

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number: S5KP5M-13
Manufacturer: Diodes Incorporated
Package: PowerDI™ 5
Availability: Please confirm with sales

Product Page:

<https://antrexco.com/product/details/diodes-incorporated/s5kp5m-13-134451.html>

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Contact Information

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Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

Product Summary @T_A = +25°C

V _{RRM} (V)	I _O (A)	V _F Max (V)	I _R Max (μA)
800	5	0.99	10

Description

The DIODES™ S5KP5M is a 5.0A glass-passivated rectifier in the PowerDI® 5 package and offers high-surge current capability and low-leakage current. The S5KP5M is a lead-free finish, RoHS compliant, "Green" device.

Features and Benefits

- Glass Passivated Die Construction
- Low Leakage Current
- **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](https://www.diodes.com/contact-us) or your local Diodes representative.**
<https://www.diodes.com/quality/product-definitions/>

Mechanical Data

- Package: PowerDI5
- Package 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)

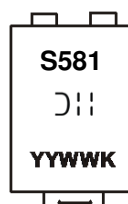


Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
S5KP5M-13	PowerDI5	5000	Tape & Reel

- 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



S581 = Product Type Marking Code
 △ = Manufacturer's Marking
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 22 for 2022)
 WW = Week Code 01 to 52
 K = Factory Designator

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

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive 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	800	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}	200	A

