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August 2015

1N5401 - 1N5408 General-Purpose Rectifiers

Features

- 3.0 A Operation at $T_A = 75^\circ\text{C}$ with No Thermal Runaway
- High Current Capability
- Low Leakage



DO-201AD
COLOR BAND DENOTES CATHODE

Ordering Information

Part Number	Top Mark	Package	Packing Method
1N5401	1N5401	DO-201AD	Tape and Reel
1N5402	1N5402	DO-201AD	Tape and Reel
1N5404	1N5404	DO-201AD	Tape and Reel
1N5406	1N5406	DO-201AD	Tape and Reel
1N5408	1N5408	DO-201AD	Tape and Reel

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

Symbol	Parameter	Value					Unit
		1N5401	1N5402	1N5404	1N5406	1N5408	
V_{RRM}	Maximum Repetitive Reverse Voltage	100	200	400	600	1000	V
$I_{F(AV)}$	Average Rectified Forward Current, .375 " lead length at $T_A = 75^\circ$	3.0					A
I_{FSM}	Non-Repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	200					A
T_{STG}	Storage Temperature Range	-55 to +150					$^\circ\text{C}$
T_J	Operating Junction Temperature	-55 to +150					$^\circ\text{C}$

Thermal Characteristics

Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

Symbol	Parameter	Value	Unit
P_D	Power Dissipation	6.25	W
$R_{\theta JA}$	Typical Thermal Resistance, Junction-to-Ambient	20	$^\circ\text{C}/\text{W}$

Electrical Characteristics

Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

Symbol	Parameter	Conditions	Value					Unit
			1N5401	1N5402	1N5404	1N5406	1N5408	
V_F	Forward Voltage	$I_F = 3.0\text{ A}$	1.2					V
I_{rr}	Maximum Full Load Reverse Current, Full Cycle	$T_A = 105^\circ\text{C}$	0.5					mA
I_R	Reverse Current at Rated V_R	$T_A = 25^\circ\text{C}$	5.0					μA
		$T_A = 100^\circ\text{C}$	500					
C_T	Total Capacitance	$V_R = 4.0\text{ V}$, $f = 1.0\text{ MHz}$	30					pF

