



40A, 20V - 100V 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	40	Α			
V_{RRM}	20 - 100	V			
I _{FSM}	400	Α			
T _{J MAX}	125, 150	°C			
Package	TO-247AD (TO-3P)				
Configuration	Dual dies				

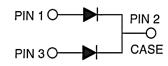








TO-247AD (TO-3P)



ABSOLUTE MAXIMUM RATINGS (T _A = 25°C unless otherwise noted)									
PARAMETER	SYMBOL	SR 4020 PT	SR 4030 PT	SR 4040 PT	SR 4050 PT	SR 4060 PT	SR 4090 PT	SR 40100 PT	UNIT
Marking code on the device		SR 4020 PT	SR 4030 PT	SR 4040 PT	SR 4050 PT	SR 4060 PT	SR 4090 PT	SR 40100 PT	
Repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	90	100	V
Reverse voltage, total rms value	V _{R(RMS)}	14	21	28	35	42	63	70	V
Forward current	I _F	40					Α		
Surge peak forward current 8.3ms single half sine wave superimposed on rated load	I _{FSM}	400					А		
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 thermal resistance	R _{eJC}	1.2	°C/W			

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
	SR4020PT SR4030PT SR4040PT	I _F = 20A, T _J = 25°C	V _F	-	0.55	V
Forward voltage per diode ⁽¹⁾	SR4050PT SR4060PT			-	0.70	V
	SR4090PT SR40100PT			-	0.90	V
Reverse current @ rated V _R per diode ⁽²⁾	SR4020PT SR4030PT SR4040PT SR4050PT SR4060PT	T _J = 25°C	I _R	-	1000	μА
	SR4090PT SR40100PT			-	500	μA
	SR4020PT SR4030PT SR4040PT			-	30	mA
	SR4050PT SR4060PT	T _J = 100°C		-	20	mA
	SR4090PT SR40100PT			-	-	mA
	SR4020PT SR4030PT SR4040PT SR4050PT SR4060PT	T _J = 125°C		-	-	mA
	SR4090PT SR40100PT	-		-	10	mA

Notes:

- 1. Pulse test with PW = 0.3ms
- 2. Pulse test with PW = 30ms

ORDERING INFORMATION						
ORDERING CODE ⁽¹⁾⁽²⁾	PACKAGE	PACKING				
SR40xPT	TO-247AD (TO-3P)	30 / Tube				
SR40xPTH	TO-247AD (TO-3P)	30 / Tube				

Notes:

- 1. "x" defines voltage from 20V(SR4020PT) to 100V(SR40100PT)
- 2. "H" means ACE-Q101 qualified



CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

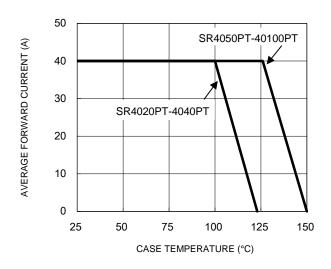


Fig.2 Typical Junction Capacitance

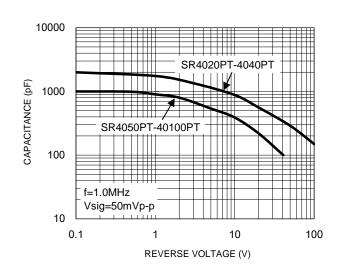
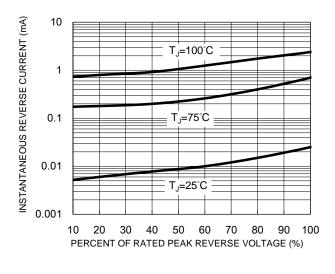


Fig.3 Typical Reverse Characteristics





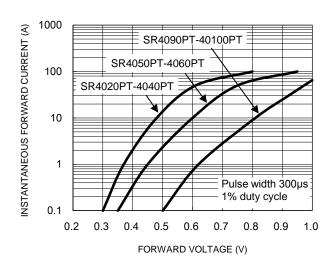
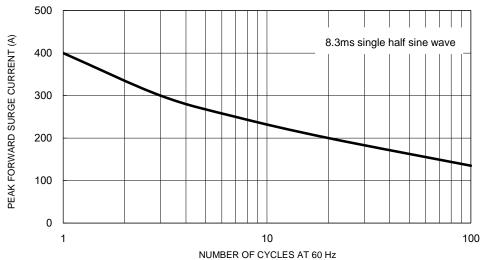


Fig.5 Maximum Non-Repetitive Forward Surge Current



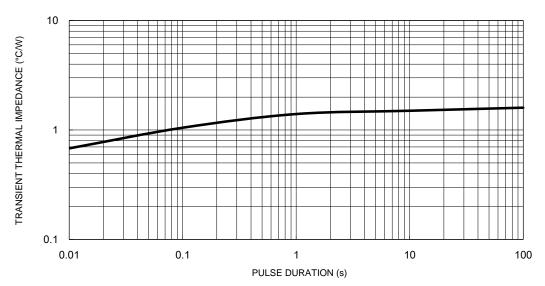
3



CHARACTERISTICS CURVES

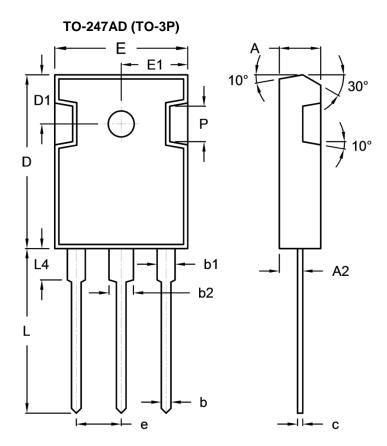
 $(T_A = 25^{\circ}C \text{ unless otherwise noted})$

Fig.6 Typical Transient Thermal Impedance





PACKAGE OUTLINE DIMENSIONS



DIM	Unit	(mm)	Unit (inch)		
DIIVI	Min	Max	Min	Max	
Α	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	
С	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	
е	5.20	5.70	0.205	0.224	
Н	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	
Р	-	4.30	-	0.169	

MARKING DIAGRAM



P/N = Marking Code = Green Compound G

YWW = Date Code = Factory Code



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