60A HYPER-FAST PLANAR RECTIFIER

Product Summary (@ T_A = +25°C)

V_{RRM} (V)	I_O (A)	V_F (V)	I_R (µA)	t_{RR} (ns)
650	60	1.6	100	70

Features and Benefits

- Soft, Hyper-Fast Switching Capability
- Optimized for High-Speed and Low-Forward Voltage Operation
- High Junction Temperature Capability
- High Reliability and Efficiency
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. https://www.diodes.com/quality/product-definitions/**

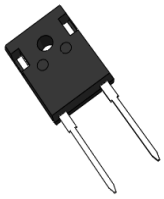
Description and Applications

Suitable for switching power supplies and power switching circuit applications and also in EV OBC, PFC diodes site & DC to DC, high power PSU, server power, PV inverter applications.

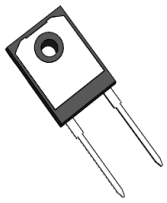
Mechanical Data

- Package: TO247-2
- Package Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Terminals: Finish – Matte Tin Plated Leads Solderable per MIL-STD-202, Method 208 e3
- Polarity: See Diagram
- Weight: 5.9 grams (Approximate)

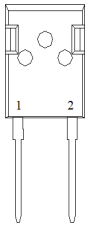
TO247-2 (Type WX)



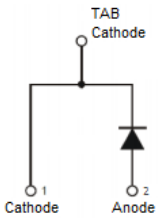
Top View



Bottom View



Top View Pin-Out



Ordering Information (Note 4)

Orderable Part Number	Package	Packing	
		Qty.	Carrier
DTHP60B07PT	TO247-2 (Type WX)	30 Pieces	Tube

Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information

TO247-2 (Type WX)

DTHP60B07 = Product Type Marking Code
YYWW = Date Code Marking
YY = Last Two Digits of Year (ex: 25 for 2025)
WW = Week Code (01 to 53)

Maximum Ratings (@ T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage DC Blocking Voltage	V_{RRM} V_R	650	V
Average Rectified Output Current, @ T_C = +120°C	I_O	60	A
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	400	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Notes 5, 6)	$R_{\theta JC}$	0.4	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +175	°C

Electrical Characteristics (@ T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	$V_{(BR)R}$	650	720	—	V	I_R = 100µA
Forward Voltage (Note 8)	V_F	— —	1.3 1.1	1.6 —	V	I_F = 60A, T_J = +25°C I_F = 60A, T_J = +125°C
Reverse Leakage Current (Note 7)	I_R	— —	— —	100 500	µA µA	V_R = 650V, T_J = +25°C V_R = 650V, T_J = +125°C
Reverse-Recovery Time	t_{RR}	—	50	70	ns	I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A

Notes:
5. Thermal resistance test performed in accordance with JESD-51.
6. The unit mounted on copper heatsink 200mm x 200mm x 5mm + fin-heatsink 32mm x 85mm x 24mm.
7. Short duration pulse test used to minimize self-heating effect.
8. 300µs pulse width, 2% duty cycle.

