

Glass Passivated Bridge Rectifier

FEATURES

- Ideal for printed circuit board
- High case dielectric strength
- High surge current capability
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

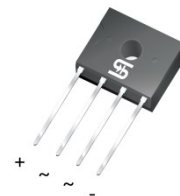
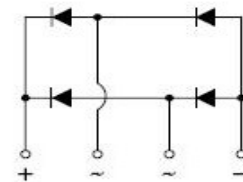
APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- TV
- Monitor

MECHANICAL DATA

- Case: D3K
- Molding compound meets UL 94V-0 flammability rating
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal : Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Weight: 1.24 g (approximately)
- Mounting Torque: 0.8 N.M max.

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
V_{RRM}	600 - 1000	V
I_{FSM}	90	A
$T_{J\ MAX}$	150	°C
Package	D3K	
Configuration	Quad	


D3K


ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	UR3KB60	UR3KB80	UR3KB100	UNIT
Marking code on the device		UR3KB60	UR3KB80	UR3KB100	
Repetitive peak reverse voltage	V_{RRM}	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	420	560	700	V
Maximum DC blocking voltage	V_{DC}	600	800	1000	
Maximum average forward current 60Hz sine wave resistance load	Without heat sink $T_A=29^\circ\text{C}$	1.2			A
	With heat sink $T_C=140^\circ\text{C}$	3.0			
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	90			A
I^2t value (of a surge on-state current) ⁽¹⁾	I^2t	35			A^2s
Junction temperature	T_J	-55 to +150			°C
Storage temperature	T_{STG}	-55 to +150			°C

Note:

1. Pulse test with PW=8.3 ms

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-lead thermal resistance	$R_{\theta JL}$	5.5	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	13.7	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	5.2	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 1.5 \text{ A}, T_J = 25^\circ\text{C}$	V_F	-	1.0	V
Reverse current @ rated V_R ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	10	μA

Notes:

1. Pulse test with $PW=0.3 \text{ ms}$
2. Pulse test with $PW=30 \text{ ms}$

ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
UR3KBx0 (Note 1,2)	C2	G	D3K	1,500 / BOX

Notes:

1. "x" defines voltage from 600V (UR3KB60) to 1000V (UR3KB100)
2. Whole series with green compound

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
UR3KB60 C2G	UR3KB60	C2	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig1. Maximum Derating Curve For Output current

