



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Product Summary (@T_A = +25°C)

V _{RRM} (V)	I _o (A)	V _F Max (V)	I _R Max (µA)
800	2	1.1	5

Description

The S2KDF is a rectifier packaged in the low-profile D-FLAT package. Providing high current capability for standard rectification, this device is ideal for use in general rectification applications.

Applications

- Switching Mode Power Supplies
- Chargers
- LED lightings
- Inverters
- AC-DC Adapters

Features and Benefits

- Glass Passivated Die Construction
- Surge Overload Rating to 55A Peak
- High Current Capability
- Low-Profile Design, Package Height Less than 1.1mm
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**
- **An Automotive-Compliant Part is Available Under Separate Datasheet ([S2KDFQ](#))**

Mechanical Data

- Case: D-FLAT
- 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: Cathode Band
- Weight: 0.036 grams (Approximate)

D-FLAT



Top View

Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
S2KDF-13	AEC-Q101	D-FLAT	10,000/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/quality/lead_free.html 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/products/packages.html>.

Marking Information

D-FLAT



S2K= Product Type Marking Code
 DII = Manufacturers' Code Marking
 YWW = Date Code Marking
 Y = Last Digit of Year (ex: 5 for 2015)
 WW = Week Code (01 to 53)
 AB = Foundry and Assembly Code

Maximum Ratings (@ $T_A = +25^\circ\text{C}$, 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}		
Working Peak Reverse Voltage	V_{RWM}	800	V
DC Blocking Voltage (Note 5)	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	560	V
Average Rectified Output Current @ $T_A = +25^\circ\text{C}$	I_O	2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms	I_{FSM}	55	A
Single Half Sine-Wave Superimposed on Rated Load			

