4.0A SURFACE MOUNT FAST GLASS PASSIVATED BRIDGE RECTIFIER

Product Summary (@T_A = +25°C)

V_{RRM} (V)	I_O (A)	V_F (V)	I_R (µA)
800	4.0	1.0	10

Features and Benefits

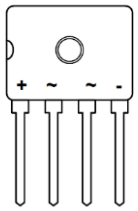
- Glass Passivated Die Construction
- High Current Capability
- Ideal for SMT Manufacturing
- Low Forward Voltage Drop
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Description and Applications

Suitable for AC to DC bridge full wave rectification for LED lighting, adapter, battery charger, home appliances, office equipment, and telecommunication applications.

Mechanical Data

- Case: D3K
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: As Marked on Body
- Mounting Position: Any
- Mounting Torque: 0.8 N.m Max.
- Weight: 0.023 grams (Approximate)



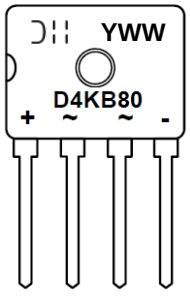
Pin Diagram

Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
D4KB80	Commercial	D3K	37/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



D4KB80= Product Type Marking Code
= Manufacturers' Code Marking
YWW = Date Code Marking
Y = Last Digit of Year (ex: 0 = 2020)
WW= Week Code (01 to 53)

Maximum Ratings and Electrical Characteristics (@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
RMS Reverse Voltage	$V_{R(RMS)}$	560	V
Average Rectified Output Current (Note 5) @ T_C = +140°C (Without Heatsink) @ T_C = +30°C	I_O	4.0 1.3	A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	135	A
I^2t Rating for Fusing (1ms < t < 8.3ms)	I^2t	75	A^2S
Maximum Forward Voltage (Per Element) @I_F = 2.0A	V_{FM}	1.0	V
Peak Reverse Current @T_A = +25°C At Rated DC Blocking Voltage (Note 6) @T_A = +125°C	I_R	10 500	µA
Typical Total Capacitance (Per Element) (Note 7)	C_T	17	pF

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Case (Note 5) (Per Element)	$R_{\theta JC}$	1.5	°C/W
Typical Thermal Resistance, Junction to Lead (Per Element)	$R_{\theta JL}$	55	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Notes: 5. Device mounted on FR-4 PCB with 75mm x 75mm x 1.6mm aluminum heatsink.
6. Short duration pulse test used to minimize self-heating effect.
7. Measured at 1.0MHz and applied reverse voltage of 4.0V D.C.

