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

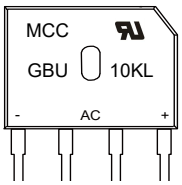
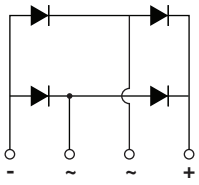
# 10 Amp Low VF Bridge Rectifiers 800 Volts

## Features

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

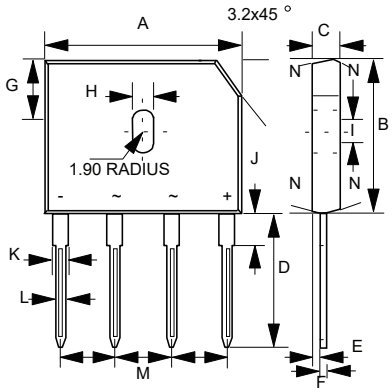
## Maximum Ratings @ 25°C (Unless Otherwise Specified)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Repetitive Reverse Voltage | $V_{RRM}$ | 800 | V |
| Working Peak Reverse Voltage | $V_{RWM}$ | | |
| DC Blocking Voltage | $V_R$ | | |
| RMS Reverse Voltage | $V_{RMS}$ | 560 | V |
| Average Rectified Forward Current @ $T_C$=110°C (With Heatsink) | $I_{F(AV)}$ | 10 | A |
| Average Rectified Forward Current @ $T_A$=25°C (Without Heatsink) | | 3.6 | |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave | $I_{FSM}$ | 200 | A |
| Non-Repetitive Peak Surge Current @ 1ms Square Wave | | 400 | |
| $I^2t$ Rating for Fusing @1ms≤t≤8.3ms | $I^2t$ | 166 | $A^2s$ |
| Dielectric strength @Terminals to Case, AC 1 Minute | $V_{dis}$ | 2.5 | KV |

| Marking Diagram | Internal Structure |
|---|---|
|   Marking Code: GBU10KL |   |

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

GBU




| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | 0.860 | 0.880 | 21.80 | 22.30 | |
| B | 0.720 | 0.740 | 18.30 | 18.80 | |
| C | 0.130 | 0.142 | 3.30 | 3.60 | |
| D | 0.690 | 0.717 | 17.50 | 18.20 | |
| E | 0.030 | 0.039 | 0.76 | 1.00 | |
| F | 0.018 | 0.024 | 0.46 | 0.60 | |
| G | 0.290 | 0.310 | 7.40 | 7.90 | |
| H | 0.140 | 0.160 | 3.50 | 4.10 | |
| I | 0.065 | 0.085 | 1.65 | 2.16 | |
| J | 0.060 | 0.096 | 1.52 | 2.45 | |
| K | 0.077 | 0.098 | 1.95 | 2.50 | |
| L | 0.040 | 0.050 | 1.02 | 1.27 | |
| M | 0.190 | 0.210 | 4.83 | 5.33 | |
| N | 7.0° TYPICAL | | | | |

## 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 |
| $Rth_{(J-C)}$ | Thermal Resistance from Junction to Case | Note 1 | | 2 | | °C/W |
| $Rth_{(J-A)}$ | Thermal Resistance from Junction to Ambient | Without Heatsink | | 25 | | °C/W |

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

## Mechanical Data

Recommended Mounting Torque: 5 in-lbs

## Electrical Characteristics @ 25°C Unless Otherwise Specified(Per Diode)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Forward Voltage | $V_F$ | $I_F$=5A;$T_J$=25°C<br>$I_F$=5A;$T_J$=125°C | | 0.87<br>0.74 | 0.92<br>0.78 | V |
| Reverse Current | $I_R$ | at Rated $V_R$;$T_J$=25°C<br>at Rated $V_R$;$T_J$=125°C | | | 5<br>200 | μA |
| Junction Capacitance | $C_J$ | $V_R$=4V;f=1MHz;$T_J$=25°C | | 110 | | pF |

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

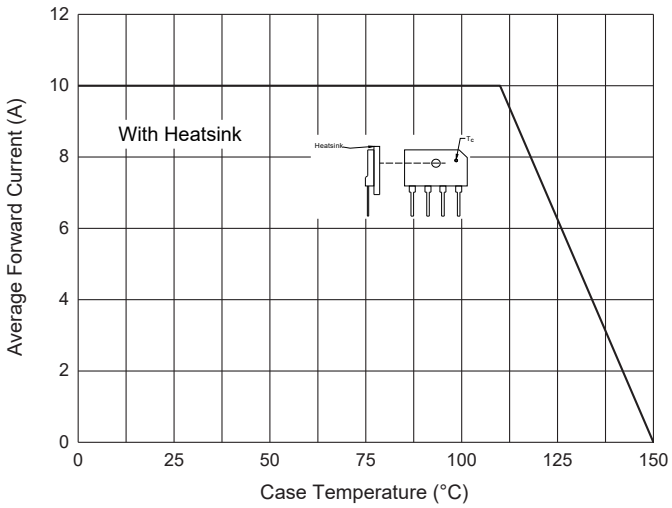



Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current(Per Diode)

