NEW PRODUCT

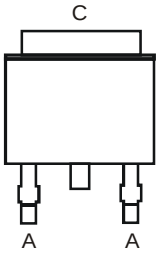
Features

- Ultra-Fast Die Construction
- Soft, Fast Switching Capability
- Low Leakage Current
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **"Green" Molding Compound (No Br, Sb)**

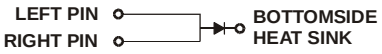
Mechanical Data

- Case: TO252
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 e3
- Polarity: See Diagram

Top View



Top View
Pin-Out



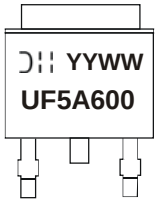
Note: Pins Left & Right must be electrically connected at the printed circuit board.

Ordering Information (Note 2)

Part Number	Case	Packaging
UF5A600D1-13	TO252	2500 pieces/reel

Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.
2. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



UF5A600 = Product Type Marking Code
= Manufacturers' Code Marking
YYWW = Date code marking
YY = Last two digits of year (ex: 09 for 2009)
WW = Week code (01 - 53)

NEW PRODUCT

Maximum Ratings @T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitance load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	600	V
Average Rectified Output Current	I_O	5	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	100	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	2.0	°C/W
Typical Thermal Resistance Junction to Ambient (Note 3)	$R_{\theta JA}$	34	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	V_F	— —	1.4 1.1	1.9 1.75	V	I_F = 5A, T_J = 25°C I_F = 5A, T_J = 125°C
Reverse Leakage Current (Note 4)	I_R	— —	— —	10 0.2	µA mA	V_R = 600V, T_J = 25°C V_R = 600V, T_J = 125°C
Reverse Recovery Time	t_{rr}	— —	22 20	30 25	ns	I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A I_F = 1A, V_R = 30V, di/dt = 100A/µs
Maximum Junction Capacitance	C_J	—	27	50	pf	V_R = 10V_{DC}, f = 1MHz

Notes: 3. Device mounted on Polymide PCB, with 16X recommended pad layout.
4. Short duration pulse test used to minimize self-heating effect.

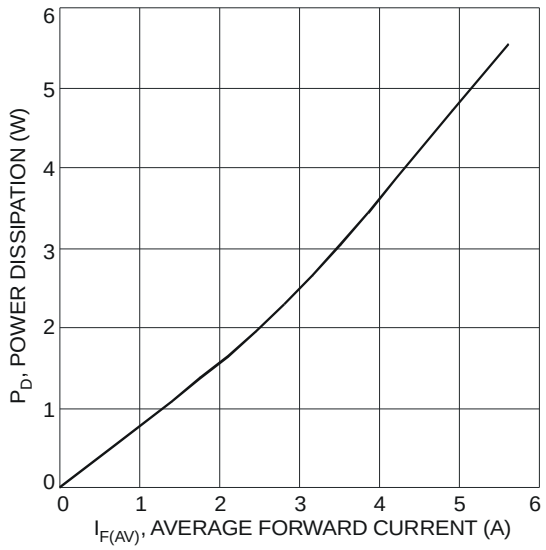


Fig. 1 Forward Power Dissipation

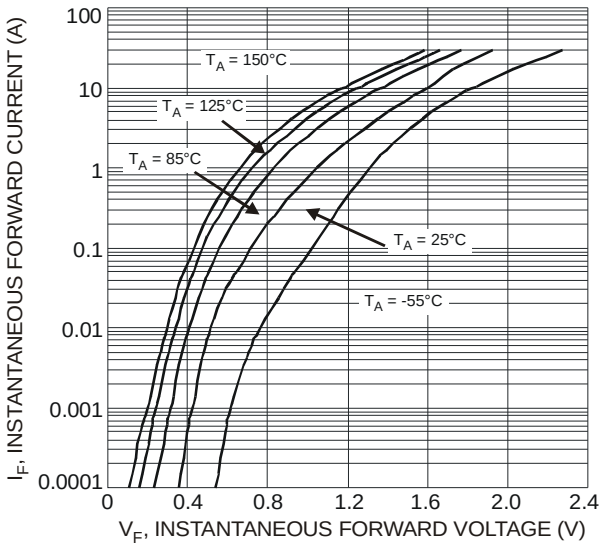


Fig. 2 Typical Forward Characteristics

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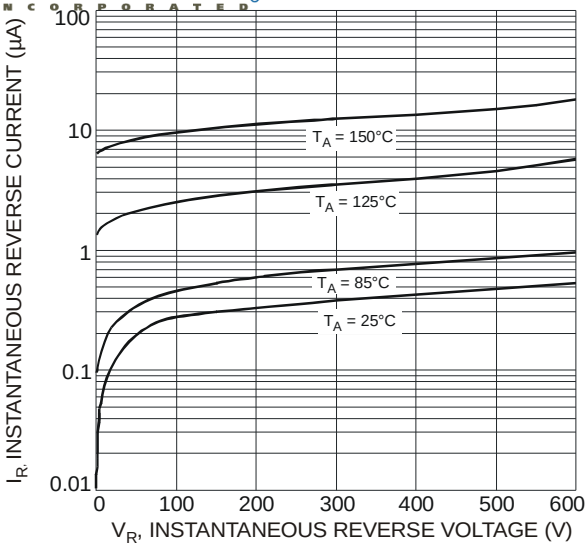


