

Glass Passivated Bridge Rectifier

FEATURES

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

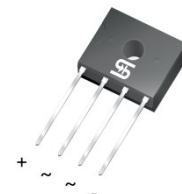
APPLICATIONS

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

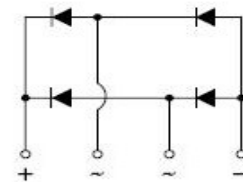
MECHANICAL DATA

- 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}	135	A
$T_J \text{ MAX}$	150	°C
Package	D3K	
Configuration	Quad	



D3K



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

PARAMETER		SYMBOL	UR4KB 60-B	UR4KB 80-B	UR4KB 100-B	UNIT
Marking code on the device			UR4KB60	UR4KB80	UR4KB100	
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 $T_A=120^{\circ}C$	$I_{F(AV)}$	2			A
	With heat sink $T_C=138^{\circ}C$		4			
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load		I_{FSM}	135			A
I^2t value (of a surge on-state current) ⁽¹⁾		I^2t	75			A ² s
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	$R_{\theta JL}$	9.3	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	14.0	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	8.2	°C/W

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 2\text{A}$, $T_J = 25^\circ\text{C}$	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
UR4KBx0-B (Note 1,2)	C2	G	D3K	1,500 / BOX

Notes:

1. "x" defines voltage from 600V (UR4KB60-B) to 1000V (UR4KB100-B)
2. Whole series with green compound

EXAMPLE

PREFERRED P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
UR4KB60-B C2G	UR4KB60-B	C2	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

