

## Ultrafast Rectifier - 30Amp 600Volt

**Features**

- Epoxy Meets UL 94V-0
- High Voltage Capability
- Low Leakage Current
- High Temperature Glass Passivated Junction
- Pb-Free Packages is Available

**Mechanical Characteristics**

- Case: Epoxy, Molded
- Weight: 1.9 grams(Approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260 °C Max for 10 Seconds

**Maximum ratings**

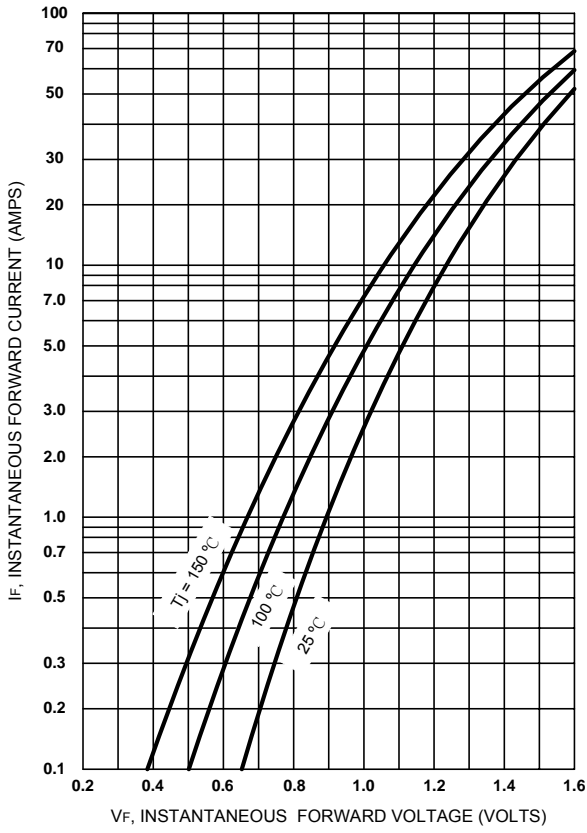
Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	600	V
Average Rectified Forward Current Total Device(Rated V <sub>R</sub> ), T <sub>C</sub> = 150 °C	I <sub>F(AV)</sub>	15 30	A
Peak Repetitive Forward Current (Rated V <sub>R</sub> , Square Wave, 20kHz), T <sub>C</sub> = 150 °C	I <sub>FM</sub>	30	A
Nonrepetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60Hz)	I <sub>FSM</sub>	150	A
Operating Junction Temperature and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-65 to +175	°C

**Electrical characteristics**

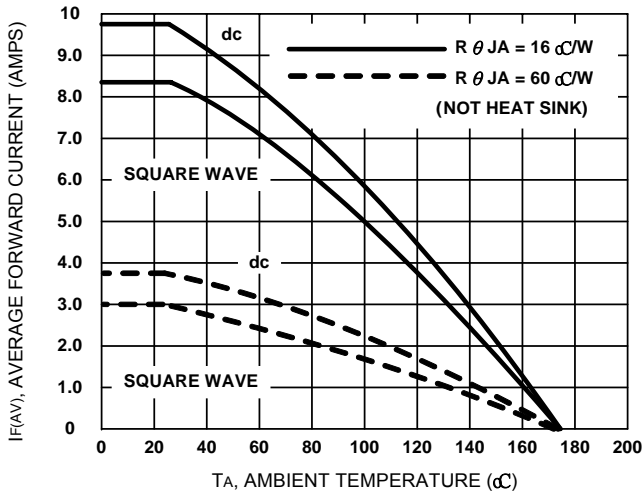
Rating	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 1) I <sub>F</sub> = 15A, T <sub>C</sub> = 150 °C I <sub>F</sub> = 15A, T <sub>C</sub> = 25 °C	V <sub>F</sub>	1.15 1.3	V
Maximum Instantaneous Reverse Current (Note 1) Rated DC Voltage, T <sub>J</sub> = 150 °C Rated DC Voltage, T <sub>J</sub> = 25 °C	I <sub>R</sub>	1000 10	μA
Maximum Reverse Recovery Time I <sub>F</sub> = 1.0A, di/dt = 50A/μs	t <sub>rr</sub>	50	ns
Maximum Thermal Resistance, Junction-to-Case	R <sub>θJC</sub>	1.5	°C/W