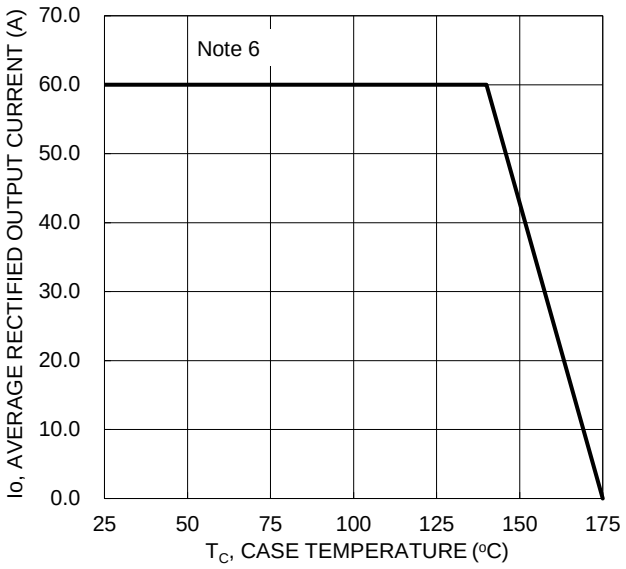


Figure 1. DC Forward Current Derating

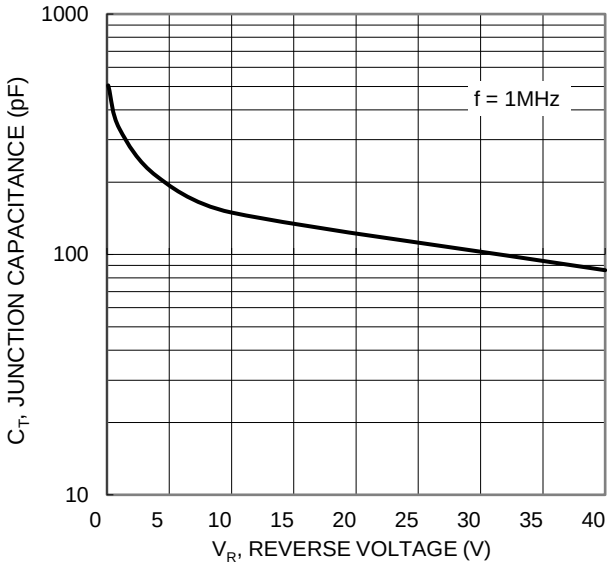


Figure 2. Typical Junction Capacitance

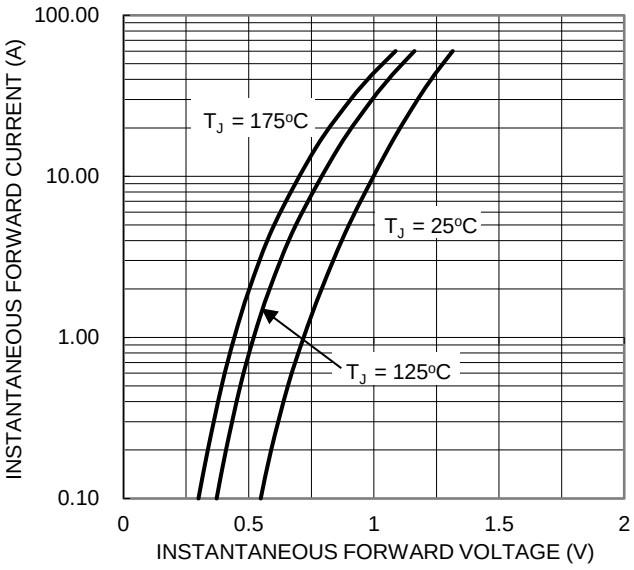


Figure 3. Typical Forward Characteristics

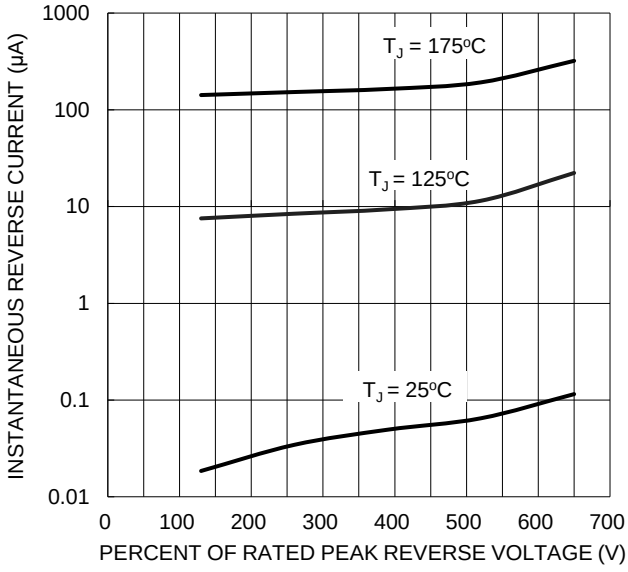
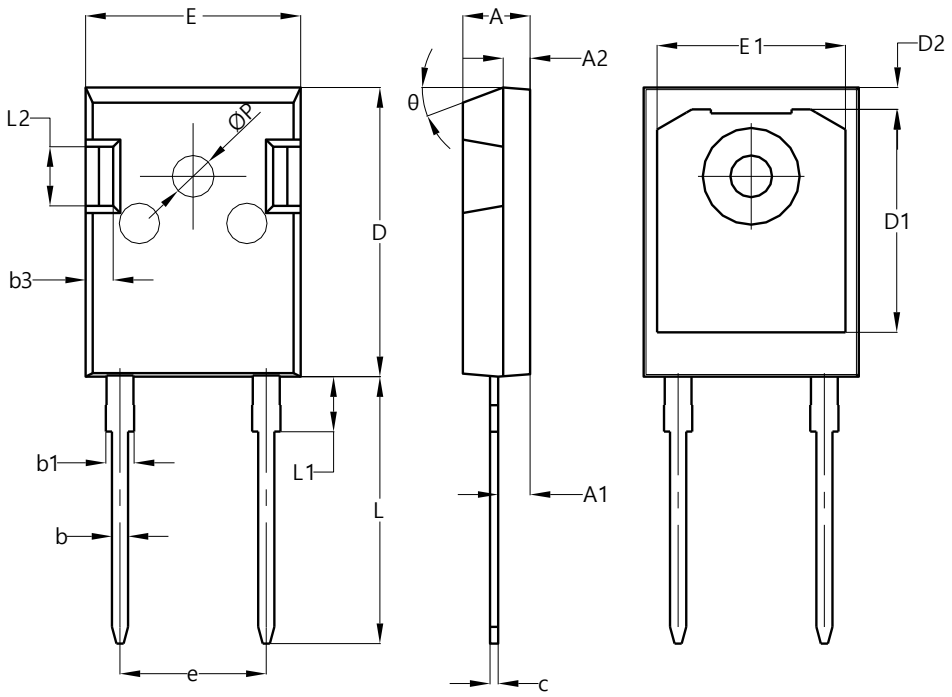


Figure 4. Typical Reverse Characteristics

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

TO247-2 (Type WX)



TO247-2 (Type WX)			
Dim	**Min**	**Max**	**Typ**
A	4.87	5.13	5.00
A1	2.10	2.40	2.38
A2	1.88	2.08	1.98
b	1.12	1.22	1.20
b1	1.90	2.16	2.00
b3	1.93	2.18	2.05
c	0.51	0.76	0.60
D	21.25	21.75	21.50
D1	--	--	16.58
D2	--	--	1.62
E	15.75	16.25	16.00
E1	--	--	14.02
e	10.60	11.10	10.88
L	19.60	20.10	19.85
L1	3.78	4.38	4.08
L2	--	--	4.40
ØP	2.90	3.20	3.10
θ	--	--	20°
All Dimensions in mm			

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