

3A, 40V - 200V Schottky Barrier Rectifier

FEATURES

- Low power loss, high efficiency
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switch Mode Power Supply
- Adapters
- On board DC/DC converter

MECHANICAL DATA

- Case: DO-201AD
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1 whisker test
- Polarity: Indicated by cathode band
- Weight: 1.00g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	3	A
V_{RRM}	40-200	V
I_{FSM}	76	A
$T_{J\ MAX}$	125,150	°C
Package	DO-201AD	



DO-201AD



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

PARAMETER	SYMBOL	SR304 -T	SR306 -T	SR310 -T	SR315 -T	SR320 -T	UNIT
Marking code on the device		SR304	SR306	SR310	SR315	SR320	
Repetitive peak reverse voltage	V_{RRM}	40	60	100	150	200	V
Reverse voltage, total rms value	$V_{R(RMS)}$	28	42	70	105	140	V
DC blocking voltage	V_{DC}	40	60	100	150	200	V
Forward current	I_F	3					A
Surge peak forward current single half sine-wave superimposed on rated load	8.3ms at $T_A = 25^\circ\text{C}$	76					A
	1.0ms at $T_A = 25^\circ\text{C}$	228					A
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-lead thermal resistance	$R_{\theta JL}$	7	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	52	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	19	°C/W

Thermal Performance Note: Units mounted on PCB (16mm x 16mm Cu pad test board)

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	SR304-T	$I_F = 1.5\text{A}, T_J = 25^\circ\text{C}$	V_F	0.44	-	V
		$I_F = 3.0\text{A}, T_J = 25^\circ\text{C}$		0.50	0.55	V
		$I_F = 1.5\text{A}, T_J = 100^\circ\text{C}$		0.35	-	V
		$I_F = 3.0\text{A}, T_J = 100^\circ\text{C}$		0.43	0.48	V
	SR306-T	$I_F = 1.5\text{A}, T_J = 25^\circ\text{C}$		0.50	-	V
		$I_F = 3.0\text{A}, T_J = 25^\circ\text{C}$		0.62	0.70	V
		$I_F = 1.5\text{A}, T_J = 125^\circ\text{C}$		0.44	-	V
		$I_F = 3.0\text{A}, T_J = 125^\circ\text{C}$		0.54	0.61	V
	SR310-T	$I_F = 1.5\text{A}, T_J = 25^\circ\text{C}$		0.67	-	V
		$I_F = 3.0\text{A}, T_J = 25^\circ\text{C}$		0.77	0.85	V
		$I_F = 1.5\text{A}, T_J = 125^\circ\text{C}$		0.55	-	V
		$I_F = 3.0\text{A}, T_J = 125^\circ\text{C}$		0.62	0.70	V
	SR315-T	$I_F = 1.5\text{A}, T_J = 25^\circ\text{C}$		0.76	-	V
		$I_F = 3.0\text{A}, T_J = 25^\circ\text{C}$		0.81	0.85	V
		$I_F = 1.5\text{A}, T_J = 125^\circ\text{C}$		0.61	-	V
		$I_F = 3.0\text{A}, T_J = 125^\circ\text{C}$		0.67	0.75	V
	SR320-T	$I_F = 1.5\text{A}, T_J = 25^\circ\text{C}$		0.78	-	V
		$I_F = 3.0\text{A}, T_J = 25^\circ\text{C}$		0.84	0.95	V
		$I_F = 1.5\text{A}, T_J = 125^\circ\text{C}$		0.63	-	V
		$I_F = 3.0\text{A}, T_J = 125^\circ\text{C}$		0.70	0.79	V
Reverse current @ rated V_R ⁽²⁾	SR304-T	$T_J = 25^\circ\text{C}$	I_R	-	0.5	mA
		$T_J = 100^\circ\text{C}$		-	25	mA
	SR306-T	$T_J = 25^\circ\text{C}$		-	0.5	mA
		$T_J = 125^\circ\text{C}$		-	19	mA
	SR310-T	$T_J = 25^\circ\text{C}$		-	0.2	mA
	SR315-T SR320-T	$T_J = 125^\circ\text{C}$		-	5	mA
Junction capacitance	SR304-T	1MHz, $V_R = 4.0\text{V}$	C_J	158	-	pF
	SR306-T			121	-	pF
	SR310-T			78	-	pF
	SR315-T			67	-	pF
	SR320-T			49	-	pF

Notes:

- (1) Pulse test with PW = 0.3ms
- (2) Pulse test with PW = 30ms

ORDERING INFORMATION		
ORDERING CODE⁽¹⁾	PACKAGE	PACKING
SR3x-T R0G	DO-201AD	1,250 / 13" reel
SR3x-T A0G	DO-201AD	500 / Ammo box

Notes:

- (1) "x" defines voltage from 40V(SR304-T) to 200V(SR320-T)

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

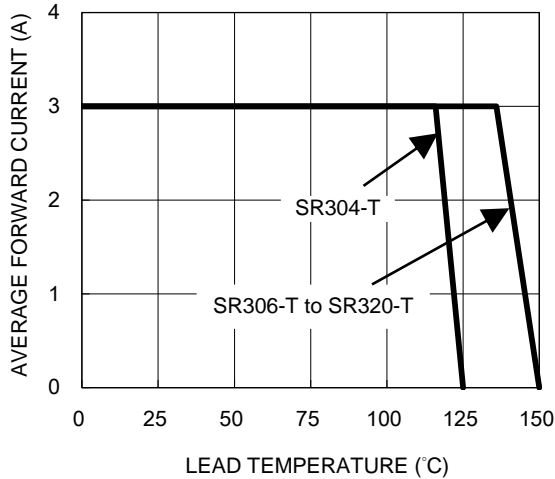


Fig.2 Typical Junction Capacitance

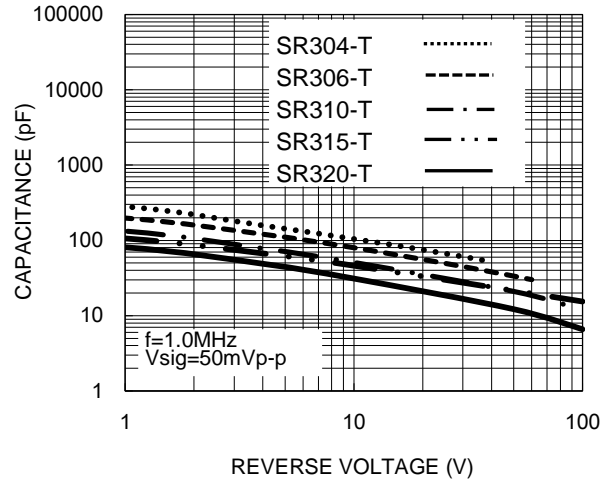


Fig.3 Typical Reverse Characteristics

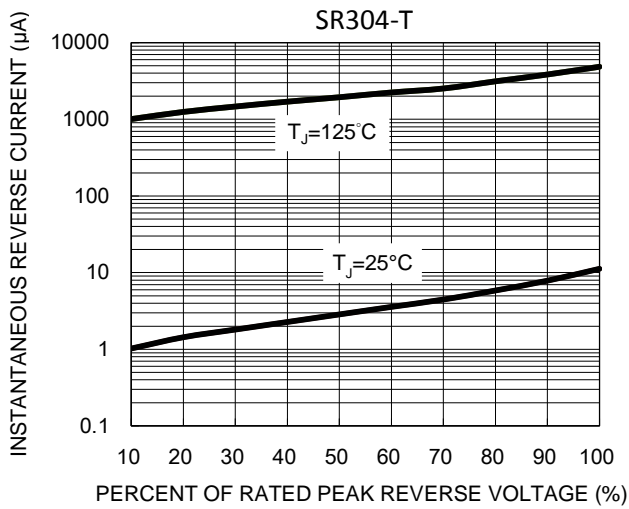


Fig.4 Typical Forward Characteristics

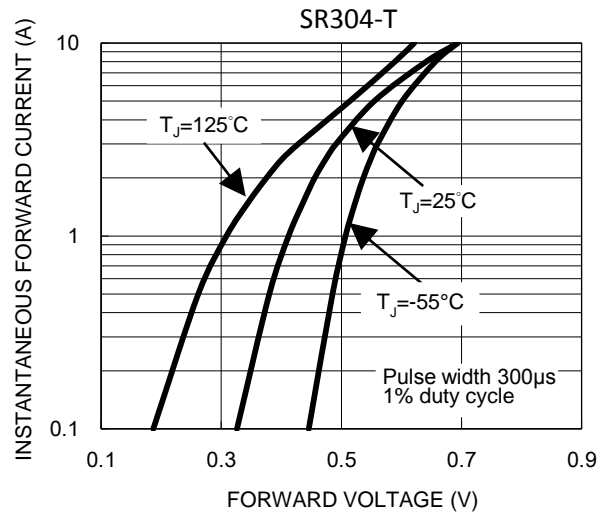


Fig.5 Typical Reverse Characteristics

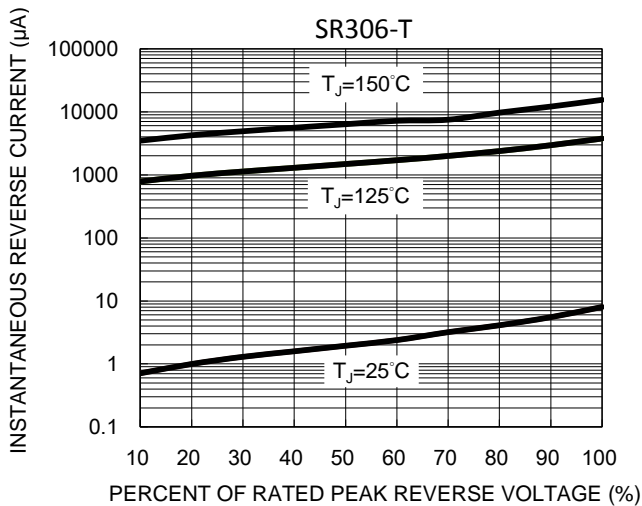


