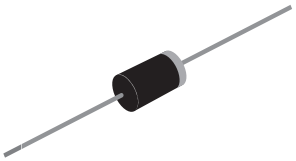
General Purpose Plastic Rectifier



DO-201AD

FEATURES

- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

RoHS COMPLIANT

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes application.
(Note: These devices are not Q101 qualified.)

MECHANICAL DATA

Case: DO-201AD, molded epoxy body

Epoxy meets UL-94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

Polarity: Color band denotes cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
V_{RRM}	50 V to 1000 V
I_{FSM}	200 A
I_R	5.0 µA
V_F	1.2 V
T_J max.	150 °C

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	1N5400	1N5401	1N5402	1N5403	1N5404	1N5405	1N5406	1N5407	1N5408	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	500	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	350	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	500	600	800	1000	V
Maximum average forward rectified current 0.5" (12.5 mm) lead length at T_L = 105 °C	$I_{F(AV)}$	3.0									A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	200									A
Maximum full load reverse current, full cycle average 0.5" (12.5 mm) lead length at T_L = 105 °C	$I_{R(AV)}$	500									µA
Operating junction and storage temperature range	T_J, T_{STG}	- 50 to + 150									°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)												
PARAMETER	**TEST CONDITIONS**	**SYMBOL**	**1N5400**	**1N5401**	**1N5402**	**1N5403**	**1N5404**	**1N5405**	**1N5406**	**1N5407**	**1N5408**	**UNIT**
Maximum instantaneous forward voltage	3.0 A	V_F	1.2									V
Maximum DC reverse current at rated DC blocking voltage	T_A = 25 °C T_A = 150 °C	I_R	5.0 500									µA
Typical junction capacitance	4.0 V, 1 MHz	C_J	30									pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)											
PARAMETER	**SYMBOL**	**1N5400**	**1N5401**	**1N5402**	**1N5403**	**1N5404**	**1N5405**	**1N5406**	**1N5407**	**1N5408**	**UNIT**
Typical thermal resistance (1)	$R_{\theta JA}$	20									°C/W

Note:

(1) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, P.C.B. mounted with 0.8 x 0.8" (20 x 20 mm) copper heatsinks

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
1N5404-E3/54	1.1	54	1400	13" diameter paper tape and reel
1N5404-E3/73	1.1	73	1000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

