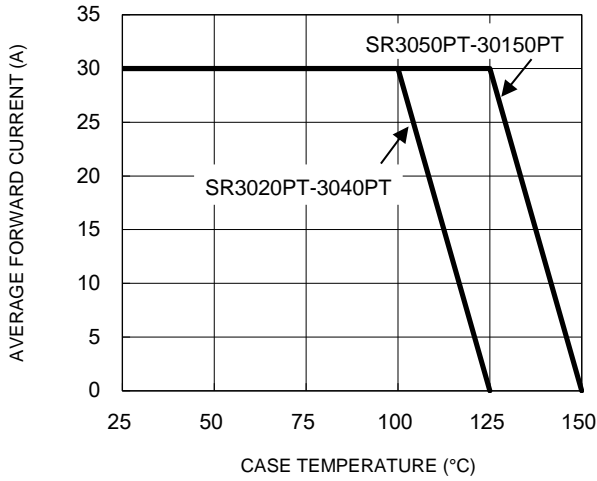
**Notes:**

1. "x" defines voltage from 20V(SR3020PT) to 150V(SR30150PT)
2. "H" means AEC-Q101 qualified

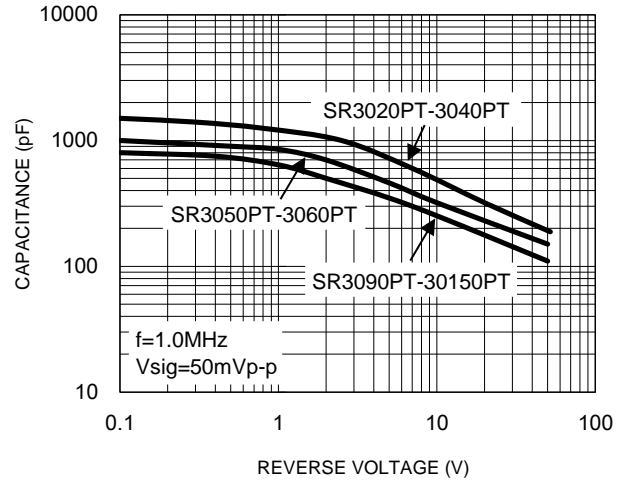
**CHARACTERISTICS CURVES**

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

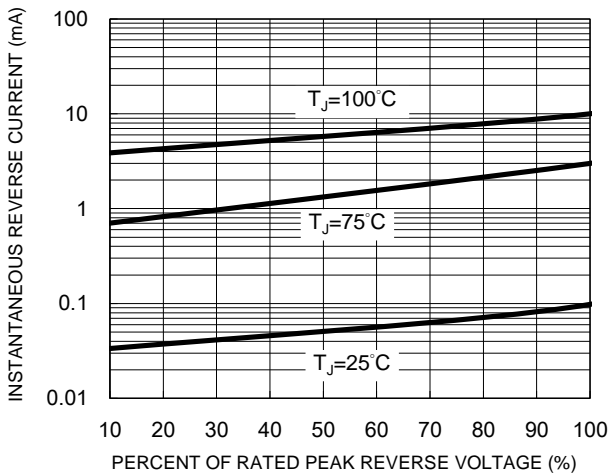
**Fig.1 Forward Current Derating Curve**



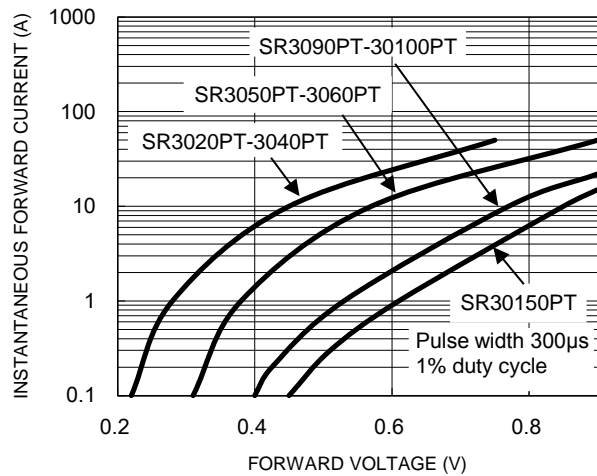
**Fig.2 Typical Junction Capacitance**



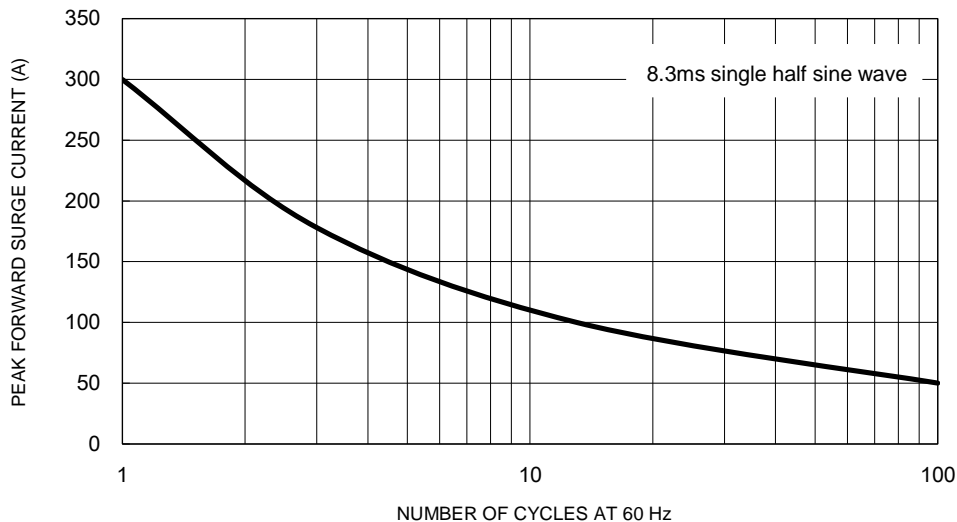
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



