



E502650

## Features

- Glass Passivated Chip Junction
- High Surge Forward Current Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 1) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Halogen Free. "Green" Device (Note 2)

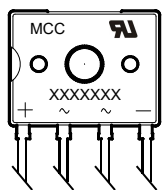
## Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value							Unit
		UD8K B05	UD8K B10	UD8K B20	UD8K B40	UD8K B60	UD8K B80	UD8K B100	
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V <sub>RWM</sub>								
DC Blocking Voltage	V <sub>R</sub>								
RMS Reverse Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Average Rectified Forward Current @ T <sub>C</sub> =140°C	I <sub>F(AV)</sub>	8							A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I <sub>FSM</sub>	175							A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		320							
I <sup>2</sup> t Rating for Fusing @ 1ms≤t≤8.3ms	I <sup>2</sup> t	127.1							A <sup>2</sup> s
Dielectric strength @ Terminals to Case, AC 1 Minute	V <sub>dis</sub>	2							KV

## Marking Code

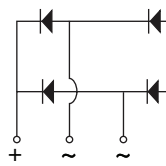
Part Number	Marking Code
UD8KB05	UD8KB05
UD8KB10	UD8KB10
UD8KB20	UD8KB20
UD8KB40	UD8KB40
UD8KB60	UD8KB60
UD8KB80	UD8KB80
UD8KB100	UD8KB100

### Marking Diagram



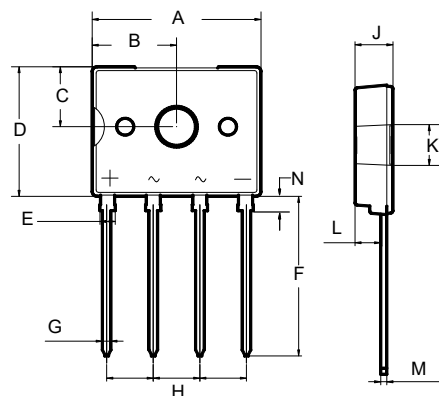
XXXXXXX:  
Marking code

### Internal Structure



# 8 Amp Bridge Rectifier 50 to 1000 Volts

D3K



### DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.524	0.563	13.30	14.30	
B	0.252	0.291	6.40	7.40	
C	0.177	0.217	4.50	5.50	
D	0.406	0.445	10.30	11.30	
E	0.041	0.057	1.05	1.45	
F	0.516	0.531	13.10	13.50	
G	0.024	0.033	0.60	0.85	
H	0.146	0.154	3.70	3.90	
J	0.102	0.142	2.60	3.60	
K	0.122	0.134	3.10	3.40	
L	0.079	0.087	2.00	2.20	
M	0.016	0.024	0.40	0.60	
N	0.035	0.059	0.90	1.50	

Note: 1. High temperature solder exemption applied, see EU directive annex 7a.  
2. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

## Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$T_J$	Operating Junction Temperature Range		-55		150	°C
$T_{stg}$	Storage Temperature Range		-55		150	°C
$R_{th(J-C)}$	Thermal Resistance from Junction to Case	Note 1		1.5		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Without Heatsink		55		°C/W

Note:

1. Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

## Mechanical Data

Recommended Mounting Torque: 0.5 N•m

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F=4A; T_J=25^{\circ}C$			0.95	V
Reverse Current	$I_R$	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			5 100	$\mu A$
Junction Capacitance	$C_J$	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		52		pF

