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|---|----------------|
|  | <b>E502650</b> |
|---|----------------|

**Features**

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- 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)

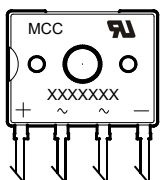
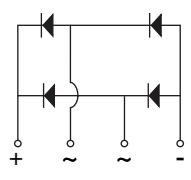
**Maximum Ratings @ 25°C (Unless Otherwise Specified)**

| Parameter  | Symbol      | Value    |          |          |          |          |          |           | Unit             |
|--|-------------|----------|----------|----------|----------|----------|----------|-----------|------------------|
|  |             | UD4K B05 | UD4K B10 | UD4K B20 | UD4K B40 | UD4K B60 | UD4K B80 | UD4K B100 |                  |
| Peak Repetitive Reverse Voltage                          | $V_{RRM}$   |          |          |          |          |          |          |           | V                |
| Working Peak Reverse Voltage                             | $V_{RWM}$   | 50       | 100      | 200      | 400      | 600      | 800      | 1000      |                  |
| DC Blocking Voltage                                      | $V_R$       |          |          |          |          |          |          |           |                  |
| RMS Reverse Voltage                                      | $V_{RMS}$   | 35       | 70       | 140      | 280      | 420      | 560      | 700       | V                |
| Average Rectified Forward Current @ $T_C=140^\circ C$    | $I_{F(AV)}$ | 4        |          |          |          |          |          |           | A                |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave | $I_{FSM}$   | 130      |          |          |          |          |          |           | A                |
| Non-Repetitive Peak Surge Current @ 1ms Square Wave      |             | 250      |          |          |          |          |          |           |                  |
| $I^2t$ Rating for Fusing @ $1ms \leq t \leq 8.3ms$       | $I^2t$      | 70       |          |          |          |          |          |           | A <sup>2</sup> s |
| Dielectric strength @ Terminals to Case, AC 1 Minute     | $V_{dis}$   | 2        |          |          |          |          |          |           | KV               |

**Marking code**

| Part Number | Marking code |
|-------------|--------------|
| UD4KB05     | UD4KB05      |
| UD4KB10     | UD4KB10      |
| UD4KB20     | UD4KB20      |
| UD4KB40     | UD4KB40      |
| UD4KB60     | UD4KB60      |
| UD4KB80     | UD4KB80      |
| UD4KB100    | UD4KB100     |

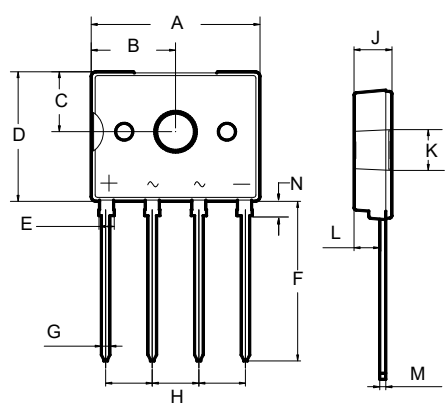
**Internal Structure**

| Simplified Outline   | Graphic Symbol  |
|--|---|
|  <p>XXXXXXX:<br/>Marking code</p> |  |

Note: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

# 4 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  |      |

## 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      | $V_F$  | $I_F=2A; T_J=25^\circ C$  |     |     | 1.0      | V    |
| Reverse Current      | $I_R$  | at Rated $V_R; T_J=25^\circ C$<br>at Rated $V_R; T_J=125^\circ C$ |     |     | 5<br>100 | uA   |
| Junction Capacitance | $C_J$  | $V_R=4V; f=1MHz; T_J=25^\circ C$                                  |     | 40  |          | pF   |

