

6RI30E(30A)

POWER DIODE MODULE

600V,800V / 30A

6 in one-package

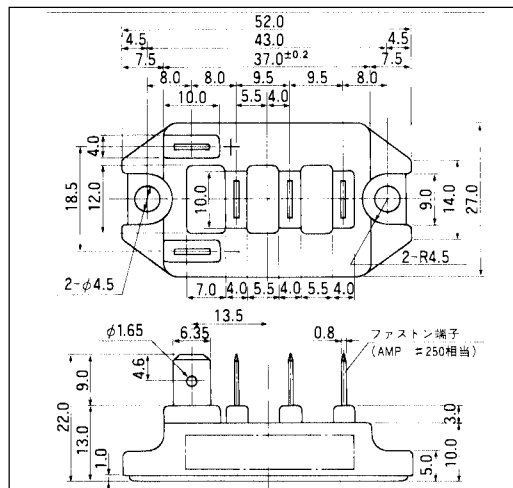
Features

- Glass Passivation Chip
- Easy Connection
- Insulated Type

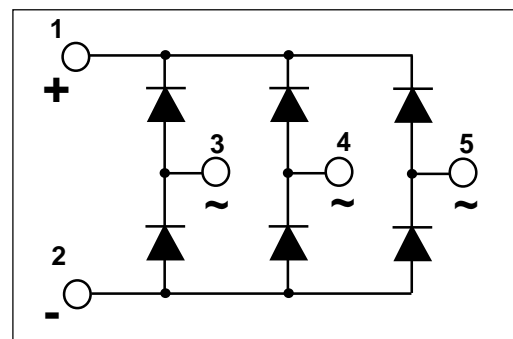
Applications

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

Outline Drawings, mm



Inner Circuit Schematic



Maximum ratings and characteristics

Absolute maximum ratings

| Item | Symbol | Conditions | Rating | | Unit |
|-------------------------------------|-----------|---|---------------|------|----------------------|
| | | | -060 | -080 | |
| Repetitive peak reverse voltage | V_{RRM} | | 600 | 800 | V |
| Non-repetitive peak reverse voltage | V_{RSM} | | 660 | 880 | V |
| Average output current | I_O | 50/60Hz Sine wave, $T_c=97^\circ\text{C}$ | 30 | | A |
| Surge current | I_{FSM} | From rated load, Sine wave 10ms | 360 | | A |
| I^2t | I^2t | From rated load | 520 | | A^2s |
| 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} | | AC2000(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} | $T_j=25^\circ\text{C}$, $I_{FM}=30\text{A}$ | | | 1.10 | V |
| Reverse current | I_{RRM} | $T_j=150^\circ\text{C}$, $V_R=V_{RRM}$ | | | 3.0 | mA |

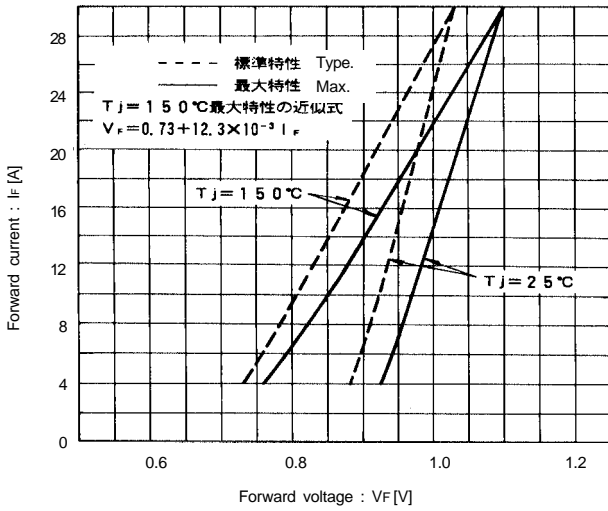
Thermal Characteristics

| 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 | $^\circ\text{C}/\text{W}$ |

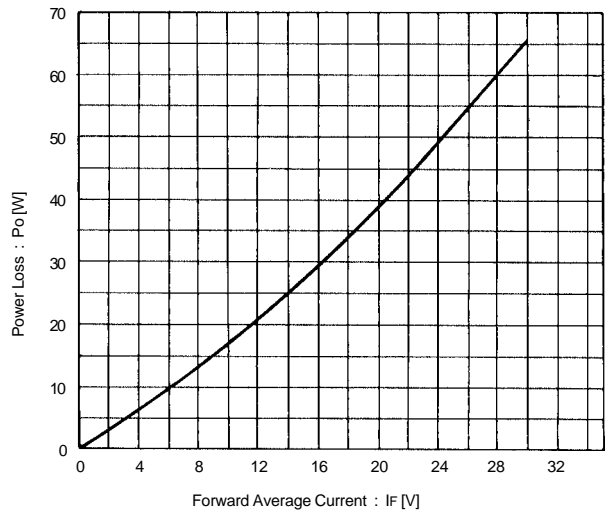
* : With Thermal Compound

■ Characteristics

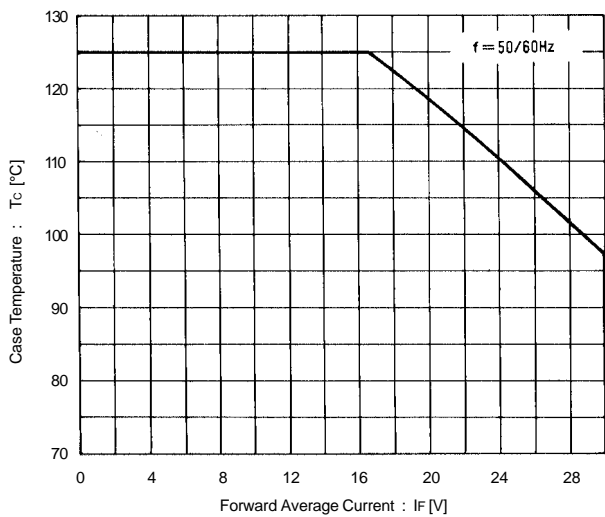
Forward Characteristics



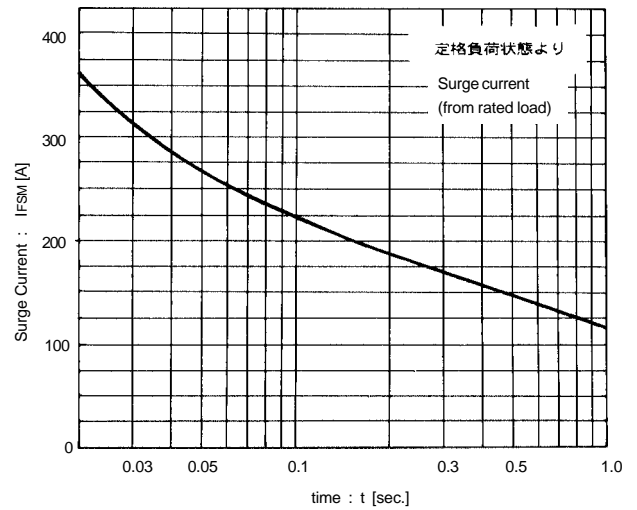
Forward Average Current vs. Power Loss



Forward Average Current vs. Case Temperature



Surge Current



Transient Thermal Impedance

