

## 8A, 600V - 1000V Standard Bridge Rectifier

### FEATURES

- Ideal for printed circuit board
- High case dielectric strength
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

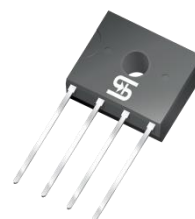
### APPLICATIONS

- Switching mode power supply
- Adapters
- Lighting application

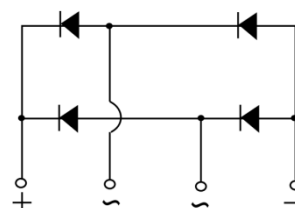
### MECHANICAL DATA

- Case: D3K
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Mounting torque: 0.80 N·m maximum
- Polarity: As marked
- Weight: 1.24g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	8	A
$V_{RRM}$	600 - 1000	V
$I_{FSM}$	170	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	UR8KB60	UR8KB80	UR8KB100	UNIT
Marking code on the device		UR8KB60	UR8KB80	UR8KB100	
Repetitive peak reverse voltage	$V_{RRM}$	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	420	560	700	V
Forward current	$I_F$	8			A
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	170			A
Rating for fusing ( $t < 8.3\text{ms}$ )	$I^2t$	119.9			A <sup>2</sup> s
Junction temperature	$T_J$	- 55 to +150			°C
Storage temperature	$T_{STG}$	- 55 to +150			°C

**THERMAL PERFORMANCE**

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\theta JL}$	13	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	25	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	14	°C/W

**Thermal Performance Note:** Mounted on heat sink size of 4" x 6" x 0.25" Al-plate

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode <sup>(1)</sup>	$I_F = 4\text{A}, T_J = 25^\circ\text{C}$	$V_F$	0.93	1.10	V
	$I_F = 8\text{A}, T_J = 25^\circ\text{C}$		1.00	1.20	V
	$I_F = 4\text{A}, T_J = 125^\circ\text{C}$		0.81	1.00	V
	$I_F = 8\text{A}, T_J = 125^\circ\text{C}$		0.90	1.10	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	10	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		-	500	$\mu\text{A}$
Junction capacitance per diode	1MHz, $V_R = 4.0\text{V}$	$C_J$	63	-	pF

**Notes:**

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

**ORDERING INFORMATION**

ORDERING CODE <sup>(1)</sup>	PACKAGE	PACKING
UR8KBx	D3K	25 / Tube

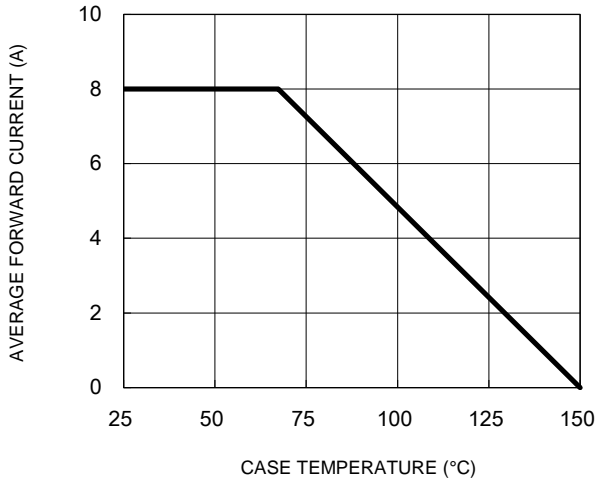
**Notes:**

1. "x" defines voltage from 600V(UR8KB60) to 1000V(UR8KB100)