Note: 1.Pulse Test : Pulse Width = 300μs, Duty Cycle ≅ 2.0%

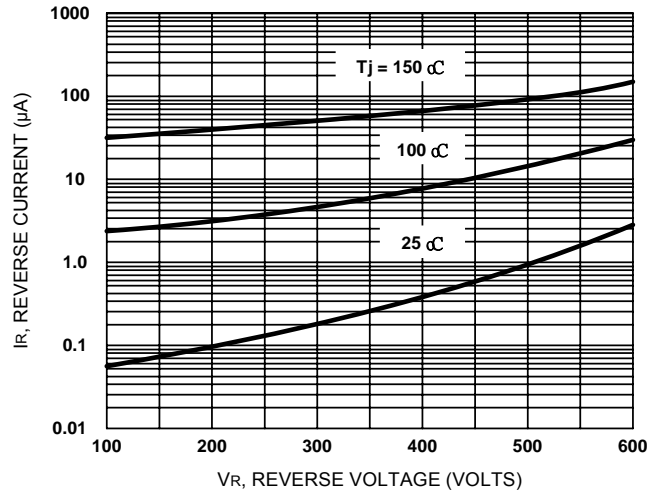
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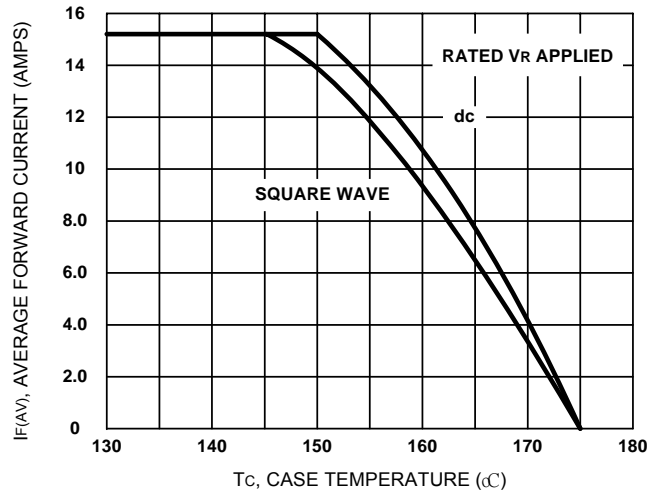
**Figure 1. Typical Forward Voltage**