Fig. 3 Typical Reverse Characteristics

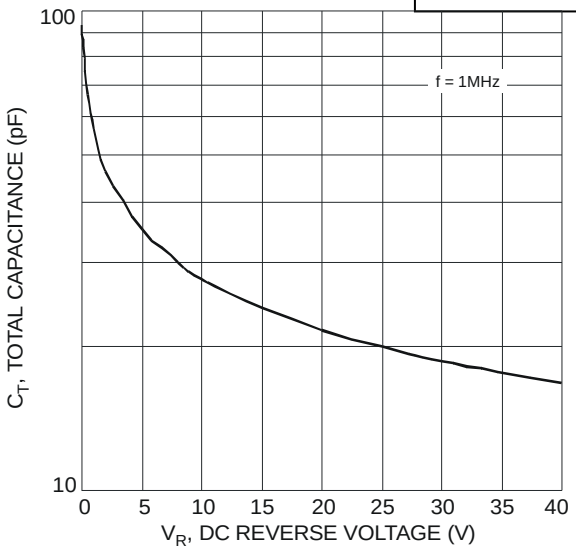


Fig. 4 Total Capacitance vs. Reverse Voltage

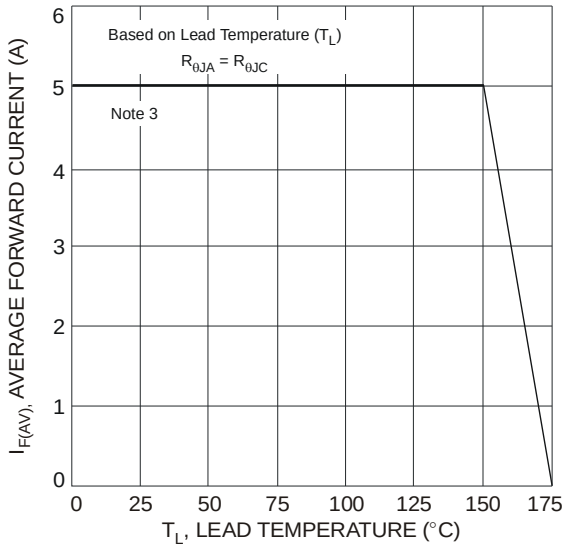


Fig. 5 Forward Current Derating Curve

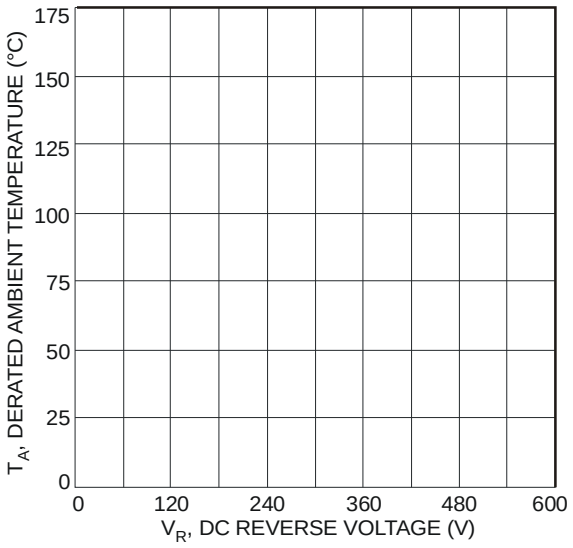
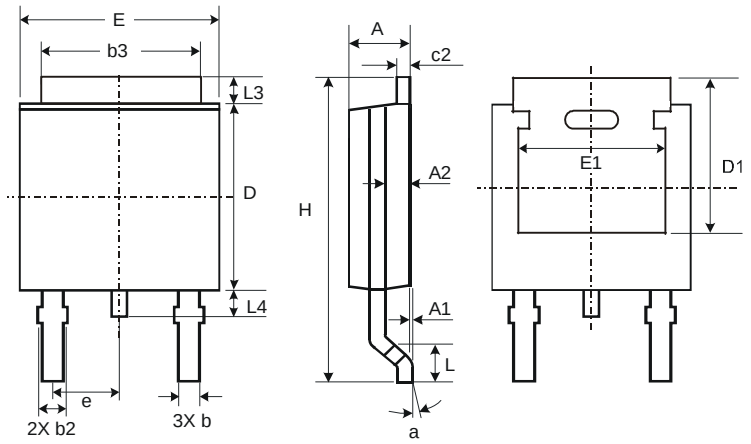


Fig. 6 Operating Temperature Derating

Package Outline Dimensions



TO252			
Dim	**Min**	**Max**	**Typ**
A	2.19	2.39	2.29
A1	0.00	0.13	0.08
A2	0.97	1.17	1.07
b	0.64	0.88	0.783
b2	0.76	1.14	0.95
b3	5.21	5.46	5.33
c2	0.45	0.58	0.531
D	6.00	6.20	6.10
D1	5.21	–	–
e	–	–	2.286
E	6.45	6.70	6.58
E1	4.32	–	–
H	9.40	10.41	9.91
L	1.40	1.78	1.59
L3	0.88	1.27	1.08
L4	0.64	1.02	0.83
a	0°	10°	–
All Dimensions in mm			

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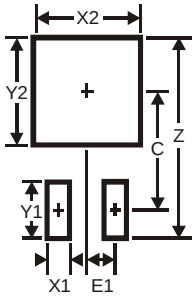
Suggested Pad Layout



Dimensions	Value (in mm)
Z	11.6
X1	1.5
X2	7.0
Y1	2.5
Y2	7.0
C	6.9
E1	2.3