Typical Performance Characteristics

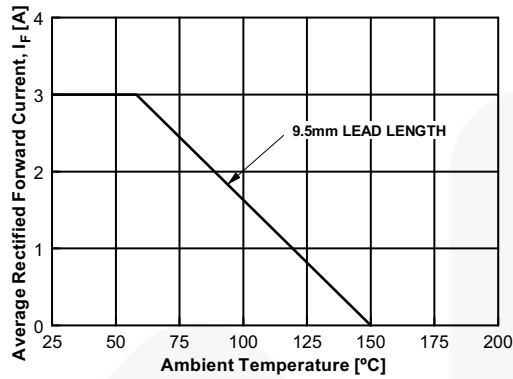


Figure 1. Forward Current Derating Curve

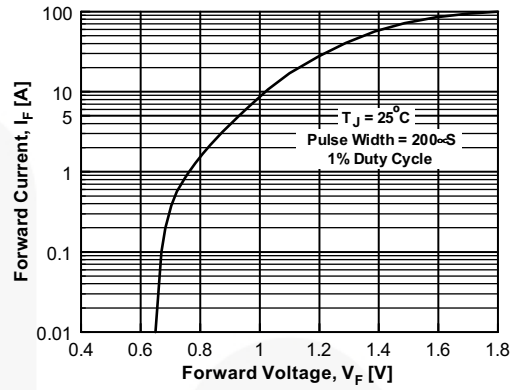


Figure 2. Forward Voltage Characteristics

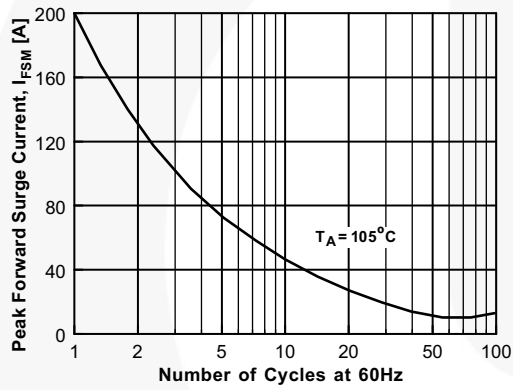


Figure 3. Non-Repetitive Surge Current

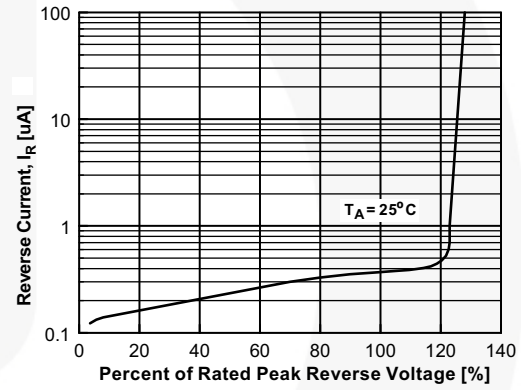


Figure 4. Reverse Current vs. Reverse Voltage

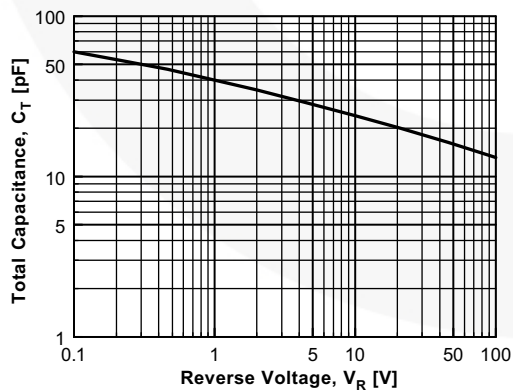


Figure 5. Total Capacitance

Physical Dimensions

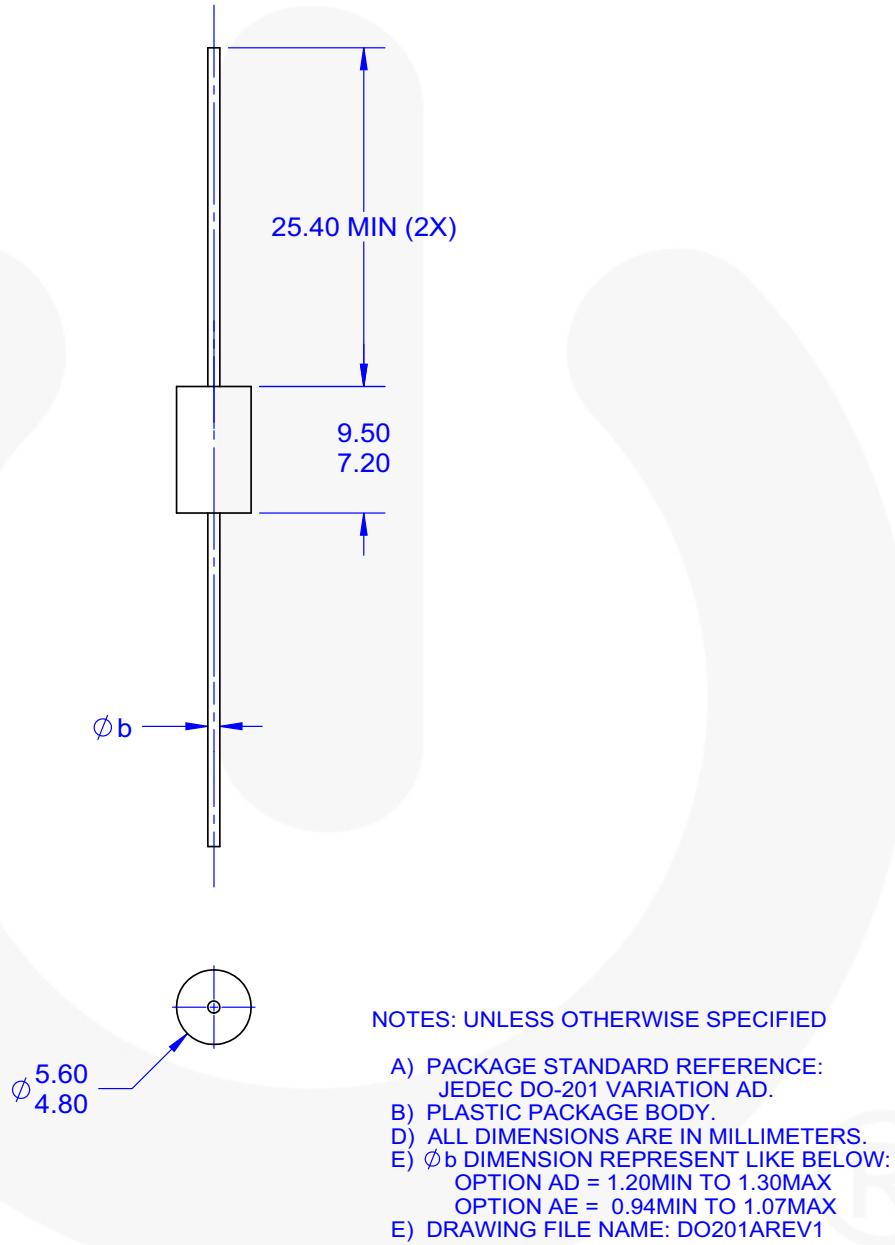







Figure 6. AXIAL LEADED, JEDEC DO201, OPTION AD



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Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

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