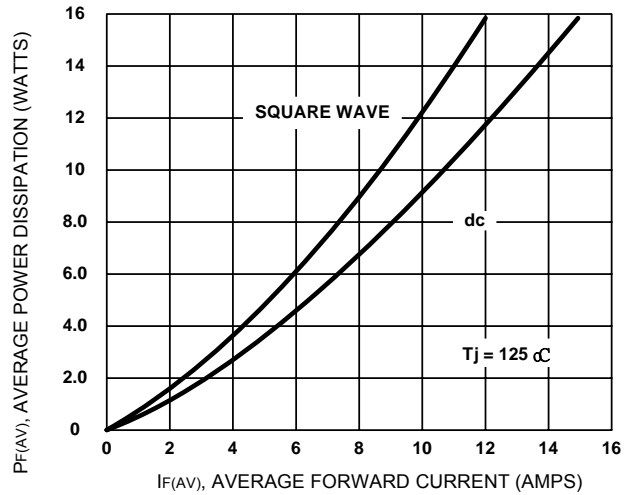
**Figure 4. Current Derating, Ambient**



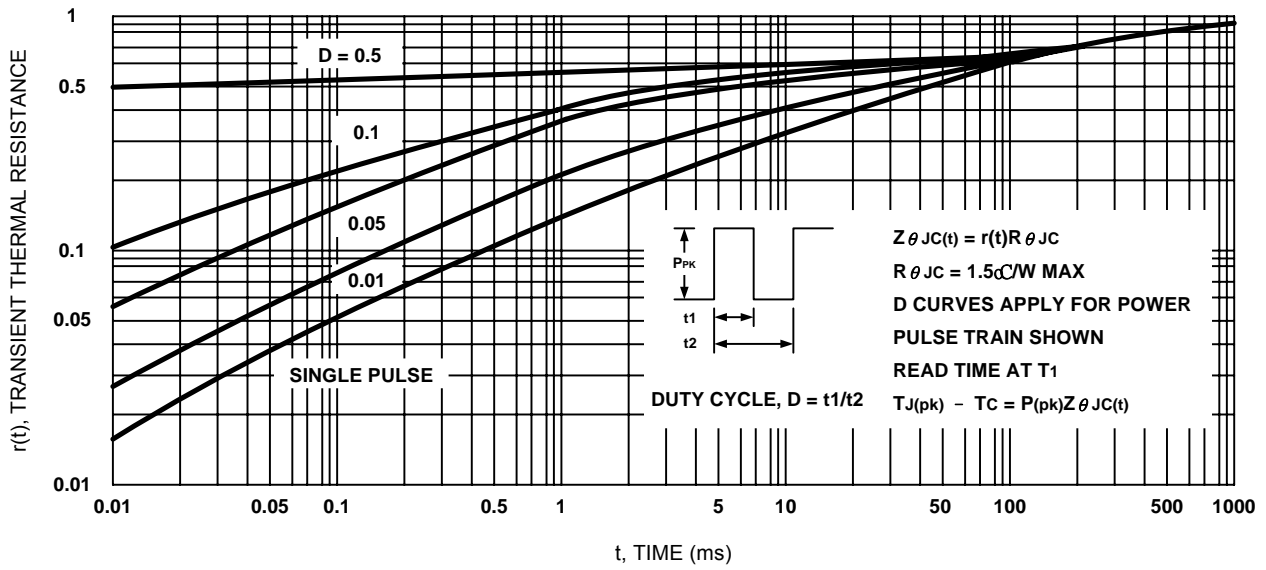
**Figure 2. Typical Reverse Current**



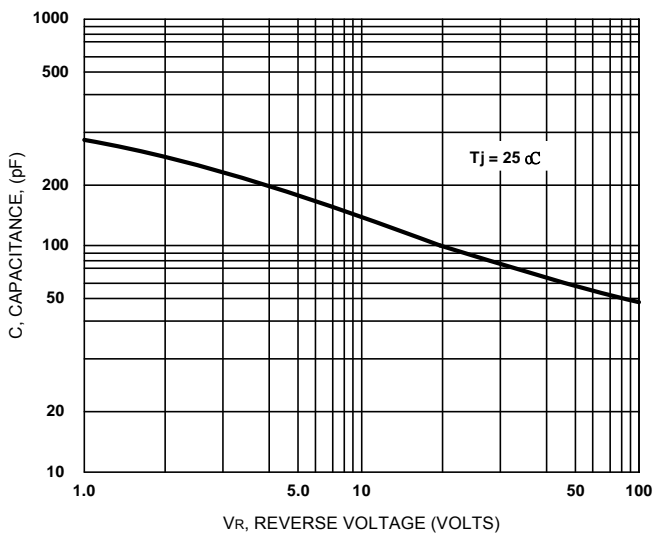
**Figure 3. Current Derating, Case**



**Figure 5. Power Dissipation**

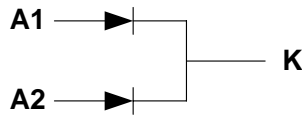
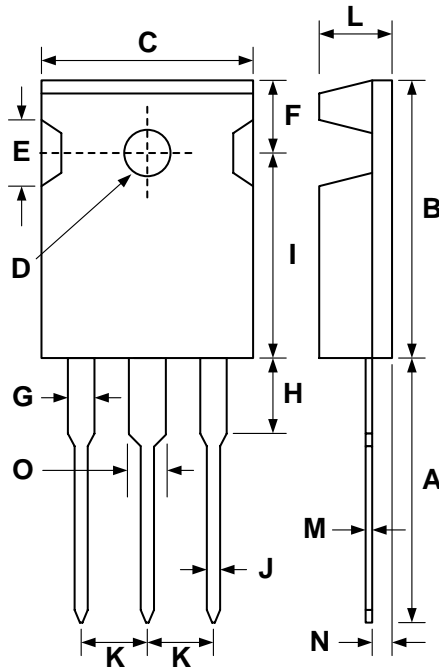


**Figure 6. Thermal Response**



**Figure 7. Typical Capacitance**

**TO-247AD PACKAGE**



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.748	.826	19.00	21.00	
B	.787	.866	20.00	22.00	
C	.598	.638	15.20	16.20	
D	.132	.150	3.35	3.80	
E	.217	.242	5.50	6.15	
F	.209	.232	5.30	5.90	
G	.077	.087	1.95	2.20	
H	.161	.177	4.10	4.50	
I	.551	.610	14.00	15.50	
J	.045	.055	1.15	1.40	
K	.197	.219	5.00	5.55	
L	.189	.205	4.80	5.20	
M	.024	.031	0.60	0.80	
N	.086	.095	2.20	2.40	
O	.116	.128	2.95	3.25	