Fig.6 Typical Forward Characteristics

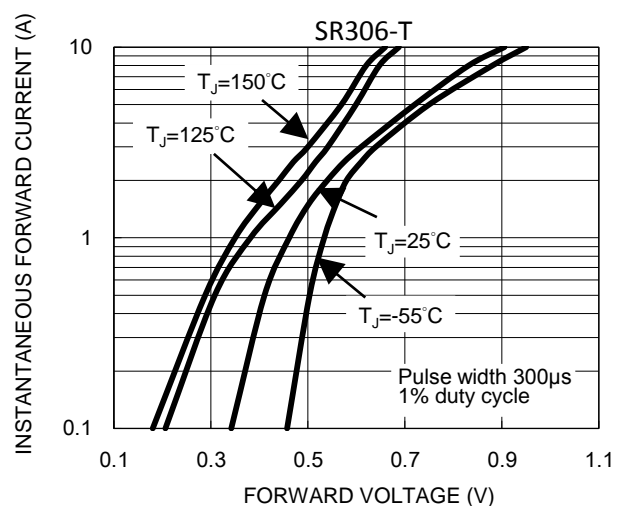


Fig.7 Typical Reverse Characteristics

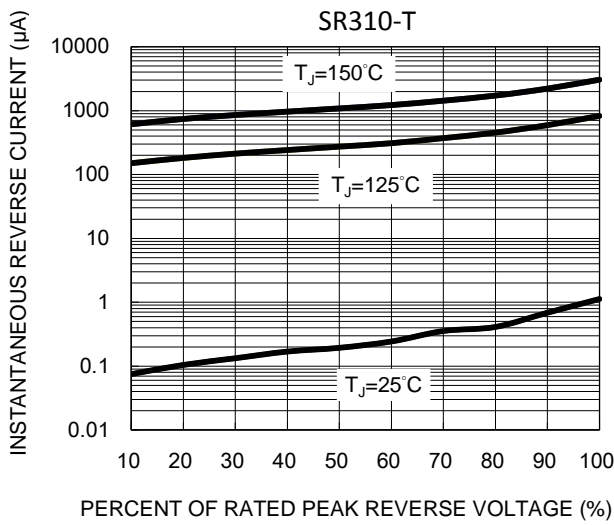


Fig.9 Typical Reverse Characteristics

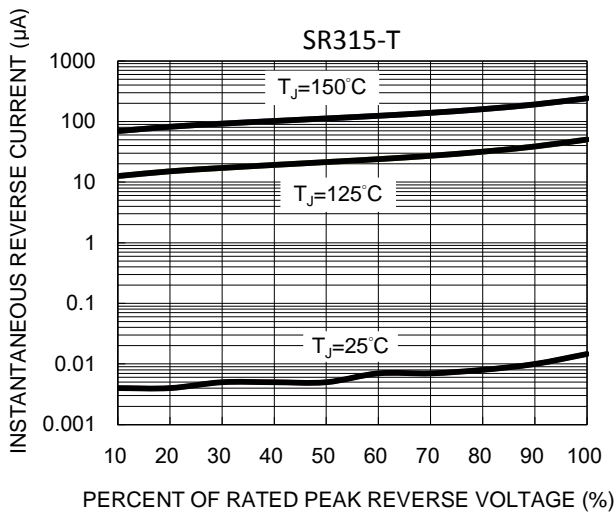


Fig.11 Typical Reverse Characteristics

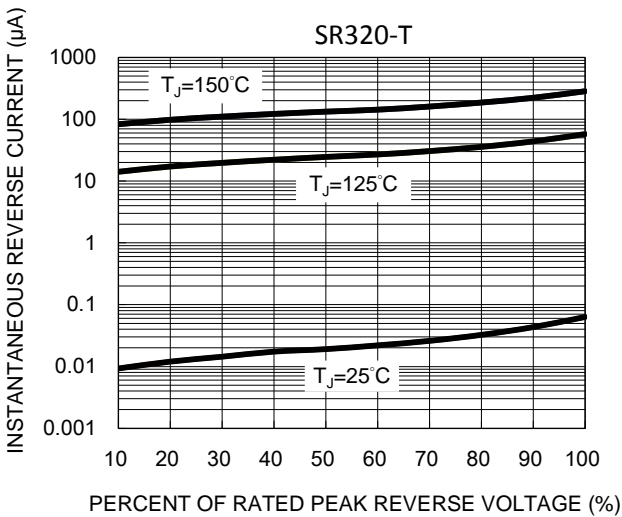


Fig.8 Typical Forward Characteristics

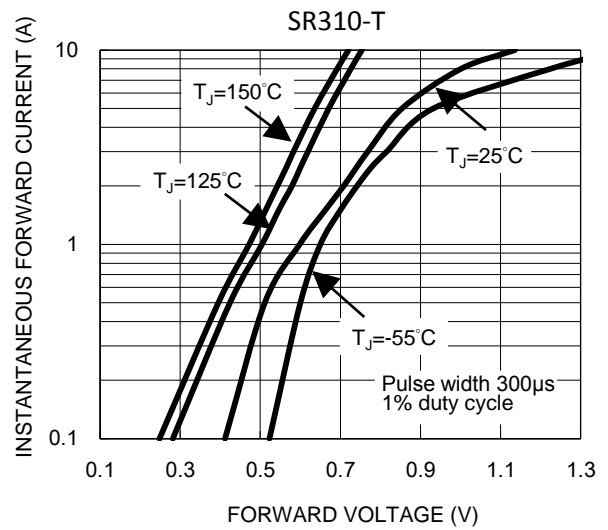


Fig.10 Typical Forward Characteristics

