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|---|----------------|
|  | E502650 |
|---|----------------|

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)

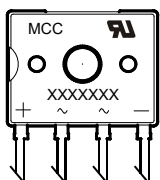
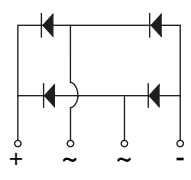
Maximum Ratings @ 25°C (Unless Otherwise Specified)

| Parameter | Symbol | Value | | | | | | | Unit |
|--|-------------|----------|----------|----------|----------|----------|----------|-----------|----------------------|
| | | UD8K B05 | UD8K B10 | UD8K B20 | UD8K B40 | UD8K B60 | UD8K B80 | UD8K 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 @ $T_C=140^\circ\text{C}$ | $I_{F(AV)}$ | 8 | | | | | | | A |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave | I_{FSM} | 175 | | | | | | | A |
| Non-Repetitive Peak Surge Current @ 1ms Square Wave | | 320 | | | | | | | |
| I^2t Rating for Fusing @ $1\text{ms} \leq t \leq 8.3\text{ms}$ | I^2t | 127.1 | | | | | | | A^2s |
| Dielectric strength @ Terminals to Case, AC 1 Minute | V_{dis} | 2 | | | | | | | KV |

Marking code

| Part Number | Marking code |
|-------------|--------------|
| UD8KB05 | UD8KB05 |
| UD8KB10 | UD8KB10 |
| UD8KB20 | UD8KB20 |
| UD8KB40 | UD8KB40 |
| UD8KB60 | UD8KB60 |
| UD8KB80 | UD8KB80 |
| UD8KB100 | UD8KB100 |

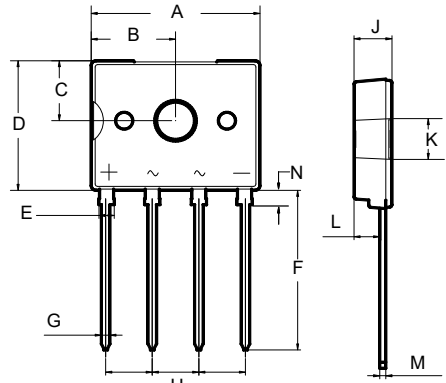
Internal Structure

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

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

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 | |

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 | uA |
| Junction Capacitance | C_J | $V_R=4V; f=1MHz; T_J=25^\circ C$ | | 52 | | pF |

