

# 6RI30G(30A)

## POWER DIODE MODULE

1200V,1600V / 30A

6 in one-package

### ■ Features

- Glass Passivation Chip
- Easy Connection
- Insulated Type

### ■ Applications

- Inverters
- Battery Chargers
- DC Motors
- General Purpose DC Power Supplies

### ■ Maximum ratings and characteristics

#### ● Absolute maximum ratings

| Item                                | Symbol    | Conditions                                | Rating        |      | Unit                 |
|-------------------------------------|-----------|---|---------------|------|----------------------|
|                                     |           |   | -120          | -160 |                      |
| Repetitive peak reverse voltage     | $V_{RRM}$ |   | 1200          | 1600 | V                    |
| Non-repetitive peak reverse voltage | $V_{RSM}$ |   | 1320          | 1760 | V                    |
| Average output current              | $I_O$     | 50/60Hz Sine wave, $T_c=88^\circ\text{C}$ | 30            |      | A                    |
| Surge current                       | $I_{FSM}$ | From rated load, Sine wave 10ms           | 320           |      | A                    |
| $I^2t$                              | $I^2t$    | From rated load                           | 400           |      | $\text{A}^2\text{s}$ |
| Operating junction temperature      | $T_j$     |   | -40 to +150   |      | $^\circ\text{C}$     |
| Storage temperature                 | $T_{stg}$ |   | -40 to +125   |      | $^\circ\text{C}$     |
| Isolation voltage                   | $V_{is}$  |   | AC2500(1min.) |      | V                    |
| Screw torque                        |           |   | 1.7           | *1   | N·m                  |

\*1: Recommendable value : 1.3 to 1.7 N·m(M4)

#### ● Electrical characteristics ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

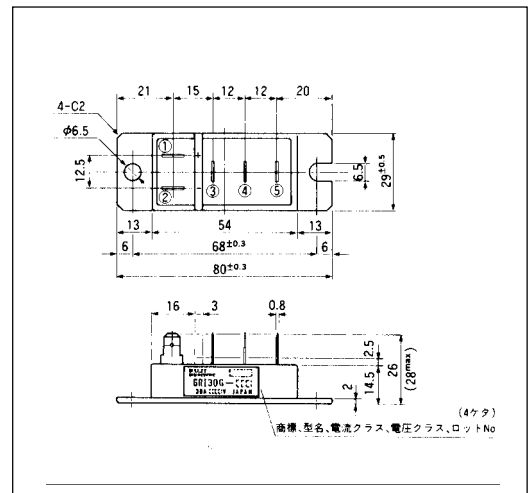
| Item                 | Symbol    | Conditions                                   | Min. | Typ. | Max. | Unit |
|----------------------|-----------|--|------|------|------|------|
| Forward voltage drop | $V_{FM}$  | $T_j=25^\circ\text{C}$ , $I_{FM}=30\text{A}$ |      |      | 1.30 | V    |
| Reverse current      | $I_{RRM}$ | $T_j=150^\circ\text{C}$ , $V_R=V_{RRM}$      |      |      | 10.0 | mA   |

#### ● Thermal Characteristics

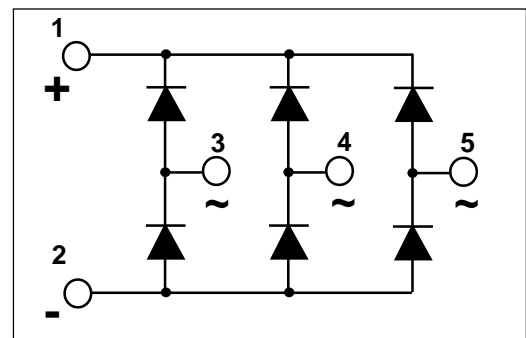
| Item               | Symbol        | Conditions                | Min. | Typ. | Max. | Unit                      |
|--------------------|---------------|---------------------------|------|------|------|---------------------------|
| Thermal resistance | $R_{th(j-c)}$ | Junction to case          |      |      | 0.80 | $^\circ\text{C}/\text{W}$ |
|                    | $R_{th(c-f)}$ | the base to cooling fin * |      |      | 0.10 | $^\circ\text{C}/\text{W}$ |