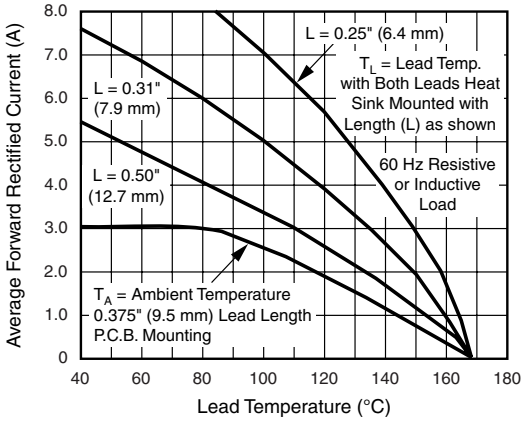


Figure 1. Forward Current Derating Curve

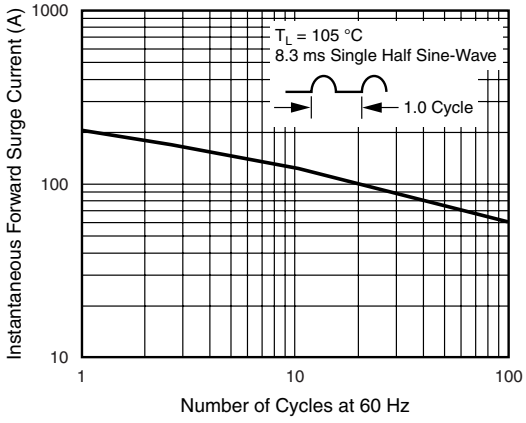


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

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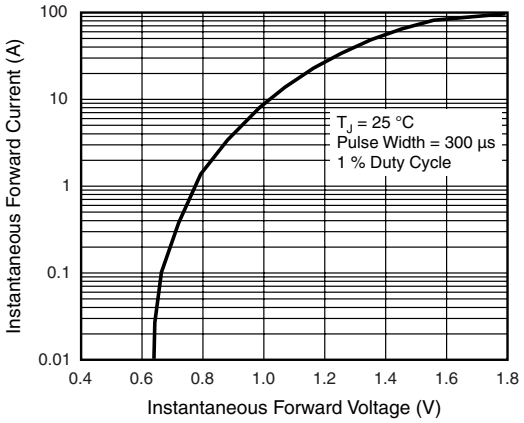


Figure 3. Typical Instantaneous Forward Characteristics

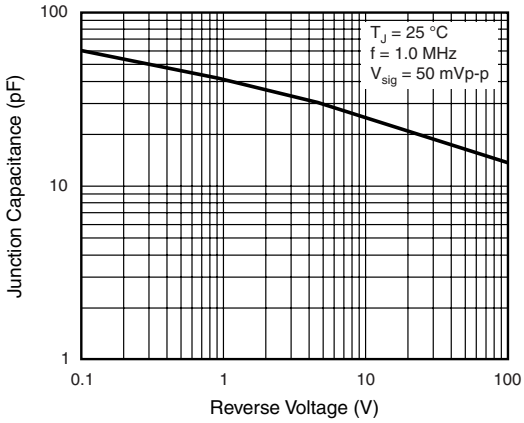


Figure 5. Typical Junction Capacitance

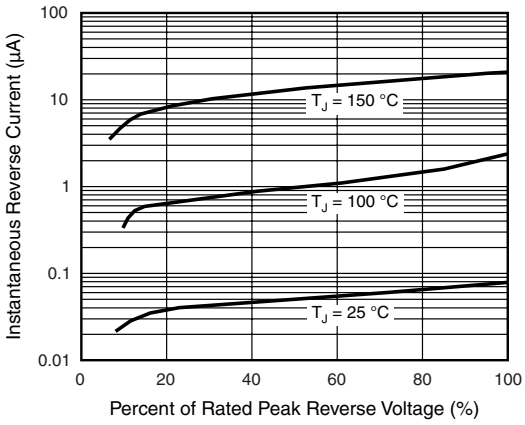


Figure 4. Typical Reverse Characteristics

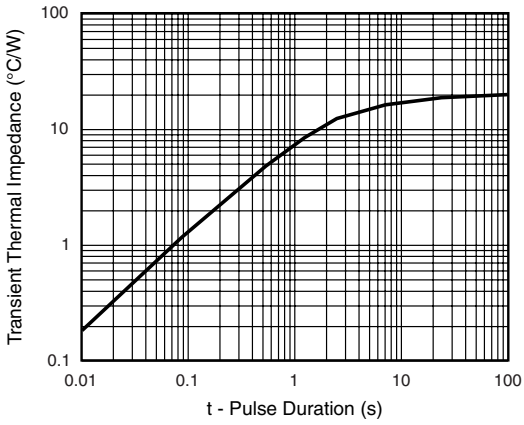
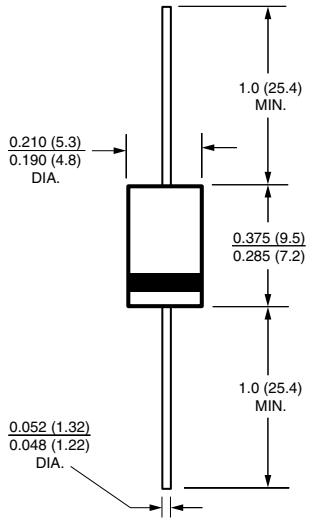


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-201AD



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