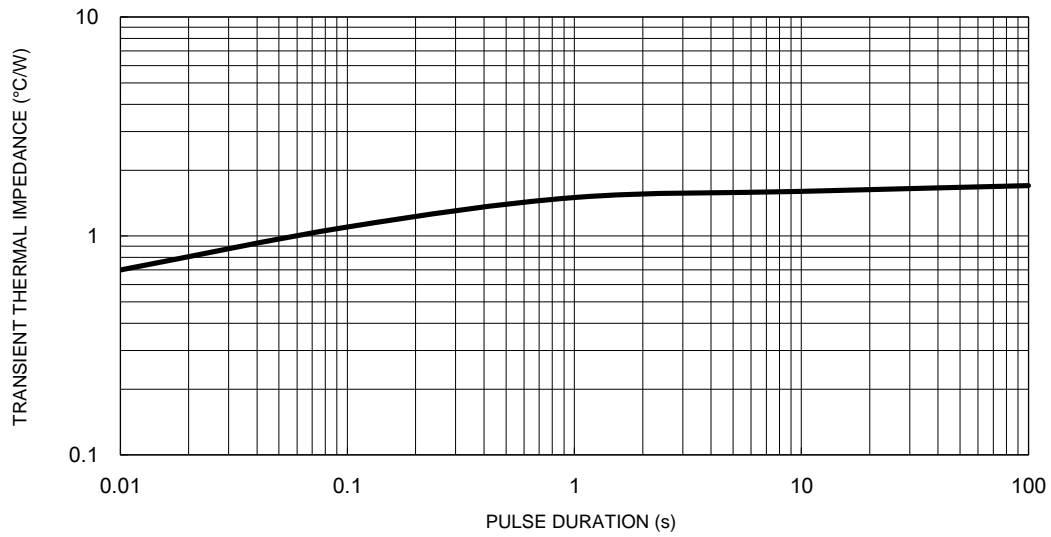
**Fig.5 Maximum Non-Repetitive Forward Surge Current**



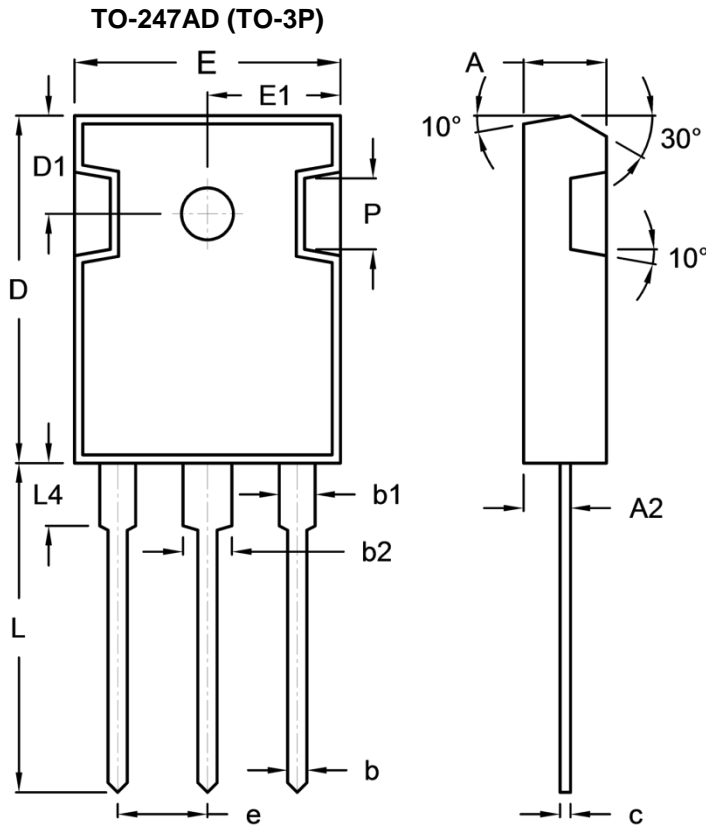
**CHARACTERISTICS CURVES**

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**Fig.6 Typical Transient Thermal Impedance**

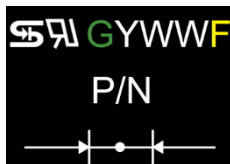


**PACKAGE OUTLINE DIMENSIONS**



DIM	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.90	5.16	0.193	0.203
A2	2.70	3.00	0.106	0.118
b	1.12	1.22	0.044	0.048
b1	1.93	2.18	0.076	0.086
b2	2.97	3.22	0.117	0.127
c	0.51	0.76	0.020	0.030
D	20.80	21.30	0.819	0.839
D1	5.70	6.20	0.224	0.244
E	15.90	16.40	0.626	0.646
E1	7.90	8.20	0.311	0.323
e	5.20	5.70	0.205	0.224
H	2.90	3.40	0.114	0.134
L	19.70	20.20	0.776	0.795
L4	3.50	4.10	0.138	0.161
P	-	4.30	-	0.169

**MARKING DIAGRAM**



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