Thermal Characteristics

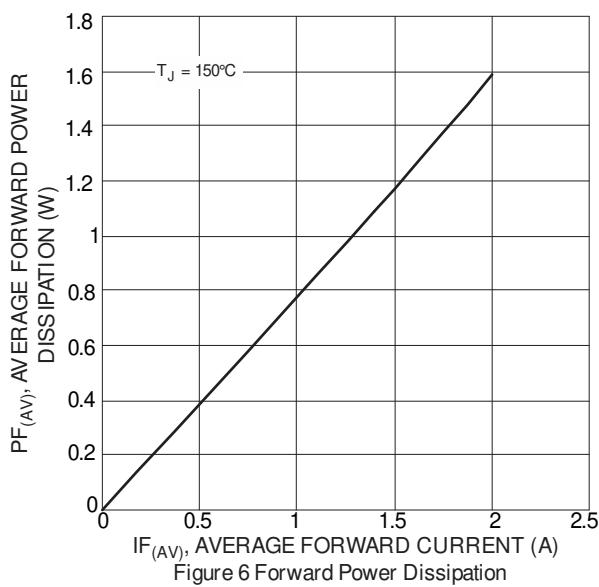
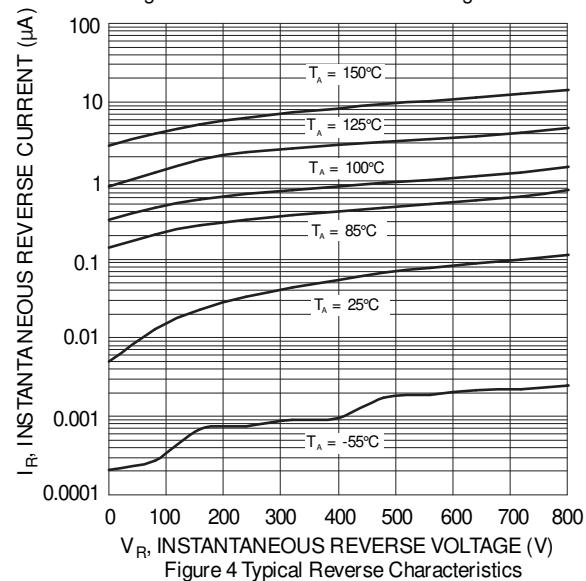
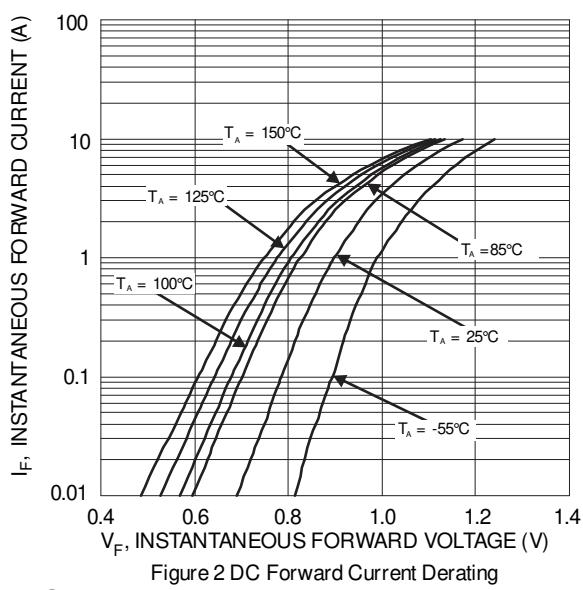
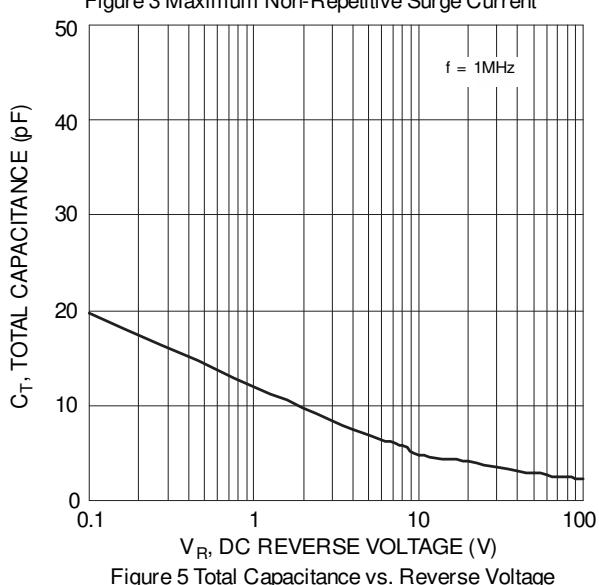
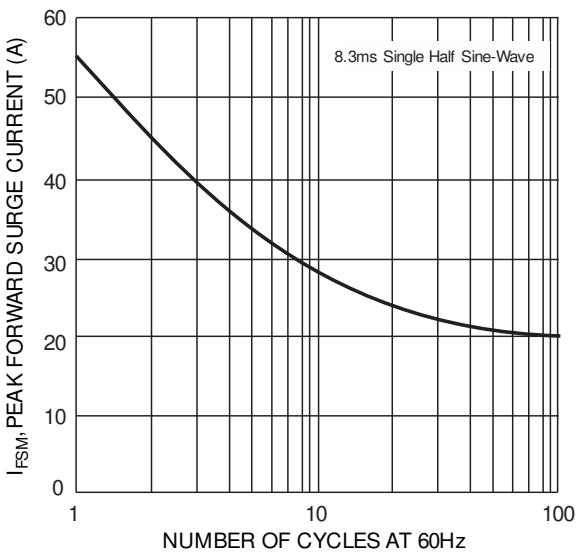
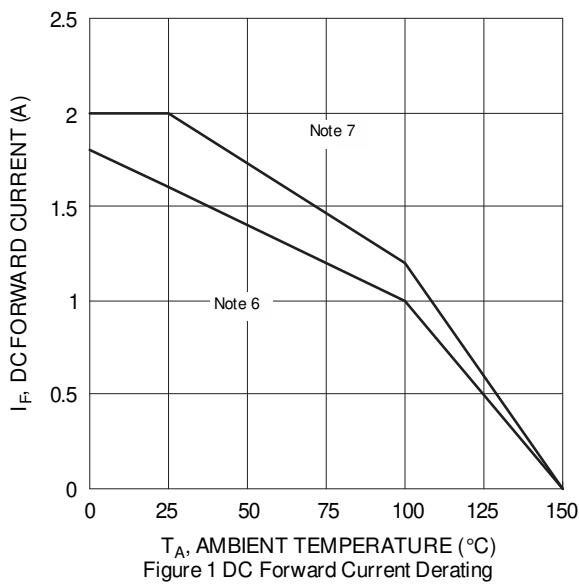
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Terminal (Note 7)	$R_{\theta JT}$	23	°C/W
Typical Thermal Resistance, Junction to Air (Note 7)	$R_{\theta JA}$	82	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	800	—	—	V	$I_R = 10\mu\text{A}$
Forward Voltage	V_F	—	0.90 0.78 0.95 0.84	1.0 — 1.1 —	V	$I_F = 1\text{A}, T_J = +25^\circ\text{C}$ $I_F = 1\text{A}, T_J = +125^\circ\text{C}$ $I_F = 2\text{A}, T_J = +25^\circ\text{C}$ $I_F = 2\text{A}, T_J = +125^\circ\text{C}$
Reverse Leakage Current (Note 5)	I_R	—	0.12 0.005	5 —	μA mA	$V_R = 800\text{V}, T_J = +25^\circ\text{C}$ $V_R = 800\text{V}, T_J = +125^\circ\text{C}$
Total Capacitance	C_T	—	8	—	pf	$V_R = 4\text{V}_{\text{DC}}, f = 1\text{MHz}$

