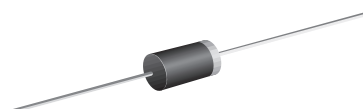


General Purpose Plastic Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	1.0 A
V_{RRM}	50 V to 1000 V
I_{FSM}	30 A
V_F	1.1 V
I_R	5.0 μ A
T_j max.	150 °C



DO-204AL (DO-41)

Features

- Low forward voltage drop
- Low leakage current
- High forward surge capability

Typical Applications

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes application.

(Note: These devices are not Q101 qualified. Therefore, the devices specified in this datasheet have not been designed for use in automotive or Hi-Rel applications.)

Mechanical Data

Case: DO-204AL, molded plastic body

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Maximum Ratings

($T_A = 25$ °C unless otherwise noted)

Parameter	Symbol	1N 4001	1N 4002	1N 4003	1N 4004	1N 4005	1N 4006	1N 4007	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 75$ °C	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length $T_L = 75$ °C	$I_{R(AV)}$	30							μ A
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150							°C

Electrical Characteristics

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

Parameter	Test condition	Symbol	1N 4001	1N 4002	1N 4003	1N 4004	1N 4005	1N 4006	1N 4007	Unit
Maximum instantaneous forward voltage	at 1.0 A	V_F	1.1							V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 125\text{ }^{\circ}\text{C}$	I_R	5.0 50							μA
Typical junction capacitance	at 4.0 V, 1 MHz	C_J	15							pF

Thermal Characteristics

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

Parameter	Symbol	1N 4001	1N 4002	1N 4003	1N 4004	1N 4005	1N 4006	1N 4007	Unit
Typical thermal resistance(1)	$R_{\theta JA}$ $R_{\theta JL}$	50 25							$^{\circ}\text{C/W}$

Notes:

(1) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, P.C.B. mounted

Ratings and Characteristics Curves

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

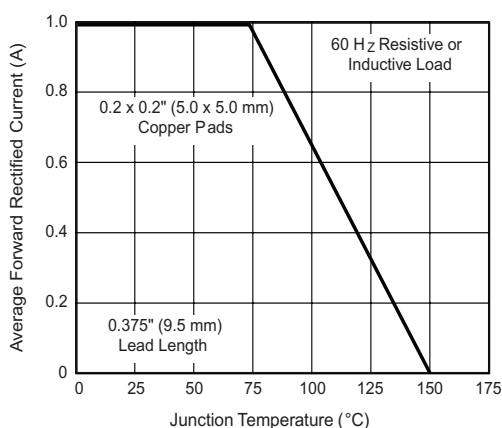


Figure 1. Forward Current Derating Curve

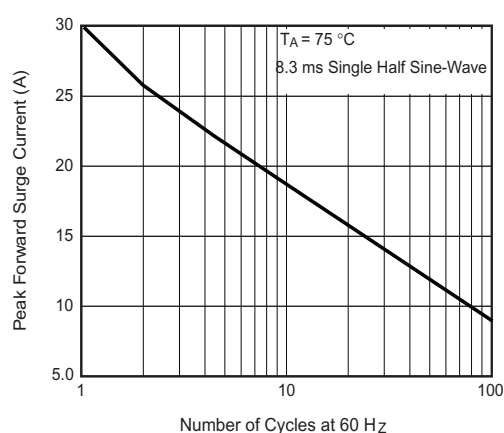


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

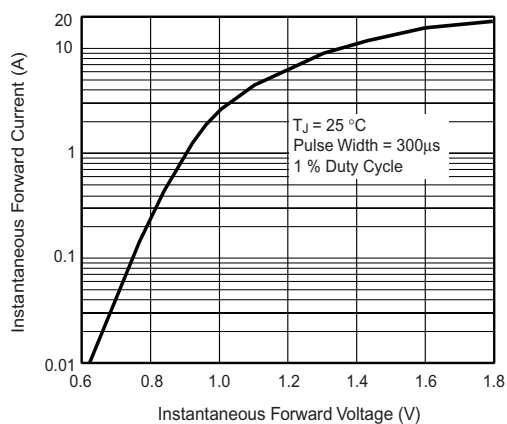


Figure 3. Typical Instantaneous Forward Characteristics

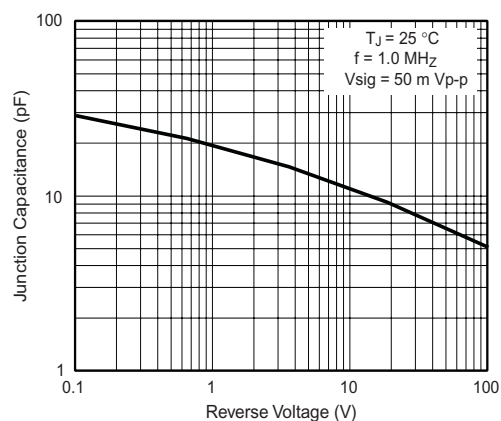


Figure 5. Typical Junction Capacitance

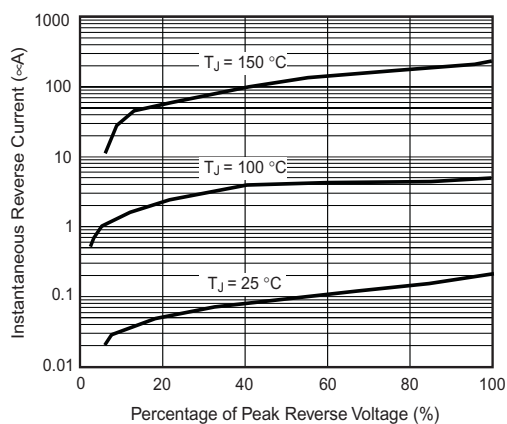


Figure 4. Typical Reverse Characteristics

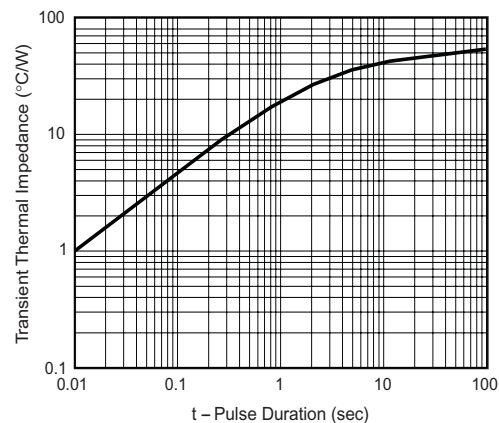


Figure 6. Typical Transient Thermal Impedance

Package outline dimensions in inches (millimeters)