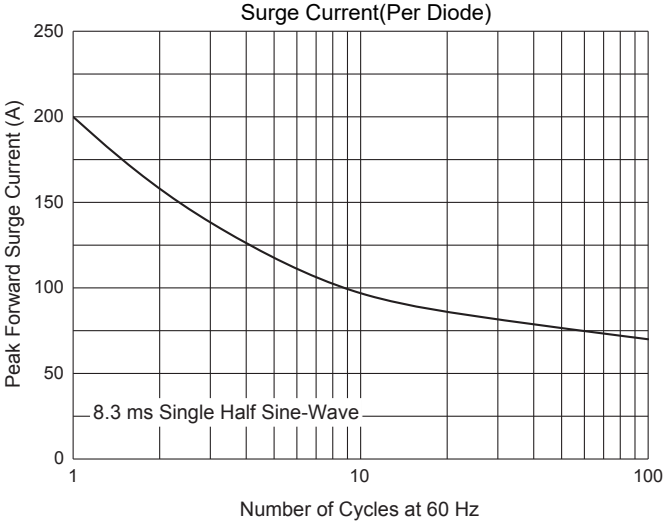



Fig. 3 - Typical Forward Characteristics (Per Diode)

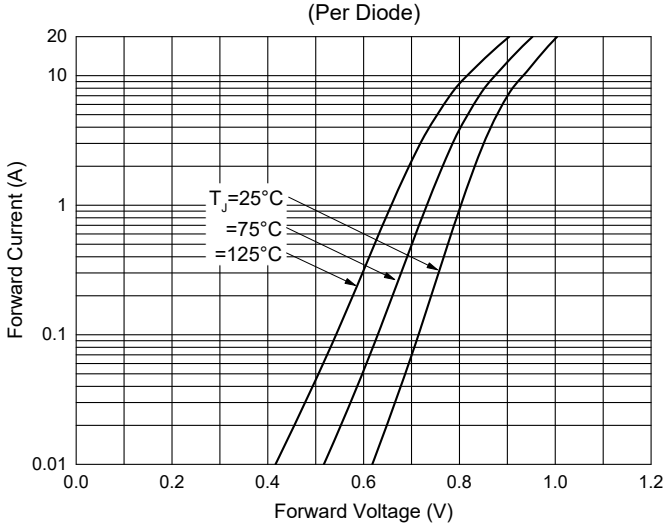



Fig. 4 - Typical Reverse Leakage Characteristics (Per Diode)

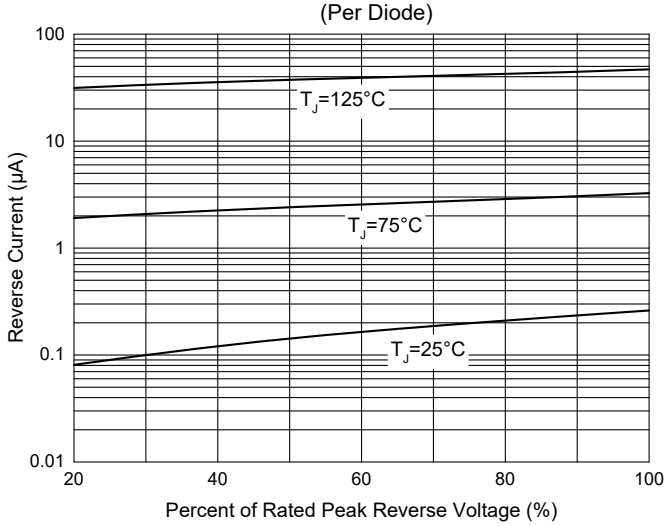
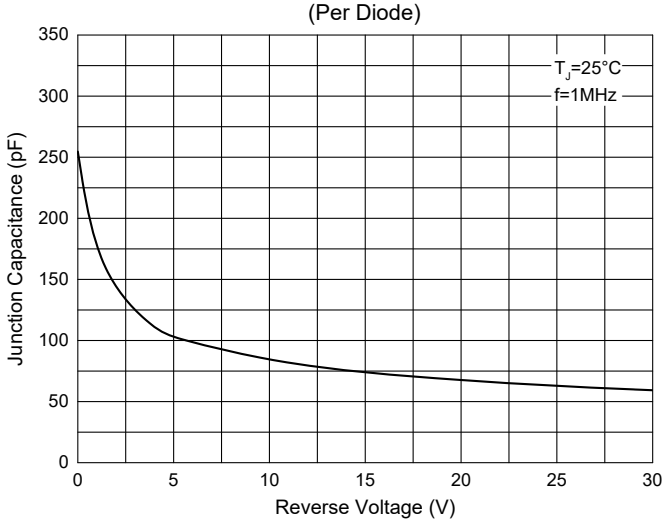



Fig. 5 - Typical Capacitance Characteristics (Per Diode)



## Ordering Information

| Device | Packing |
|---|---|
| GBU10KL-BP | Bulk:20pcs/Tube,1Kpcs/Box,2Kpcs/Carton |