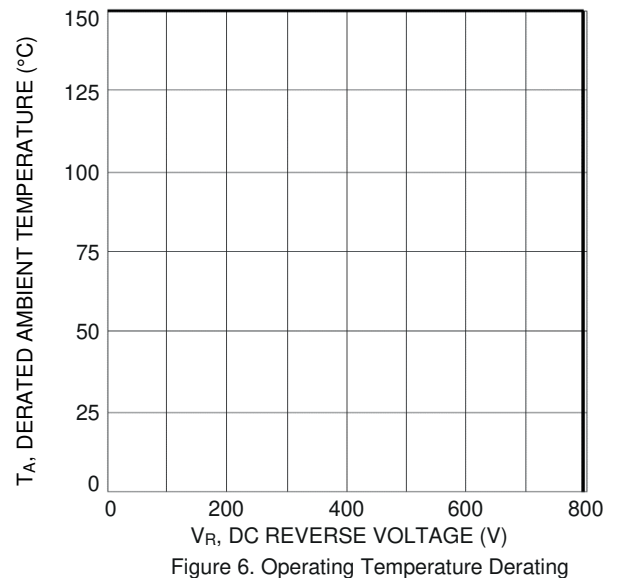
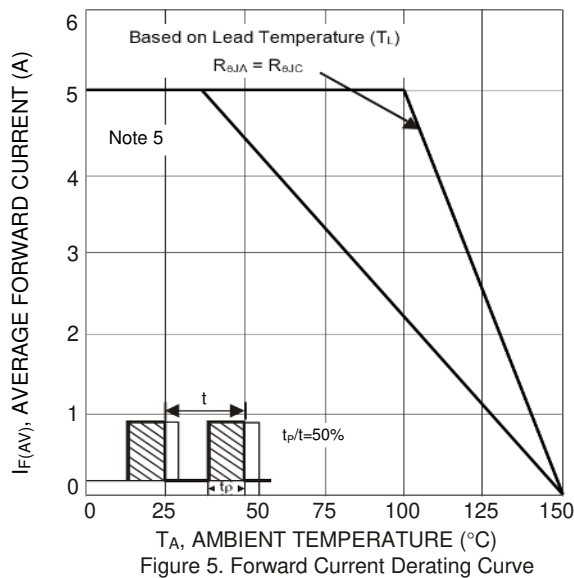
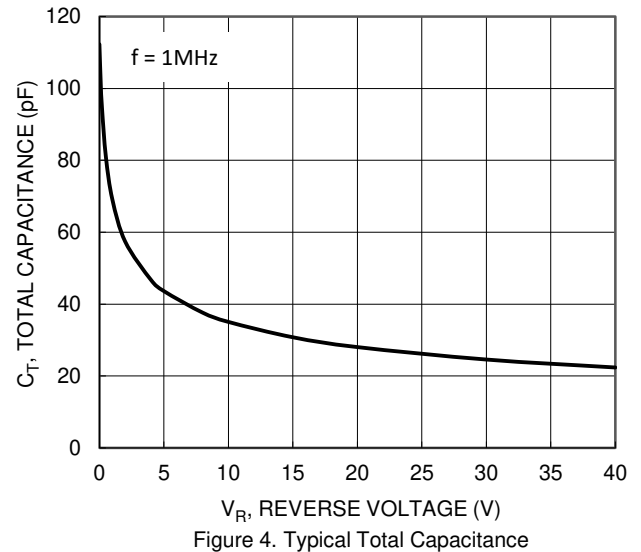
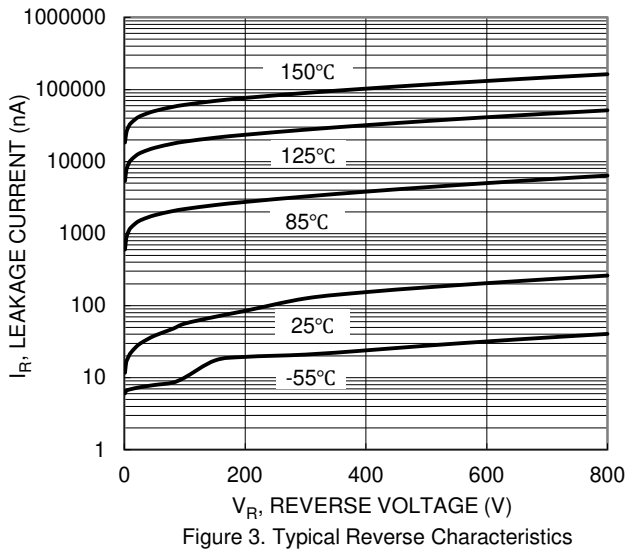
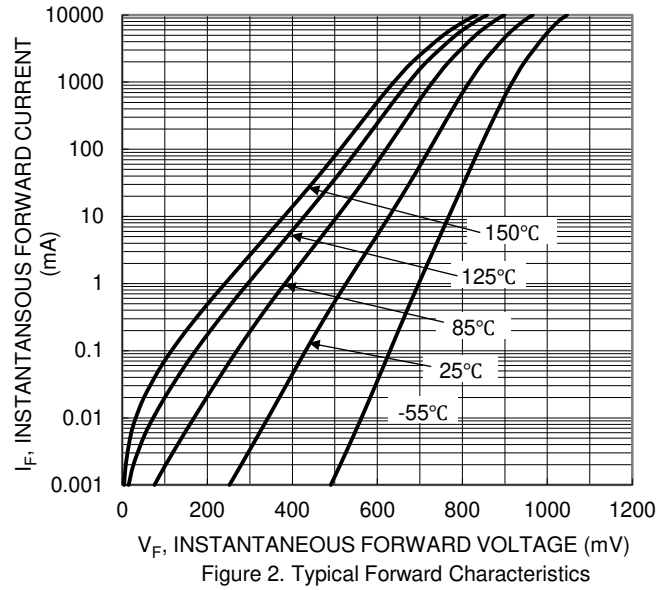
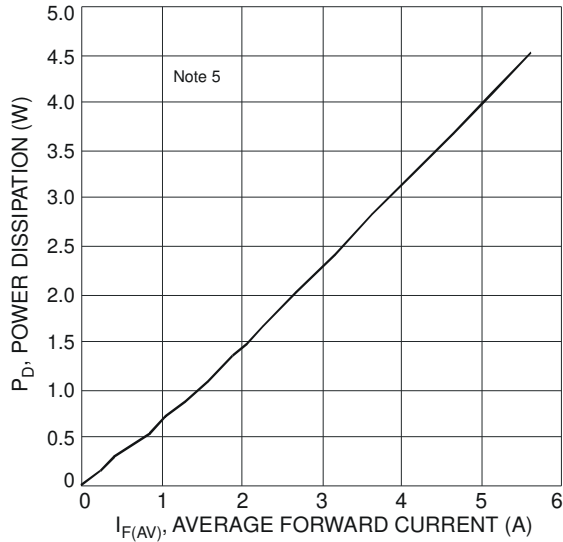
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Lead	R _{θJL}	2	°C/W
Typical Thermal Resistance Junction to Ambient (Note 5)	R _{θJA}	23	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	V _F	—	0.91 —	0.99 0.87	V	I _F = 5A, T _S = +25°C I _F = 5A, T _S = +125°C
Reverse Leakage Current (Note 6)	I _R	—	—	10 0.3	μA mA	V _R = 800V, T _J = +25°C V _R = 800V, T _J = +125°C
Typical Reverse Recovery Time	t _{RR}	—	3	—	μs	I _F = 0.5A, I _R = 1.0A I _{RR} = 0.25A
Total Capacitance	C _T	—	50	—	pF	V _R = 4.0V _{DC} , f = 1MHz