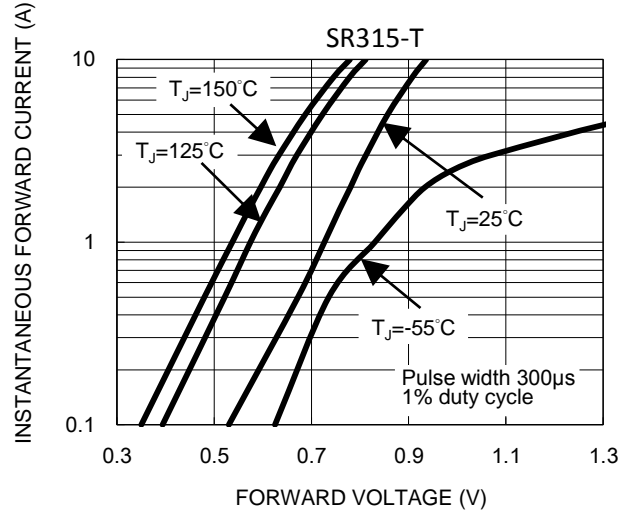
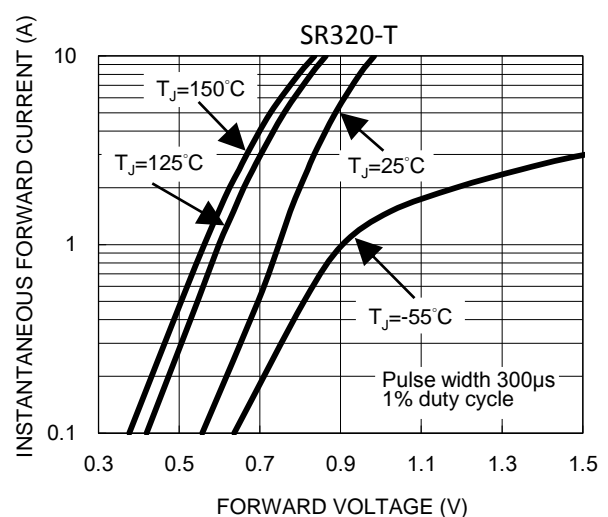
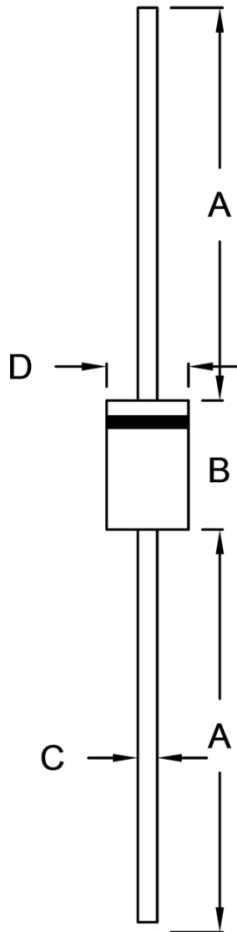


Fig.12 Typical Forward Characteristics



PACKAGE OUTLINE DIMENSIONS (Unit: Millimeters)

DO-201AD



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	7.20	9.50	0.283	0.374
C	1.20	1.30	0.047	0.051
D	5.00	5.60	0.197	0.220

MARKING DIAGRAM



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

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