
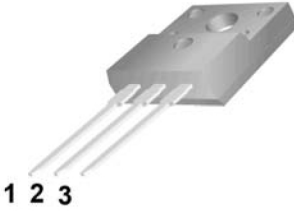
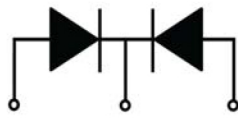


<p><b>Features:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> High surge capacity</li> <li><input type="checkbox"/> Low Forward Voltage Drop.</li> <li><input type="checkbox"/> High Current Capability.</li> <li><input type="checkbox"/> Super Fast Switching Speed For High Efficiency</li> </ul>	<div style="text-align: right;">  </div> <p style="text-align: center;"><b>TO-220AB</b></p>   <p style="text-align: center;">1. Anode    2. Cathode    3. Anode</p>
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### Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

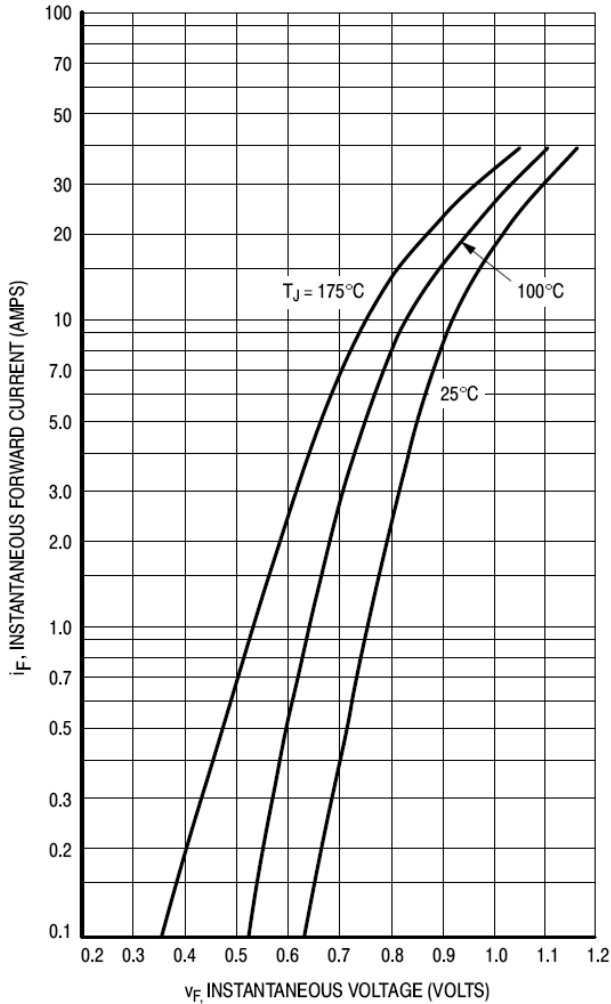
Parameter	Symbol	UF1004	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	400	V
Working Peak Reverse Voltage	$V_{RWM}$	280	V
DC Blocking Voltage	$V_{R(DC)}$	400	V
Average Rectified Forward Current Total Device, (Rated $V_R$ ), $T_C = 150^\circ\text{C}$	$I_{F(AV)}$	5	A
Per Leg Total Device		10	
Peak Rectified Forward Current Per Diode Leg (Rated $V_R$ , Square Wave, 20 kHz), $T_C = 150^\circ\text{C}$	$I_{FM}$	10	A
Nonrepetitive Peak Surge Current(Surge applied at rated load conditions half wave, single phase, 60 Hz)	$I_{FSM}$	100	A
Operating Junction Temperature and Storage Temperature	$T_J, T_{stg}$	-65 to +175	°C
Maximum Thermal Resistance, Junction-to-Case(Per Leg)	$R_{\theta JC}$	2.0	°C/W