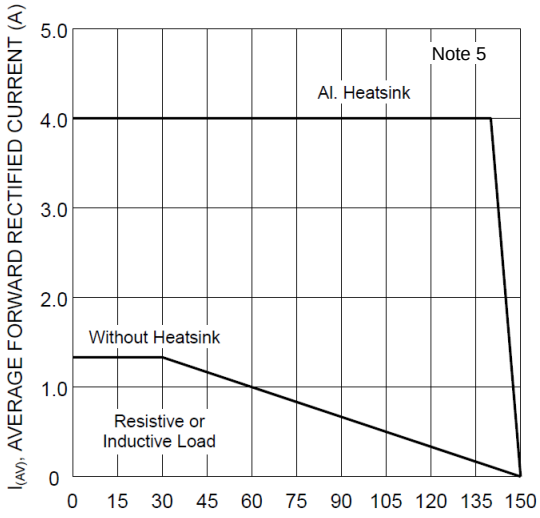


Fig. 1 Forward Current Derating Curve

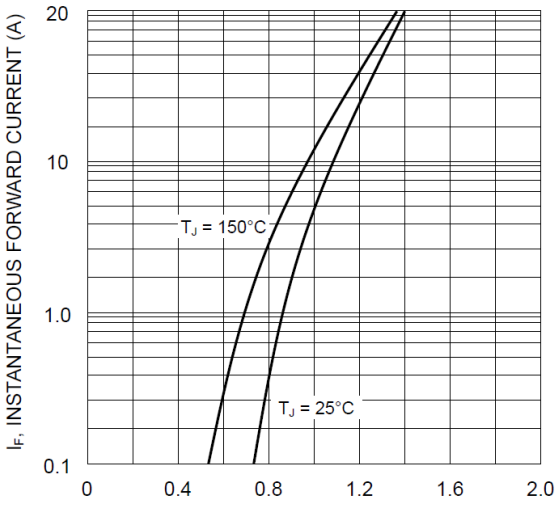


Fig. 2 Typical Forward Characteristics

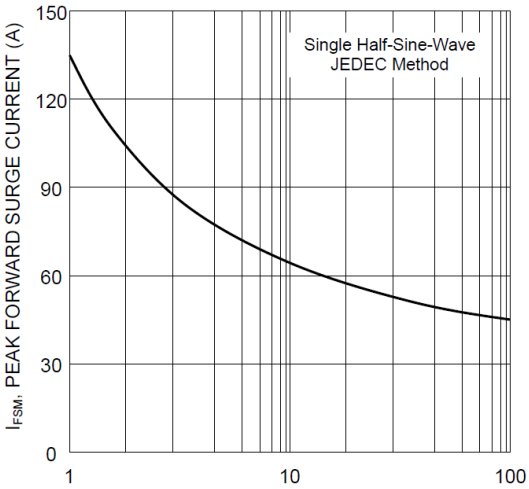


Fig. 3 Forward Surge Current Derating Curve

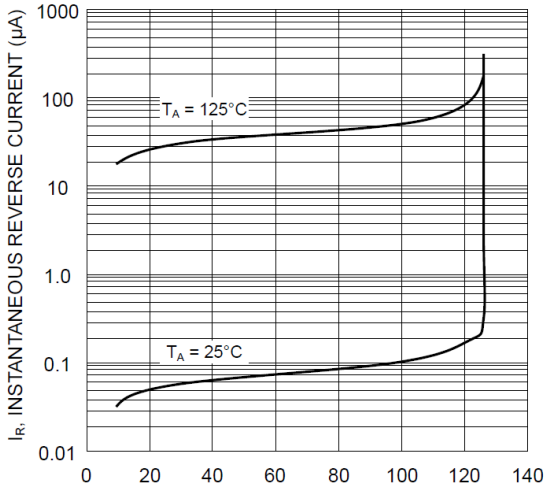


Fig. 4 Typical Reverse Characteristics

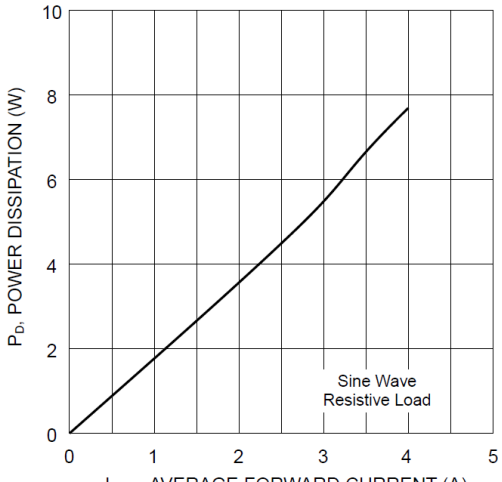
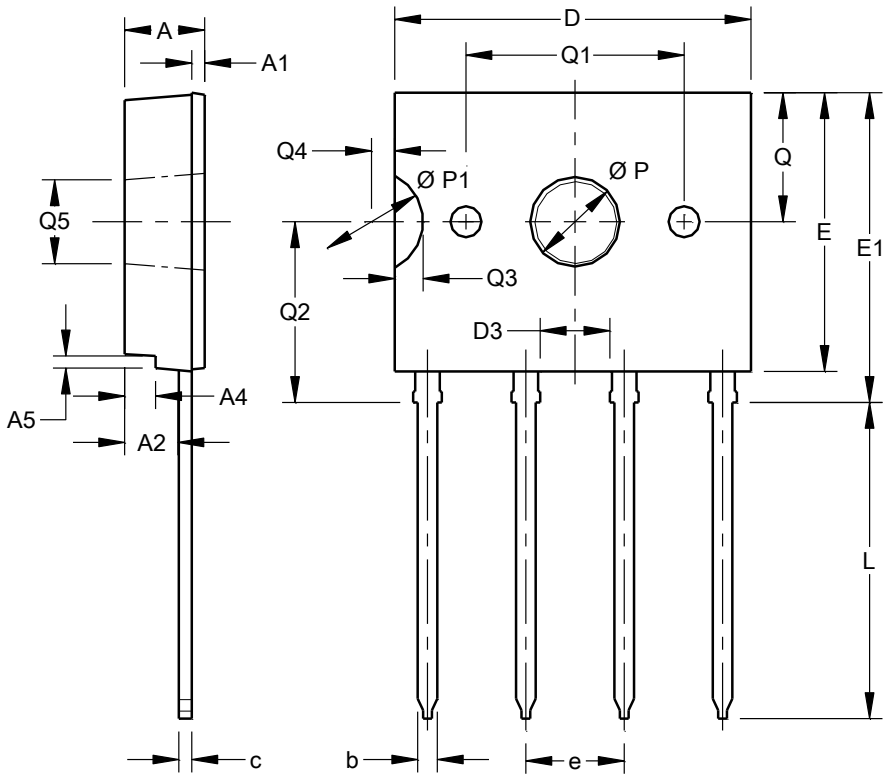


Fig. 5 Forward Power Dissipation

Package Outline Dimensions

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

D3K



D3K			
Dim	**Min**	**Max**	**Typ**
A	2.90	3.30	--
A1	0.40	0.60	--
A2	2.00	2.30	--
A4	1.00	1.40	--
A5	--	--	0.60
b	0.66	0.86	--
c	0.40	0.60	--
D	13.50	14.10	--
D3	2.50	2.90	--
E	10.50	11.10	--
E1	11.70	12.30	--
e	3.51	4.11	--
L	11.70	12.30	--
Q	--	--	5.00
Q1	8.255	8.650	--
Q2	6.70	7.30	--
Q3	--	--	1.10
Q4	--	--	0.90
Q5	3.10	3.40	--
ØP	--	--	3.47
ØP1	--	--	4.00
All Dimensions in mm			

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