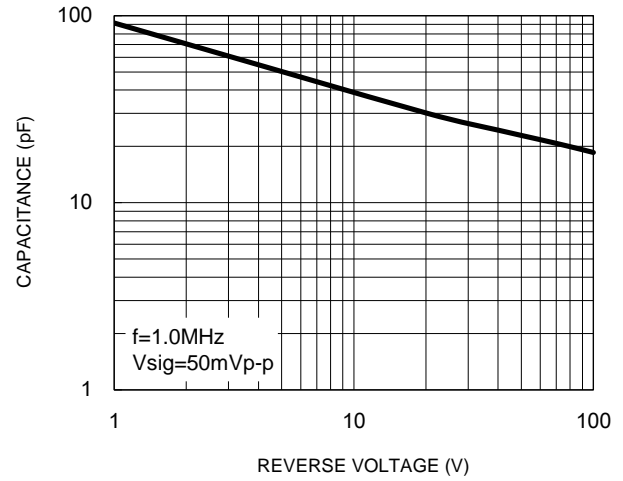
## CHARACTERISTICS CURVES

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

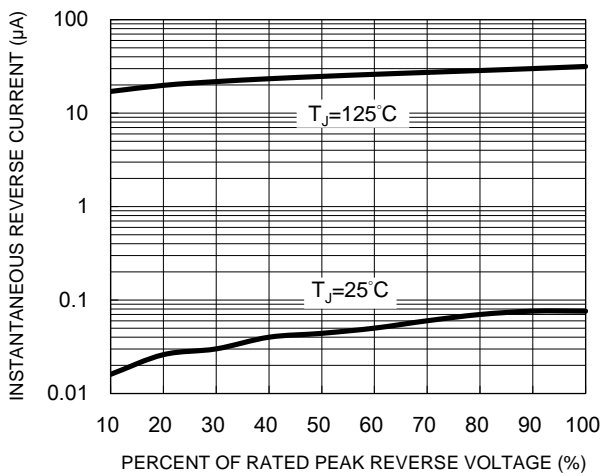
**Fig.1 Forward Current Derating Curve**



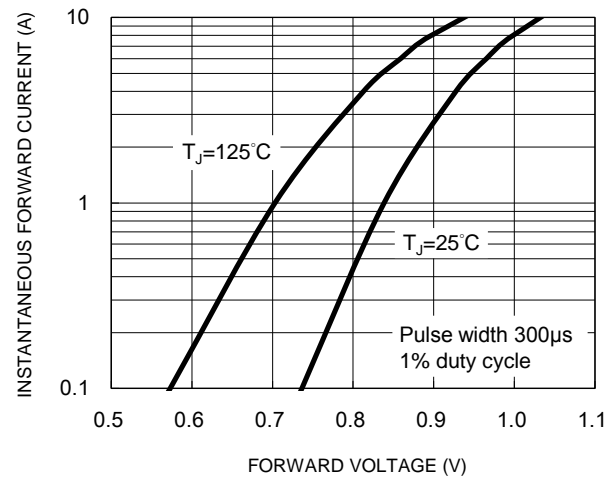
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**

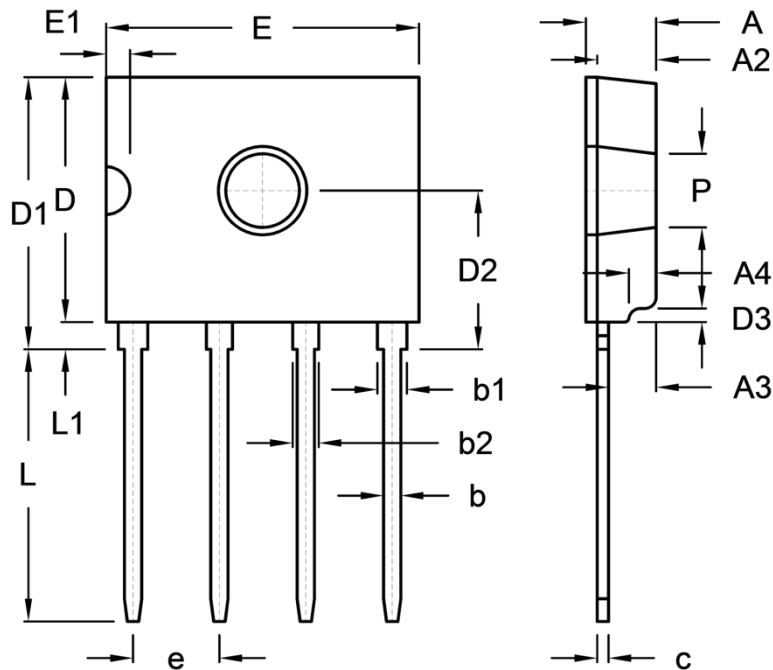


**Fig.4 Typical Forward Characteristics**



## PACKAGE OUTLINE DIMENSIONS

D3K



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	2.90	3.30	0.114	0.130
A2	2.40	2.80	0.094	0.110
A3	1.80	2.40	0.071	0.094
A4	1.00	1.40	0.039	0.055
b	0.66	0.86	0.026	0.034
b1	1.10	1.50	0.043	0.059
b2	1.05	1.25	0.041	0.049
c	0.40	0.60	0.016	0.024
D	10.50	11.10	0.413	0.437
D1	11.70	12.30	0.461	0.484
D2	6.70	7.30	0.264	0.287
D3	0.40	0.80	0.016	0.031
E	13.50	14.10	0.531	0.555
E1	0.70	1.40	0.028	0.055
e	3.51	4.11	0.138	0.162
L	11.70	12.30	0.461	0.484
L1	1.10	1.40	0.043	0.055
P	3.10	3.40	0.122	0.134

## MARKING DIAGRAM



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

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