### ELECTRICAL CHARACTERISTICS (Per Diode Leg)

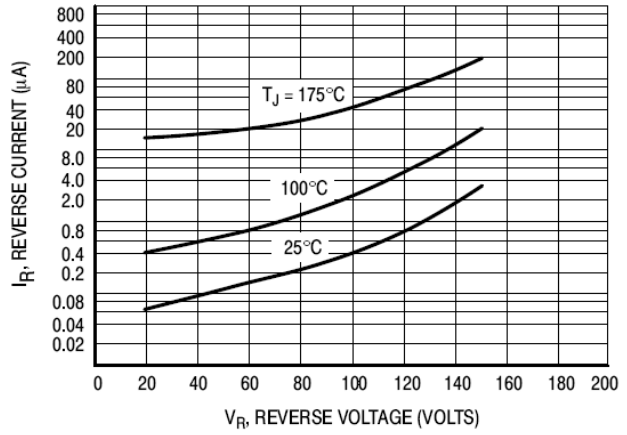
Parameter	Symbol	UF1004	Unit
Forward Voltage (Note 1) ( $I_F = 5\text{A}$ , $T_C = 25^\circ\text{C}$ ) ( $I_F = 5\text{A}$ , $T_C = 150^\circ\text{C}$ )	$V_F$	1.50 1.20	V
Maximum Instantaneous Reverse Current (Note 1) (Rated DC Voltage, $T_C = 25^\circ\text{C}$ ) (Rated DC Voltage, $T_C = 150^\circ\text{C}$ )	$I_R$	10 500	$\mu\text{A}$
Maximum Reverse Recovery Time ( $I_F = 1.0\text{A}$ , $di/dt = 50\text{A}/\mu\text{s}$ ) ( $I_F = 0.5\text{A}$ , $I_R = 1.0\text{A}$ , $I_{REC} = 0.25\text{A}$ )	$T_{RR}$	35 30	ns

Note 1. Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

**Typical Characteristics**

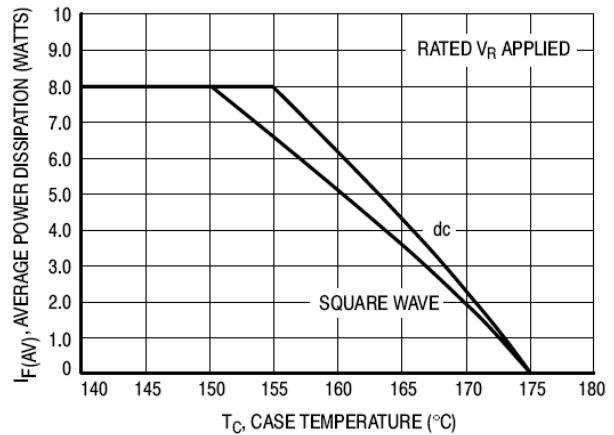


**Figure 1. Typical Forward Voltage, Per Leg**

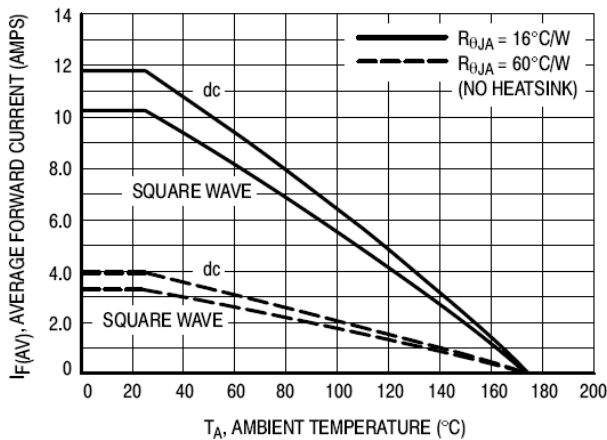


**Figure 2. Typical Reverse Current, Per Leg\***

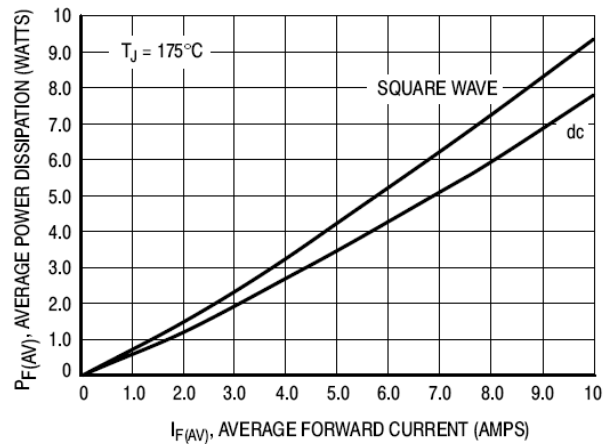
\* The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if  $V_R$  is sufficiently below rated  $V_R$ .