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

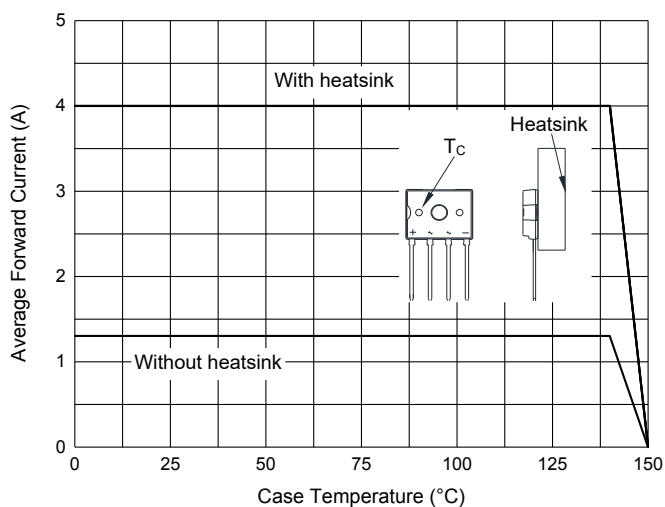


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

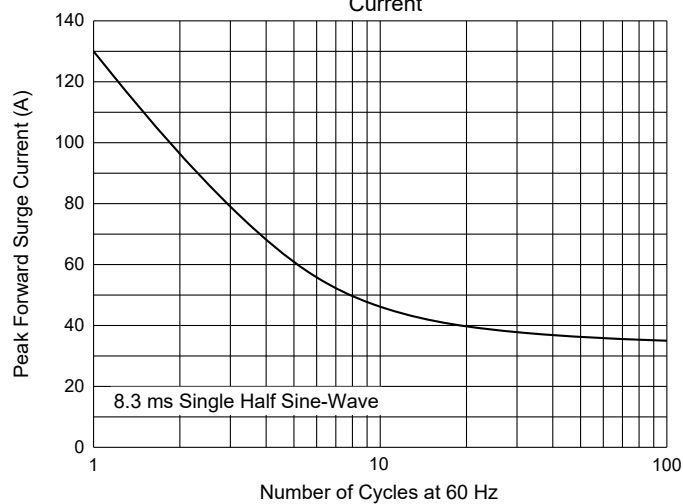


Fig. 3 - Typical Forward Characteristics

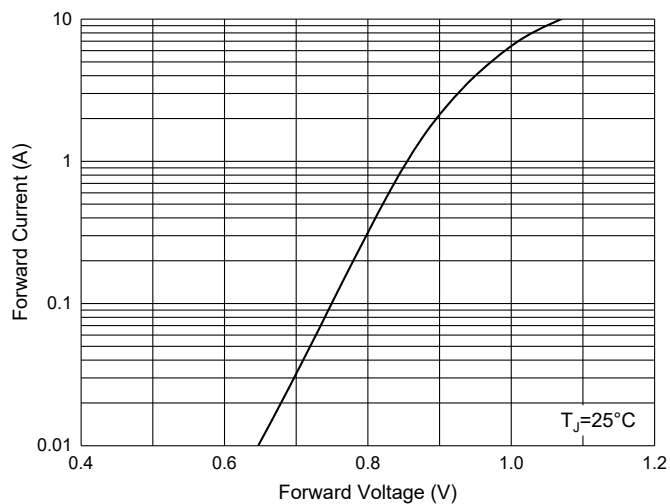


Fig. 4 - Typical Reverse Leakage Characteristics

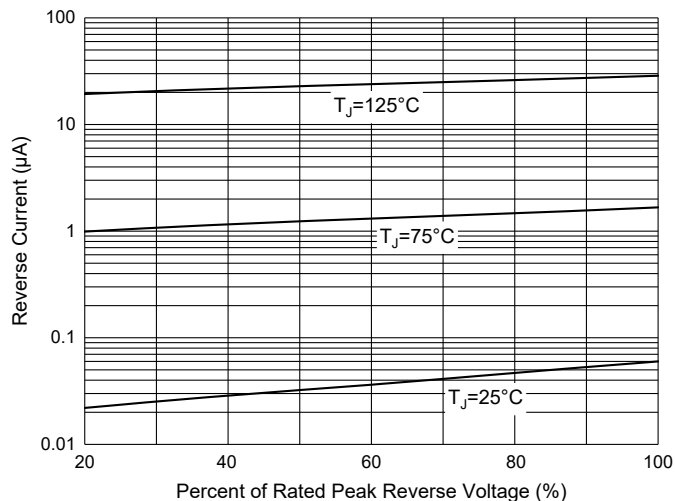
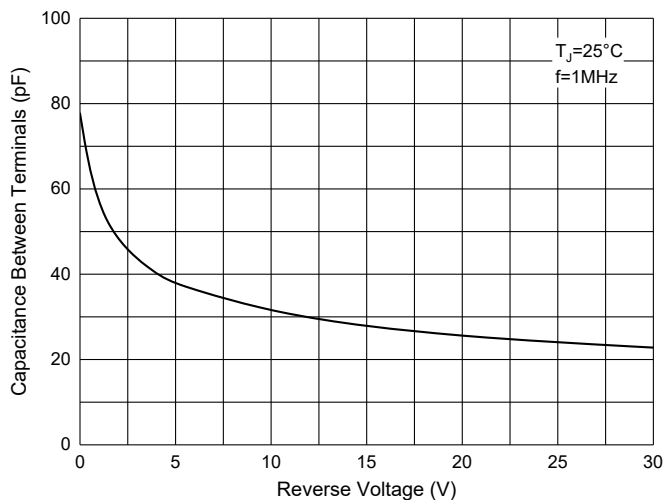


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

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

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-BP-HF

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