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

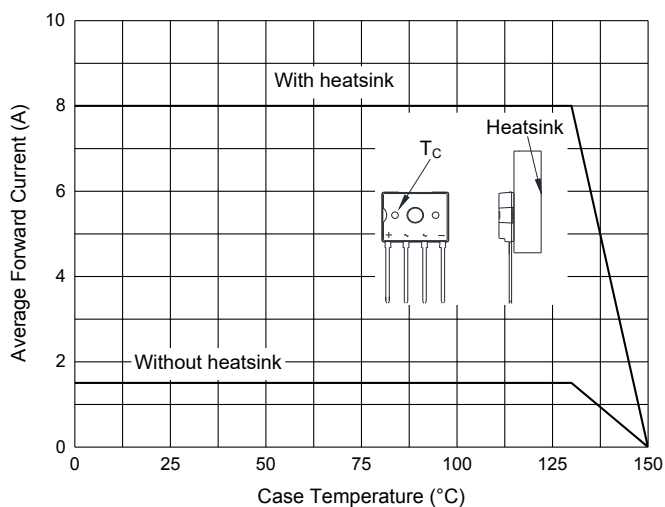


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

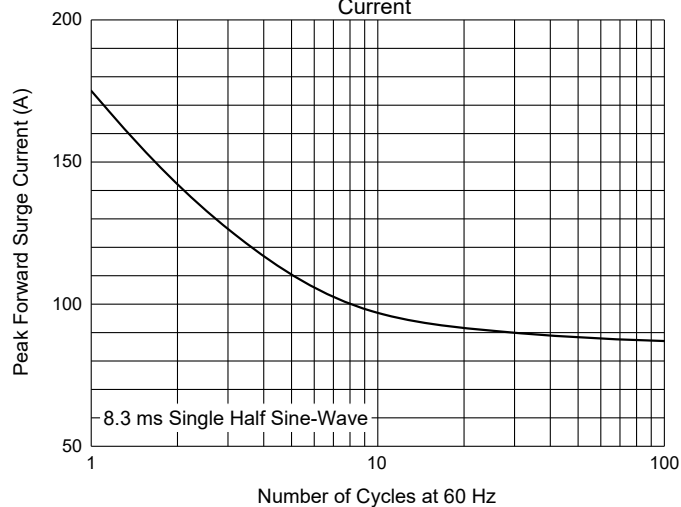


Fig. 3 - Typical Forward Characteristics

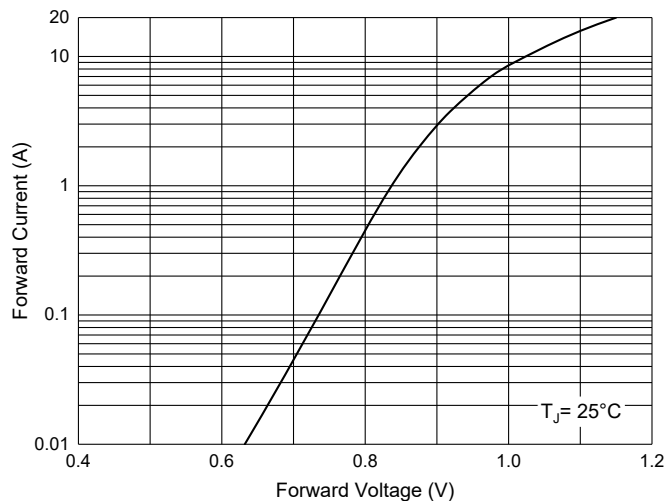


Fig. 4 - Typical Reverse Leakage Characteristics

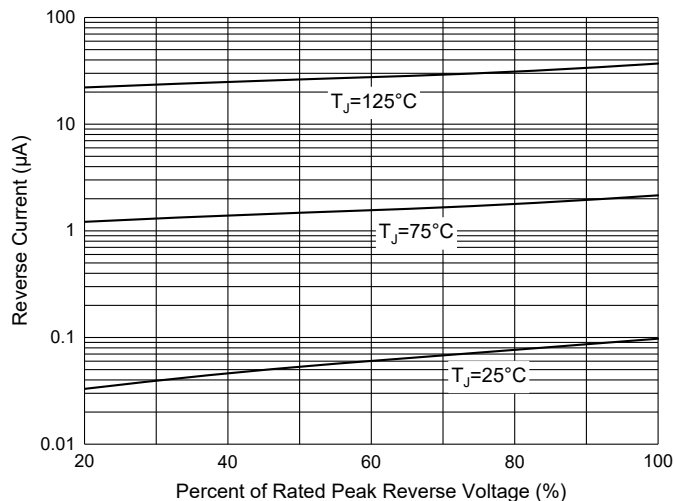
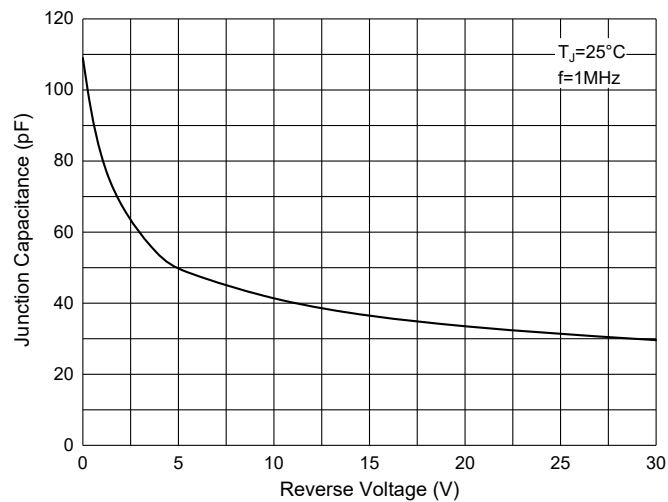


Fig. 5 - Typical Capacitance Characteristics



Ordering Information

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

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

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