

**12A DUAL LOW VF SCHOTTKY BARRIER RECTIFIER
POWERDI®**

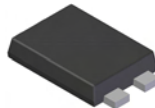
Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Low Forward Voltage Drop
- Low Reverse Leakage Current
- For Use in Low Voltage, High Frequency Inverters, OR'ing, 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)**

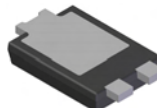
Mechanical Data

- 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 
- Polarity: See Diagram
- Weight: 0.096 grams (approximate)

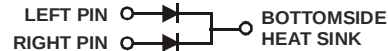
POWERDI5



Top View



Bottom View



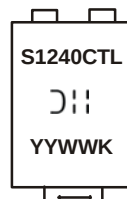
Note: Pins Left & Right must be electrically connected at the printed circuit board.

Ordering Information (Note 4)

Part Number	Case	Packaging
PDS1240CTL-13	POWERDI5	5000/Tape & Reel
PDS1240CTL-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



S1240CTL = Product type marking code
JII = Manufacturers' code marking
YYWW = Date code marking
YY = Last digit of year (ex: 10 for 2010)
WW = Week code (01 - 53)
K = Factory Designator Code

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	V _{RRM}	40	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
Average Rectified Output Current (See also Figure 5)	I _O	6	A
per element total device		12	
Non-Repetitive Peak Forward Surge Current, per element 8.3ms Single half sine-wave Superimposed on Rated Load	I _{FSM}	150	A

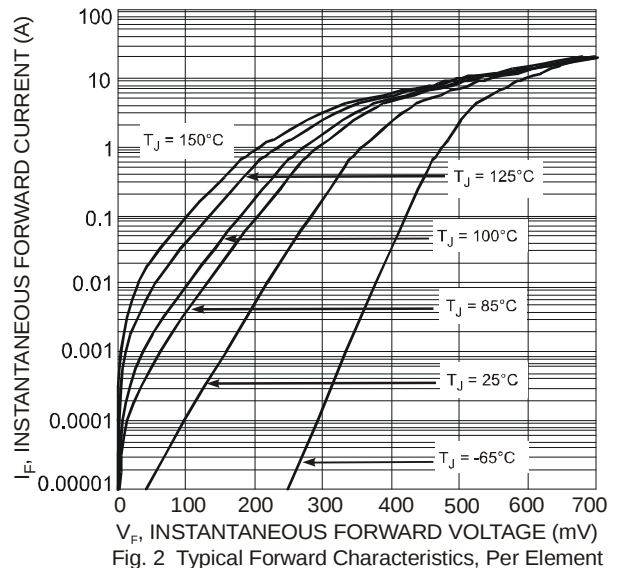
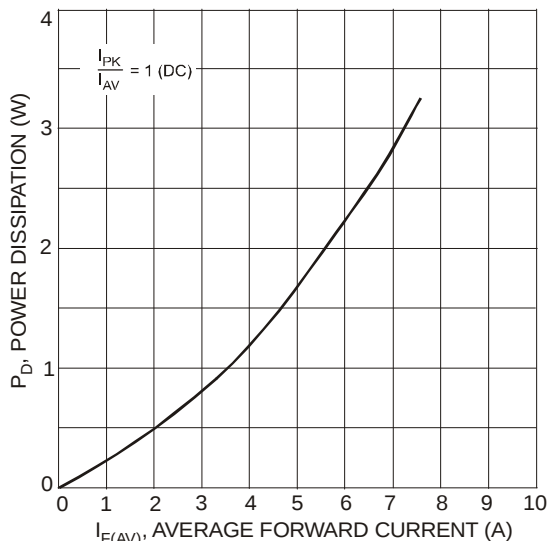
Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance Junction to Soldering Point	R _{θJS}	—	2.0	°C/W
Thermal Resistance Junction to Ambient Air (Note 5)	R _{θJA}	95	—	°C/W
Thermal Resistance Junction to Ambient Air (Note 6)	R _{θJA}	75	—	°C/W
Thermal Resistance Junction to Ambient Air (Note 7)	R _{θJA}	50	—	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150		°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 8)	V _{(BR)R}	40	—	—	V	I _R = 500μA
Forward Voltage Per Element	V _F	—	—	0.52	V	I _F = 6A, T _J = +25°C
		—	—	0.45		I _F = 6A, T _J = +100°C
Reverse Leakage Current (Note 8) Per Element	I _R	—	—	350	μA	V _R = 40V, T _J = +25°C
		—	—	20	mA	V _R = 40V, T _J = +100°C