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

Fig1. Maximum Derating Curve For Output current

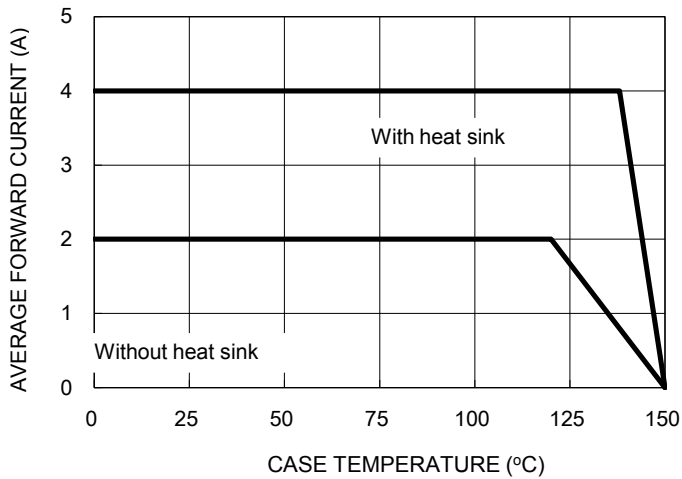


Fig2. Maximum Forward Surge Current

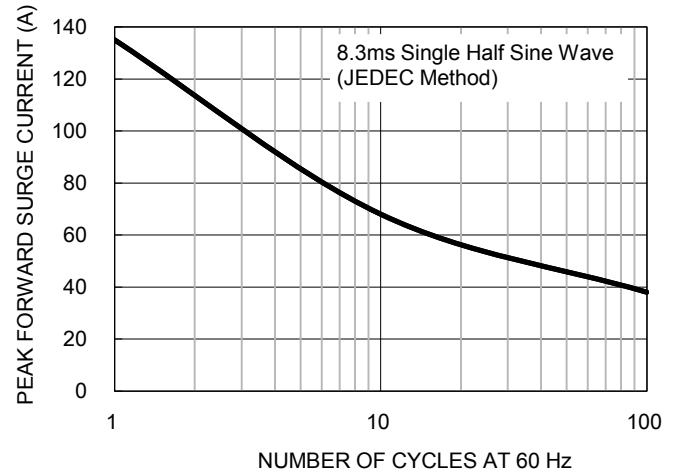


Fig3. Typical Reverse Characteristics

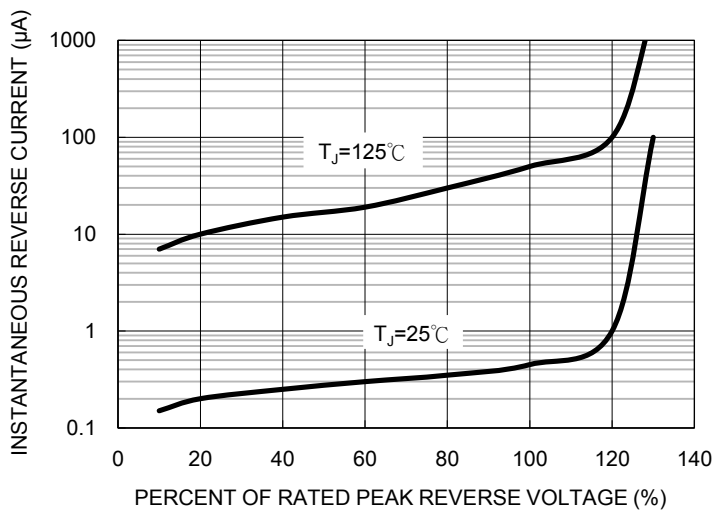


Fig4. Typical Forward Characteristics

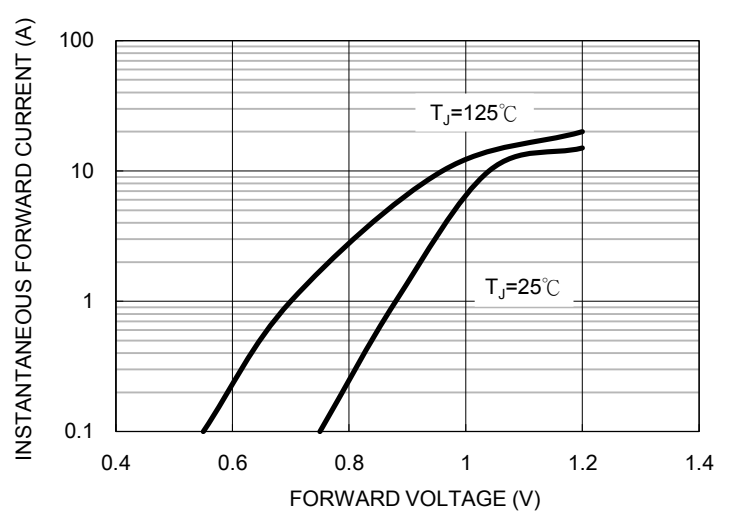
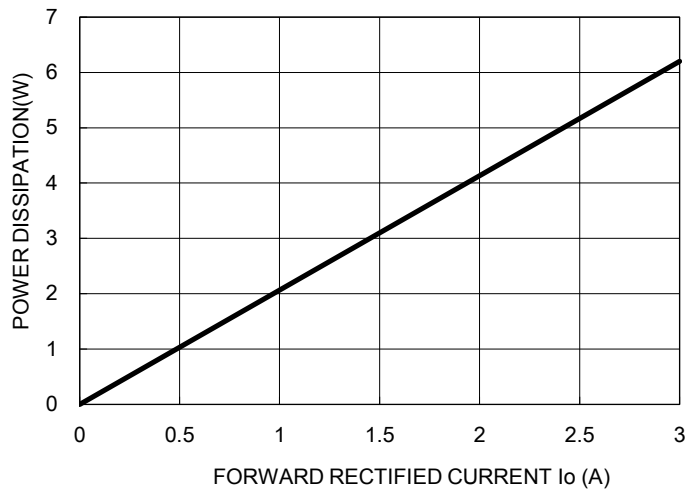
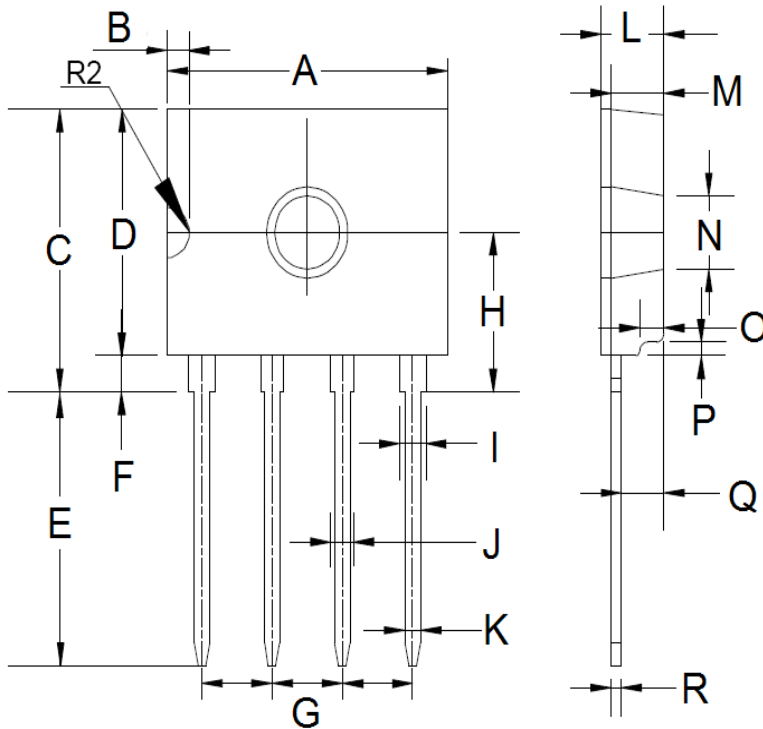


Fig5. Forward Power Dissipation



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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