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

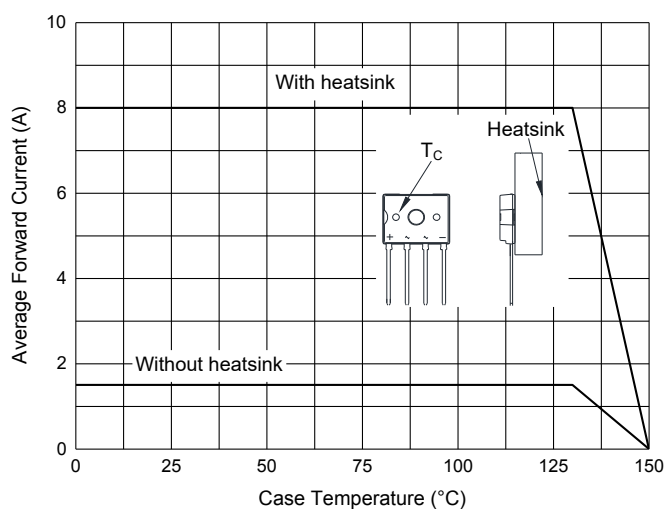


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

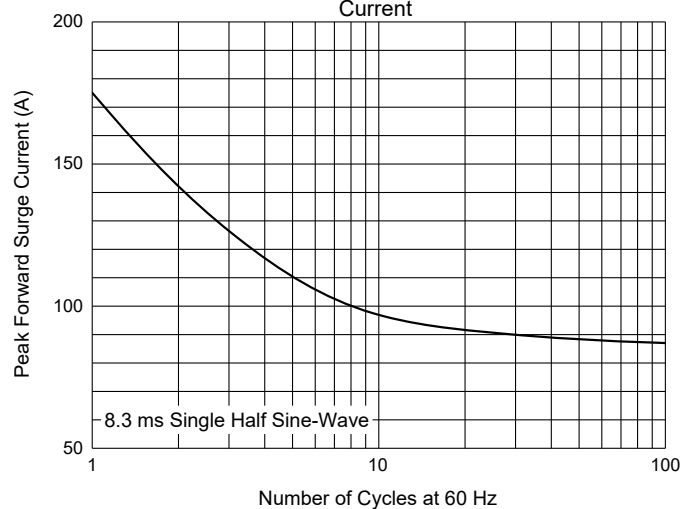


Fig. 3 - Typical Forward Characteristics

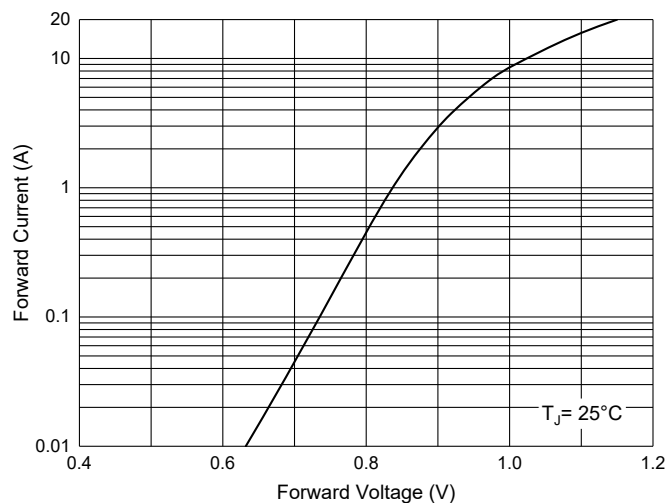


Fig. 4 - Typical Reverse Leakage Characteristics

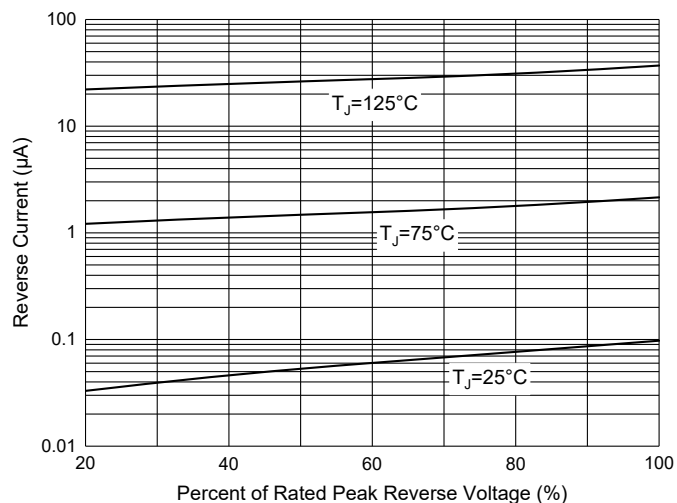
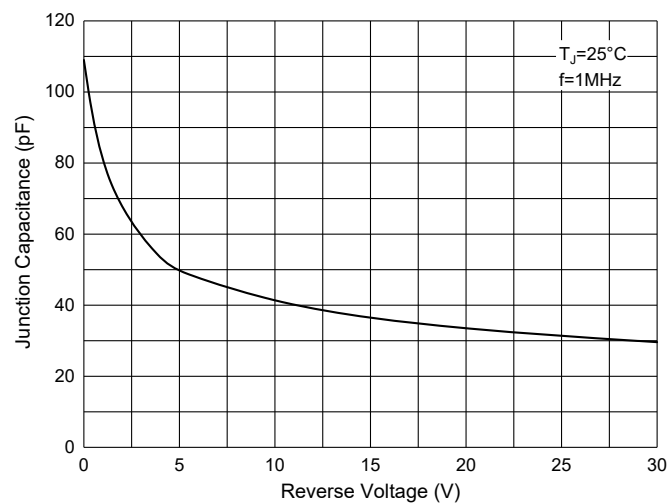


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

Device	Packing
Part Number-BP	Bulk:25pcs/Tube,1500pcs/Box,6Kpcs/Carton

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