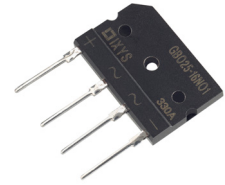
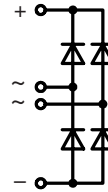


# Single Phase Rectifier Bridge

$$I_{dAV} = 25 \text{ A}$$

$$V_{RRM} = 1200-1600 \text{ V}$$

| $V_{RSM}$<br>V | $V_{RRM}$<br>V | Standard<br>Types |
|----------------|----------------|-------------------|
| 1300           | 1200           | GBO 25-12NO1      |
| 1700           | 1600           | GBO 25-16NO1      |



| Symbol          | Conditions                                  | Maximum Ratings                    |                      |
|-----------------|---------------------------------------------|------------------------------------|----------------------|
| $I_{dAVM}$ ①    | $T_C = 80^\circ\text{C}$ , sine $180^\circ$ | 25                                 | A                    |
| $I_{dAVM}$ ②    | $T_C = 25^\circ\text{C}$ , sine $180^\circ$ | 5                                  | A                    |
| $I_{FSM}$       | $T_{VJ} = 45^\circ\text{C}$ ;<br>$V_R = 0$  | $t = 10 \text{ ms}$ (50 Hz), sine  | 370 A                |
|                 |                                             | $t = 8.3 \text{ ms}$ (60 Hz), sine | 390 A                |
|                 | $T_{VJ} = T_{VJM}$                          | $t = 10 \text{ ms}$ (50 Hz), sine  | 320 A                |
|                 | $V_R = 0$                                   | $t = 8.3 \text{ ms}$ (60 Hz), sine | 340 A                |
| $I^2t$          | $T_{VJ} = 45^\circ\text{C}$                 | $t = 10 \text{ ms}$ (50 Hz), sine  | 680 A <sup>2</sup> s |
|                 | $V_R = 0$                                   | $t = 8.3 \text{ ms}$ (60 Hz), sine | 640 A <sup>2</sup> s |
|                 | $T_{VJ} = T_{VJM}$                          | $t = 10 \text{ ms}$ (50 Hz), sine  | 510 A <sup>2</sup> s |
|                 | $V_R = 0$                                   | $t = 8.3 \text{ ms}$ (60 Hz), sine | 470 A <sup>2</sup> s |
| $T_{VJ}$        |                                             | -40...+150                         | $^\circ\text{C}$     |
| $T_{VJM}$       |                                             | 150                                | $^\circ\text{C}$     |
| $T_{stg}$       |                                             | -40...+125                         | $^\circ\text{C}$     |
| $P_{tot}$       |                                             | 16                                 | W                    |
| $M_d$<br>Weight | Mounting torque (M3)<br>typ.                | 0.5-0.8<br>7                       | Nm<br>g              |

## Features

- $V_{RRM}$  up to 1600 V
- Low forward voltage drop
- Planar passivated chips
- Low forward voltage drop
- Epoxy meets UL 94V-0

## Applications

- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

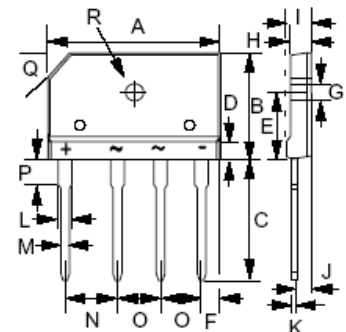
## Advantages

- Easy to mount with one screw
- Space and weight savings

| Symbol           | Conditions                                           | Characteristic Values |                     |
|------------------|------------------------------------------------------|-----------------------|---------------------|
| $I_R$            | $V_R = V_{RRM}$ ;<br>$T_{VJ} = 25^\circ\text{C}$     | $\leq$                | 0.05 mA             |
|                  | $V_R = V_{RRM}$ ;<br>$T_{VJ} = T_{VJM}$              | $\leq$                | 1.5 mA              |
| $V_F$            | $I_F = 12.5 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$ | $\leq$                | 1.1 V               |
| $V_{T0}$         | For power-loss calculations only                     |                       | 0.89 V              |
| $r_T$            | $T_{VJ} = T_{VJM}$                                   |                       | 12.2 m $\Omega$     |
| $R_{thJC}$       | per diode, DC current                                |                       | 4.3 K/W             |
|                  | per module                                           |                       | 1.1 K/W             |
| $R_{thJA}$       | per diode, DC current                                |                       | 50 K/W              |
|                  | per module                                           |                       | 12.5 K/W            |
| $d_{S1}, d_{A1}$ | Creeping/Striking distance leads to heatsink         |                       | 2.9 mm              |
| $d_{S1}, d_{A1}$ | Creeping/Striking distance lead to lead              |                       | 5.6 mm              |
| $a$              | Max. allowable acceleration                          |                       | 50 m/s <sup>2</sup> |

Data according to IEC 60747 and refer to a single diode unless otherwise stated

$I_{dAVM}$  = bridge output current for resistive load ① mounted on heatsink; ② without heatsink



| DIM. | MIN.        | MAX.        |
|------|-------------|-------------|
| A    | 29.70       | 30.30       |
| B    | 19.70       | 20.30       |
| C    | 17.0        | 18.0        |
| D    | 4.70        | 4.90        |
| E    | 10.80       | 11.20       |
| F    | 2.30        | 2.70        |
| G    | 3.10        | 3.40        |
| H    | 3.40        | 3.80        |
| I    | 4.40        | 4.80        |
| J    | 2.50        | 2.90        |
| K    | 0.60        | 0.80        |
| L    | 2.00        | 2.40        |
| M    | 0.90        | 1.10        |
| N    | 9.80        | 10.20       |
| O    | 7.30        | 7.70        |
| P    | 3.80        | 4.20        |
| Q    | (3.0) x 45° |             |
| R    | 3.10 $\phi$ | 3.40 $\phi$ |

All Dimensions in millimeter

IXYS reserves the right to change limits, test conditions and dimensions.

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