\* : With Thermal Compound

### ■ Outline Drawings, mm

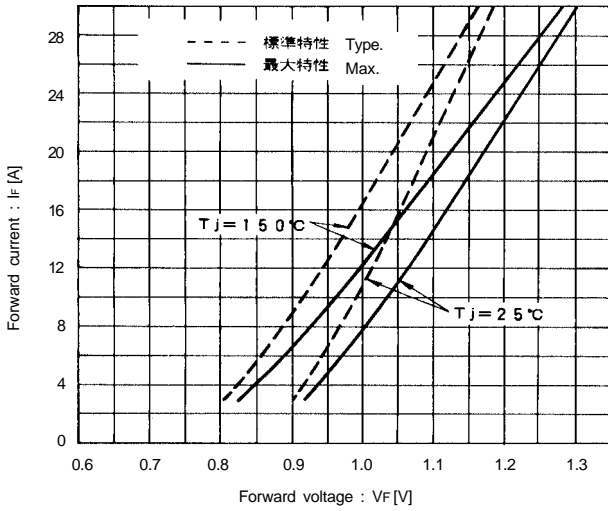


### ■ Inner Circuit Schematic

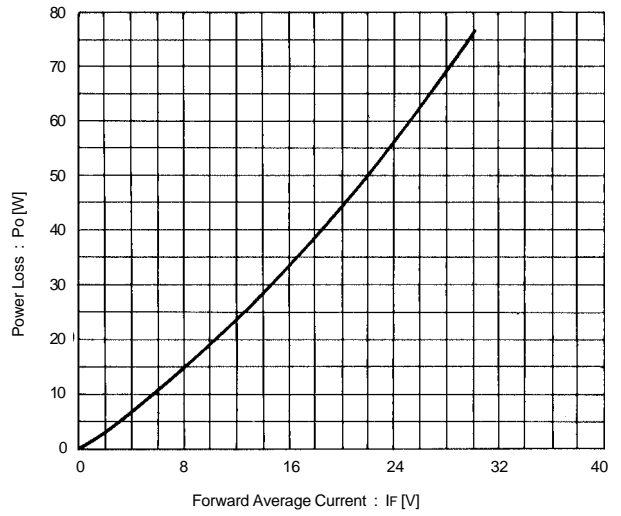


■ Characteristics

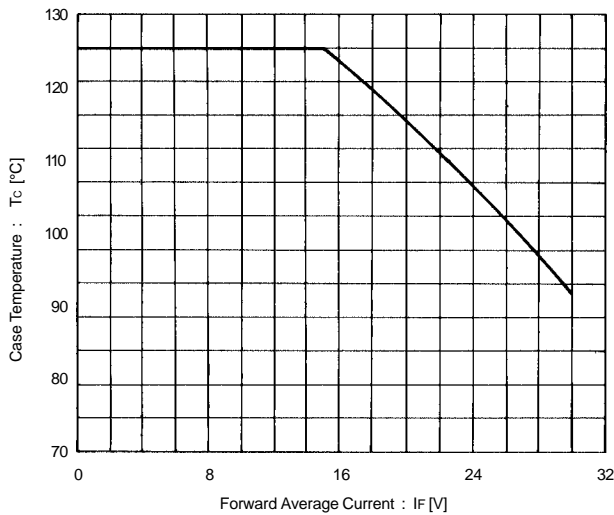
Forward Characteristics



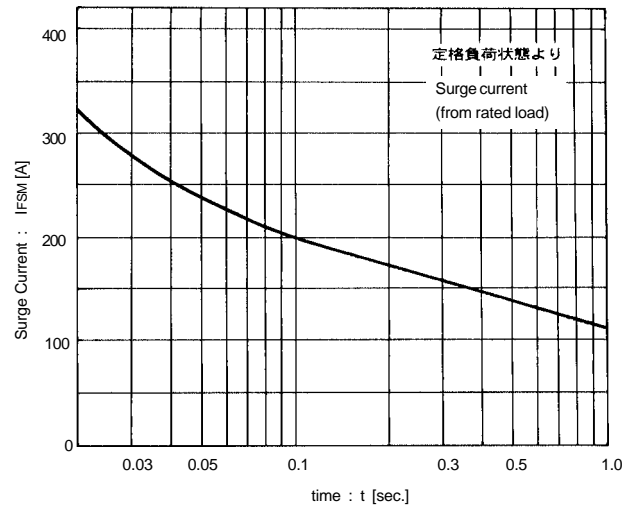
Forward Average Current vs. Power Loss



Forward Average Current vs. Case Temperature



Surge Current



Transient Thermal Impedance