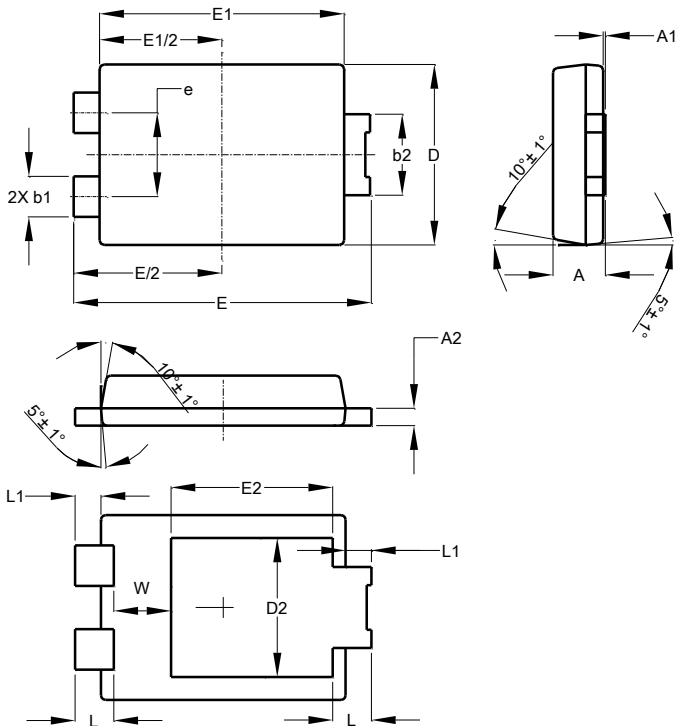
Notes: 5. Device mounted on 2inch x 2inch Al board.
6. Short duration pulse test used to minimize self-heating effect.



Package Outline Dimensions

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

PowerDI5

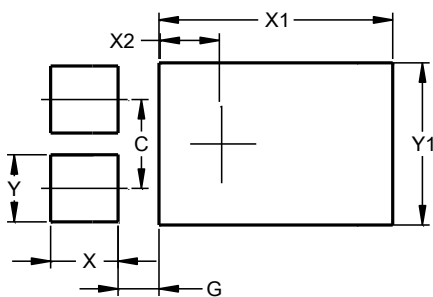


PowerDI5			
Dim	Min	Max	Typ
A	1.05	1.15	1.10
A1	0.00	0.05	--
A2	0.33	0.43	0.381
b1	0.80	0.99	0.89
b2	1.70	1.88	1.78
D	3.90	4.05	3.966
D2	--	--	3.054
E	6.40	6.60	6.51
e	--	--	1.84
E1	5.30	5.45	5.37
E2	--	--	3.549
L	0.75	0.95	0.85
L1	0.50	0.65	0.57
W	1.10	1.41	1.255
All Dimensions in mm			

Suggested Pad Layout

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

PowerDI5



Dimensions	Value (in mm)
C	1.840
G	0.852
X	1.400
X1	4.860
X2	1.310
Y	1.390
Y1	3.360

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