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



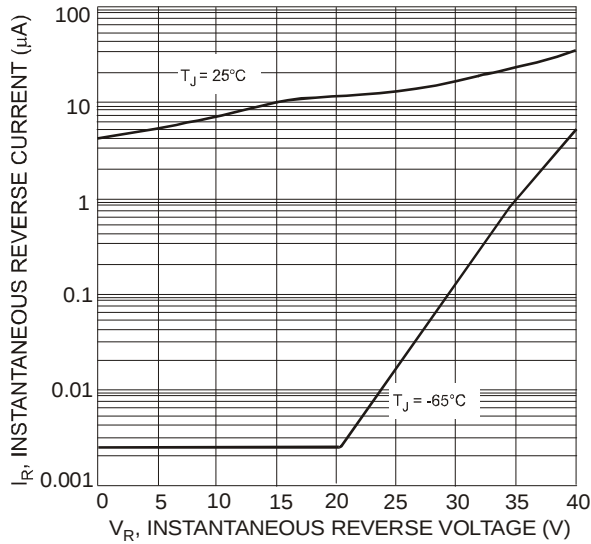


Fig. 3 Typical Reverse Characteristics, Per Element

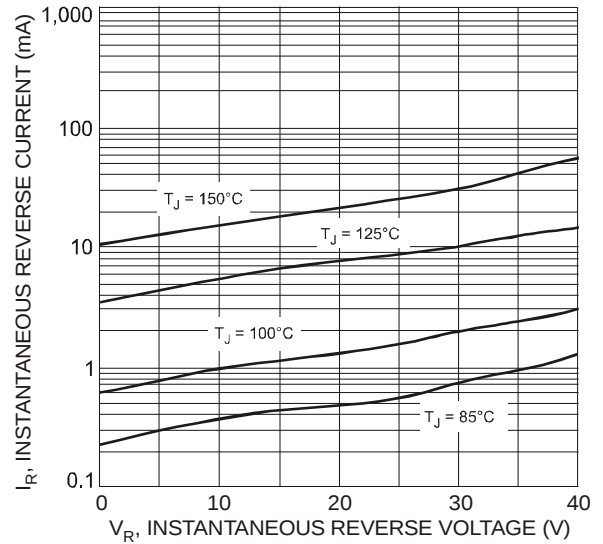


Fig. 4 Typical Reverse Characteristics, Per Element

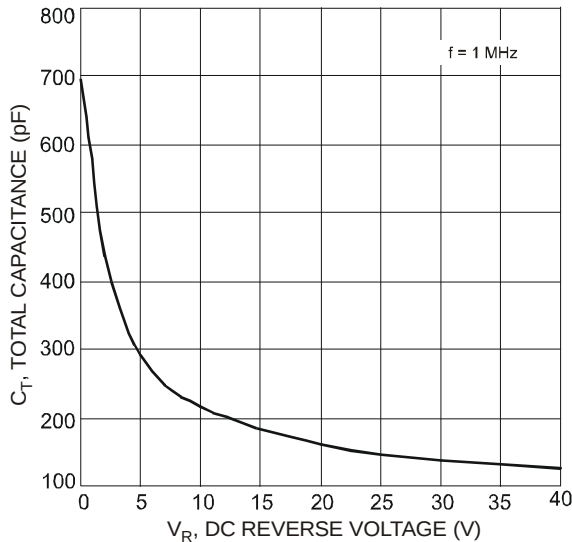


Fig. 5 Total Capacitance vs. Reverse Voltage, Per Element

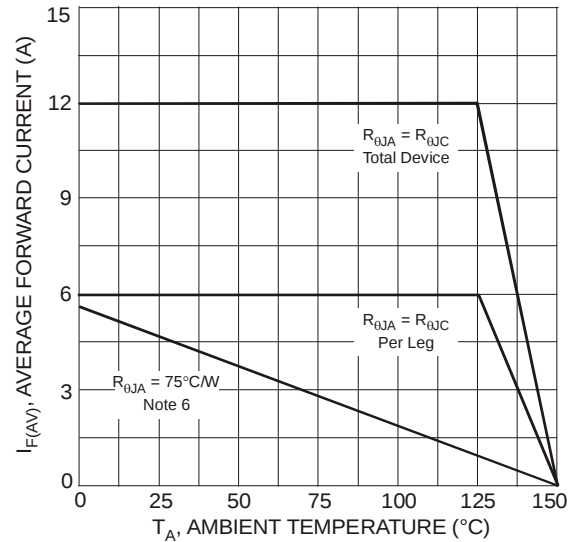


Fig. 6 Forward Current Derating Curve

