



PDS760

7A SCHOTTKY BARRIER RECTIFIER POWERDI®

Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Low Reverse Leakage Current
- For Use in High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- High Forward Surge Current Capability
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

- Case: POWERDI5
- 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 ³
- Polarity: See Diagram
- Weight: 0.096 grams (approximate)

POWERDI5



Top View



Bottom View

LEFT PIN O BOTTOMSIDE RIGHT PIN O HEAT SINK

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

Ordering Information (Note 4)

Part Number	Case	Packaging
PDS760-13	POWERDI5	5000/Tape & Reel
PDS760-7	POWERDI5	1500/Tape & Reel

Notes:

- $1.\ EU\ Directive\ 2002/95/EC\ (RoHS)\ \&\ 2011/65/EU\ (RoHS\ 2)\ compliant.\ All\ applicable\ RoHS\ exemptions\ applied.$
- 2. See http://www.diodes.com 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 http://www.diodes.com.

Marking Information



S760 = Product type marking code

| | = Manufacturers' code marking

YYWW = Date code marking

YY = Last two digits of year (ex: 05 for 2005)

WW = Week code (01 - 53)

K = Factory Designator



Maximum Ratings ($@T_A = +25^{\circ}C$, 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	60	V
RMS Reverse Voltage	V _{R(RMS)}	42	V
Average Rectified Output Current	I _O	7	Α
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load	I _{FSM}	275	А

Thermal Characteristics

Characteristic	Symbol	Тур	Max	Unit
Thermal Resistance Junction to Soldering Point	$R_{ heta JS}$	_	1.5	°C/W
Thermal Resistance Junction to Ambient Air (Note 5) T _A = +25°C	$R_{ heta JA}$	85	_	°C/W
Thermal Resistance Junction to Ambient Air (Note 6) T _A = +25°C	$R_{ heta JA}$	70	_	°C/W
Thermal Resistance Junction to Ambient Air (Note 7) T _A = +25°C	$R_{ heta JA}$	45	_	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to	o +150	°C

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

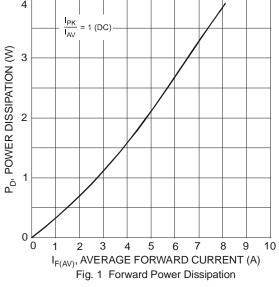
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 8)	$V_{(BR)R}$	60	_	_	V	$I_R = 0.2mA$
	V _F	_	0.48	0.54	V	$I_F = 3.5A, T_S = +25^{\circ}C$
Forward Voltage		_	0.41	0.47		$I_F = 3.5A, T_S = +125$ °C
Forward Voltage		_	0.56	0.62		$I_F = 7A, T_S = +25^{\circ}C$
		_	0.50	0.56		I _F = 7A, T _S = +125°C
Reverse Leakage Current (Note 8)		_	6	200	μΑ	$T_S = +25^{\circ}C, V_R = 60V$
Neverse Leakage Current (Note 6)	IR	_	4	20	mA	$T_S = +125^{\circ}C, V_R = 60V$

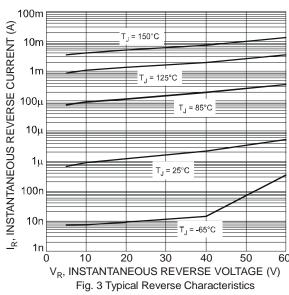
Notes:

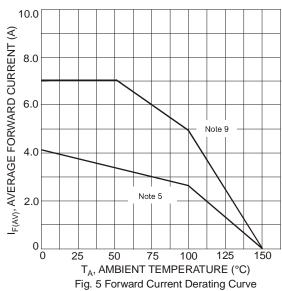
- 5. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per http://www.diodes.com.

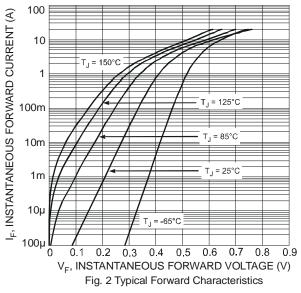
- Folymide PCB, 2 oz. Copper, minimum recommended pad layout per http://www.diodes.com.
 Polymide PCB, 2 oz. Copper, minimum recommended pad layout per http://www.diodes.com.
 Polymide PCB, 2 oz. Copper. Cathode pad dimensions 9.4mm x 7.2mm. Anode pad dimensions 2.7mm x 1.6mm.
 Short duration pulse test used to minimize self-heating effect.
 Polymide PCB, 2 oz. Copper. Cathode pad dimensions 18.8 mm x 14.4 mm. Anode pad dimensions 5.6 mm x 3.0 mm.











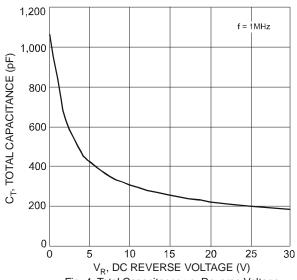


Fig. 4 Total Capacitance vs. Reverse Voltage

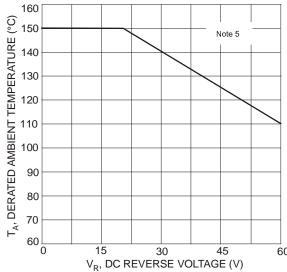
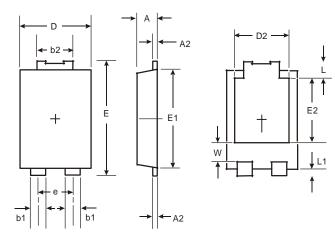


Fig. 6 Operating Temperature Derating



Package Outline Dimensions

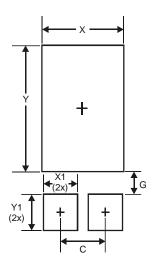
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



POWERDI5				
Dim	Min Max			
Α	1.05	1.15		
A2	0.33	0.43		
b1	0.80	0.99		
b2	1.70	1.88		
D	3.90	4.05		
D2	3.054 Typ			
Е	6.40	6.60		
е	1.84 Typ			
E1	5.30	5.45		
E2	2 3.549 Typ			
L	0.75	0.95		
L1	0.50 0.6			
W	1.10	1.41		
All Dimensions in mm				

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)
С	1.840
G	0.852
X	3.360
X1	1.390
Y	4.860
Y1	1.400



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