**Figure 3. Current Derating, Case, Per Leg**



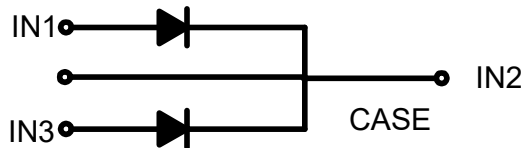
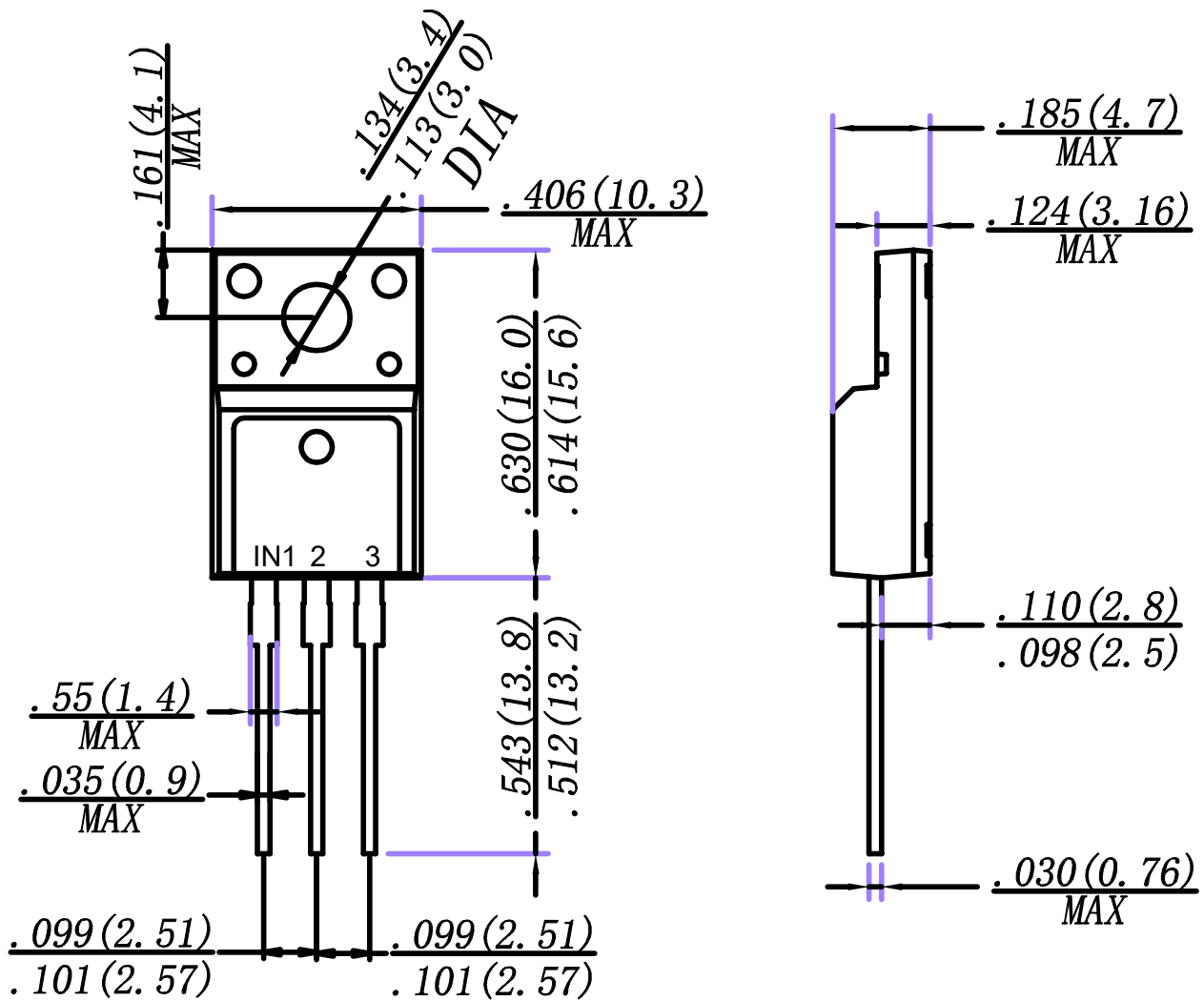
**Figure 4. Current Derating, Ambient, Per Leg**



**Figure 5. Power Dissipation, Per Leg**

Package Dimension

TO-220AB



Dimensions in inches and (millimeters)

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