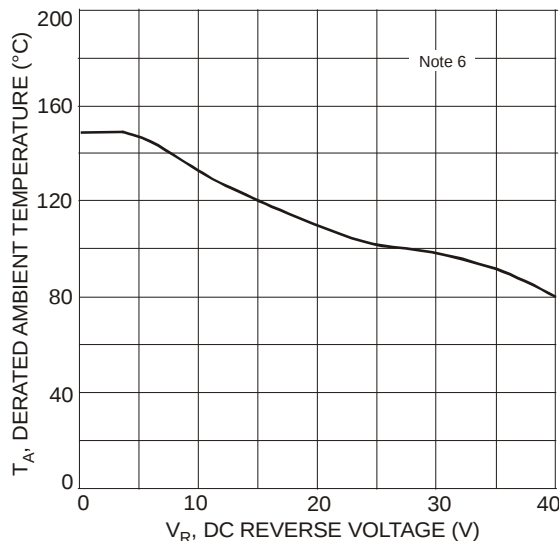
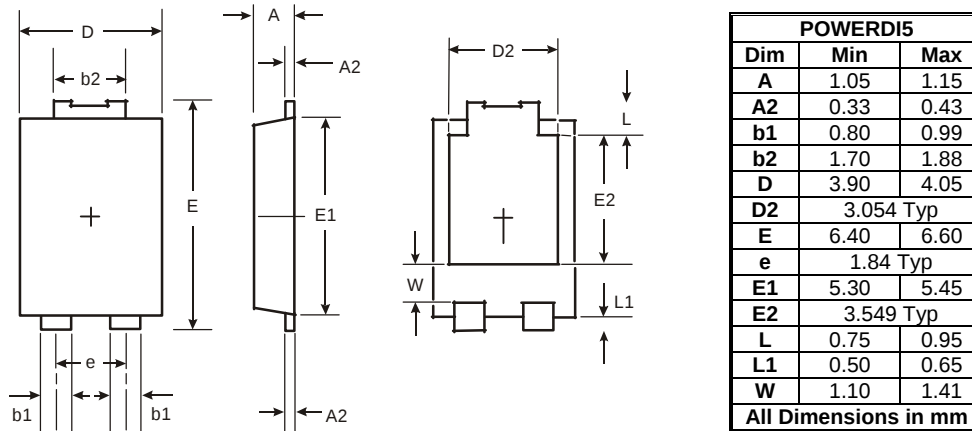


Fig. 7 Operating Temperature Derating, Per Element

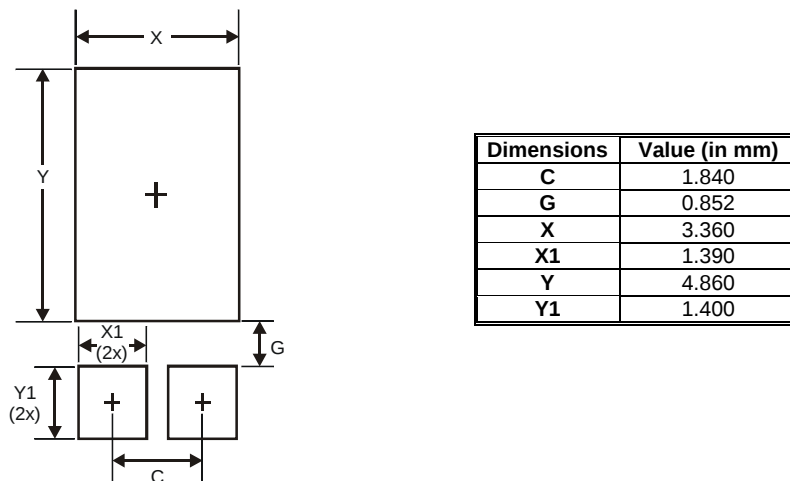
Package Outline Dimensions

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



Suggested Pad Layout

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



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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.