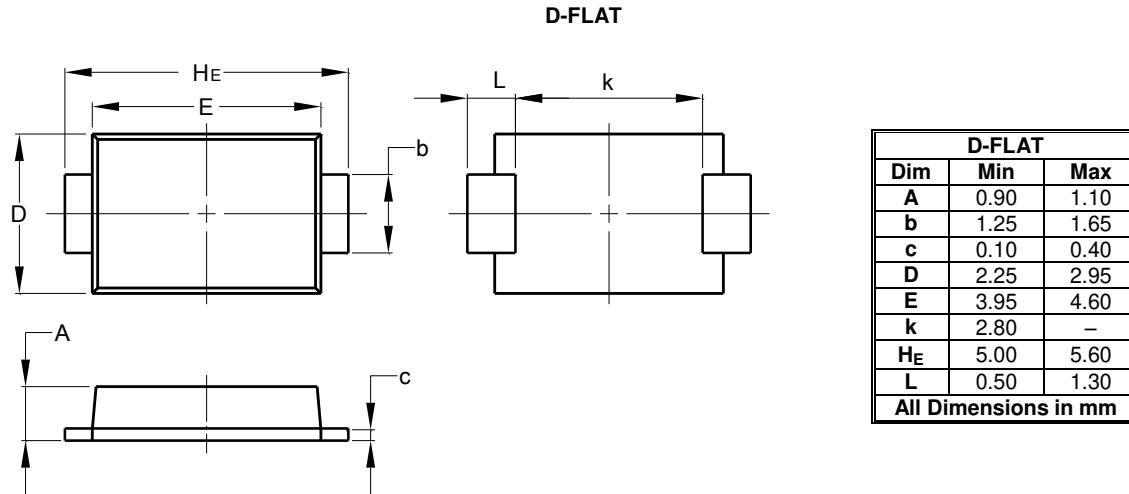
Notes:

5. Short duration pulse test used to minimize self-heating effect.
6. Device mounted on FR-4 substrate, 1" x 1", 2oz, single-sided, PC boards with 0.1" x 0.15" copper pads.
7. Device mounted on FR-4 substrate, 0.4" x 0.5", 2oz, single-sided, PC boards with 0.2" x 0.25" copper pads.



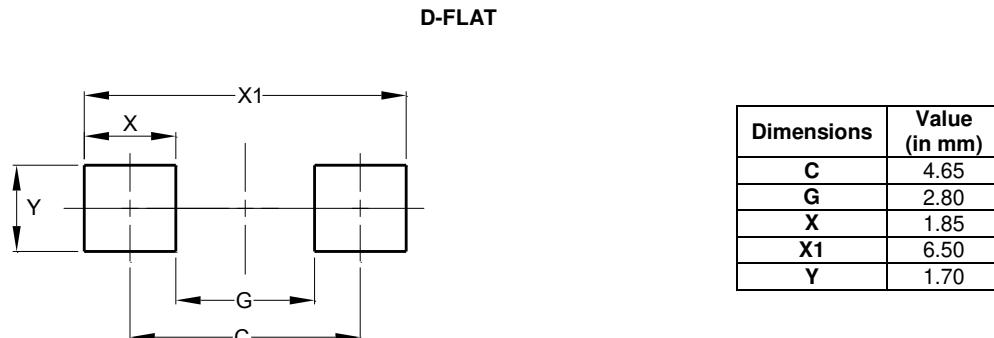
Package Outline Dimensions

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



Suggested Pad Layout

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



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