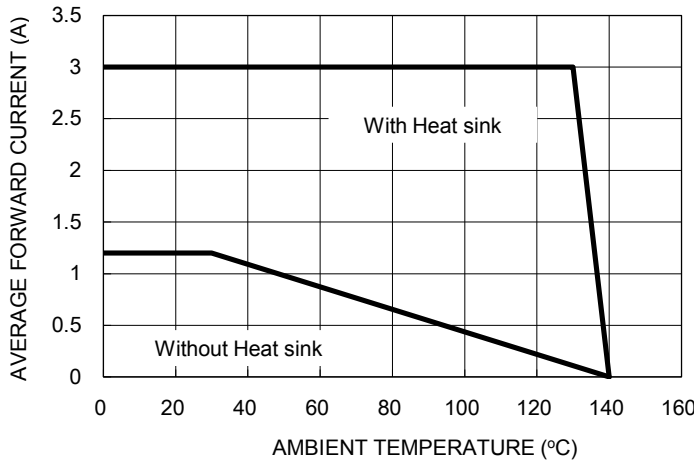


Fig2. Maximum Forward Surge Current

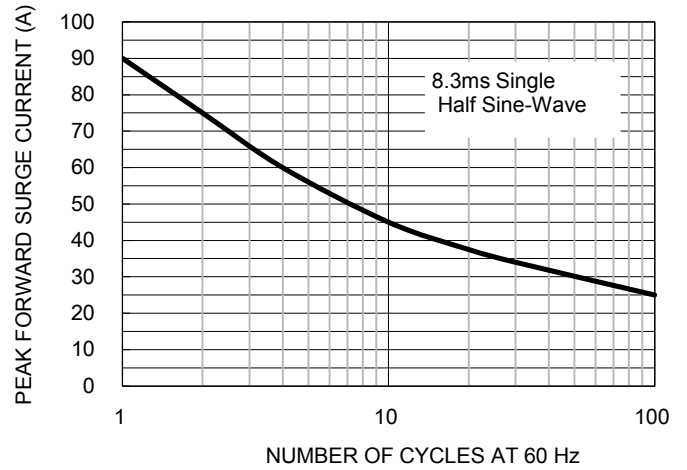


Fig3. Typical Reverse Characteristics

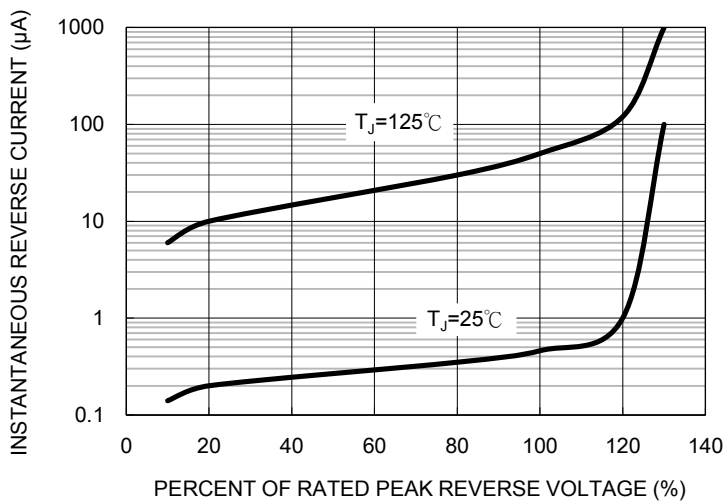


Fig4. Typical Forward Characteristics

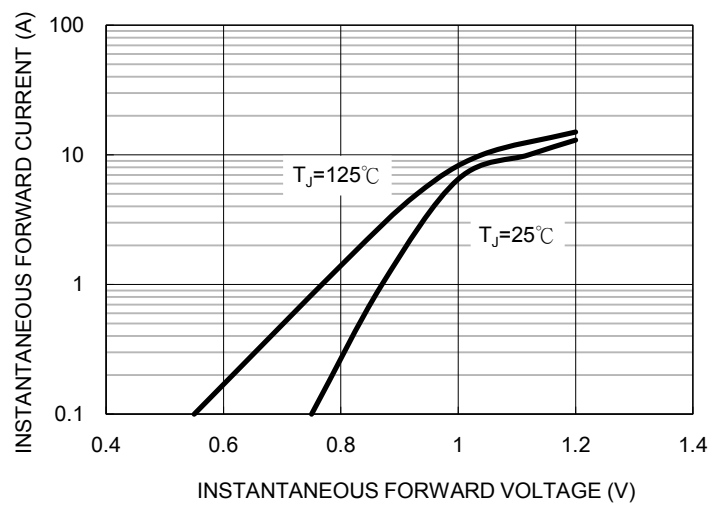
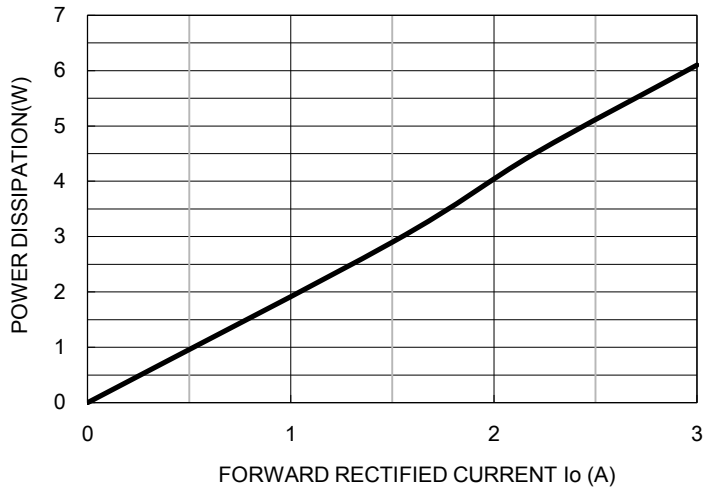
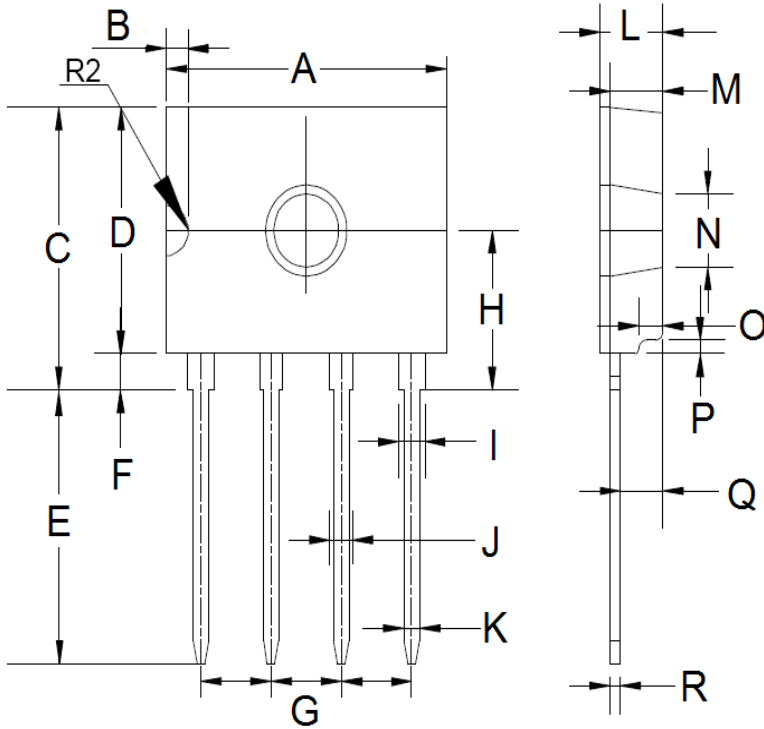


Fig5. Forward Power Dissipation



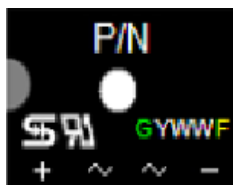
PACKAGE OUTLINE DIMENSIONS

D3K



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	13.50	14.10	0.531	0.555
B	0.70	1.40	0.028	0.055
C	11.70	12.30	0.461	0.484
D	10.50	11.10	0.413	0.437
E	11.70	12.30	0.461	0.484
F	1.10	1.40	0.043	0.055
G	3.51	4.11	0.138	0.162
H	6.70	7.30	0.264	0.287
I	1.10	1.50	0.043	0.059
J	1.05	1.25	0.041	0.049
K	0.66	0.86	0.026	0.034
L	2.90	3.30	0.114	0.130
M	2.40	2.80	0.094	0.110
N	3.10	3.40	0.122	0.134
O	1.00	1.40	0.039	0.055
P	0.40	0.80	0.016	0.031
Q	1.80	2.40	0.071	0.094
R	0.40	0.60	0.016	0.024

MARKING DIAGRAM



- P/N = Marking Code
- G = Green Compound
- YWWF = Date Code
- F = Factory Code

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