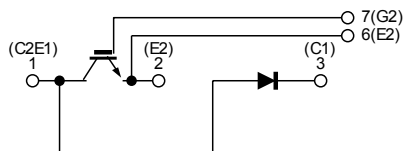
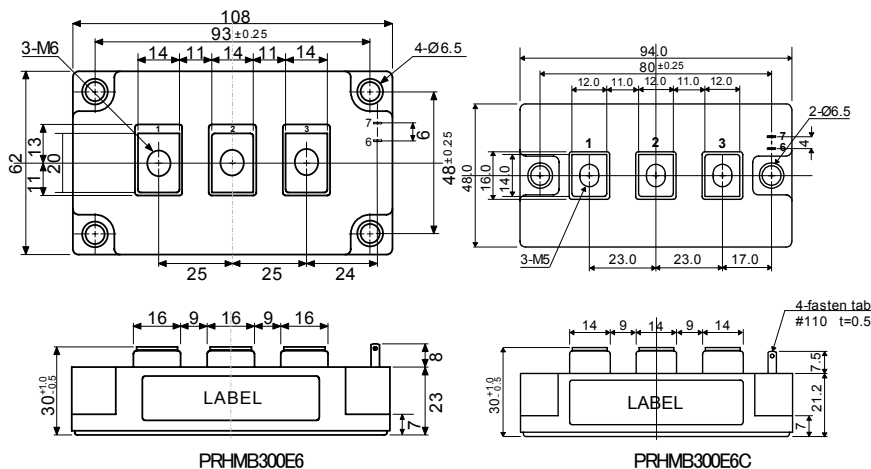


## □ 回路図 : CIRCUIT



## □ 外形寸法図 : OUTLINE DRAWING



Dimension: [mm]

□ 最大定格 : MAXIMUM RATINGS ( $T_c = 25^\circ\text{C}$ )

| I t e m  |                         | S y m b o l      | R a t e d   V a l u e |          |            | U n i t            |                 |
|--|-------------------------|------------------|-----------------------|----------|------------|--------------------|-----------------|
| コレクタ・エミッタ間電圧<br>Collector-Emitter Voltage                |                         | V <sub>CES</sub> | 6 0 0                 |          |            | V                  |                 |
| ゲート・エミッタ間電圧<br>Gate-Emitter Voltage                      |                         | V <sub>GES</sub> | ± 2 0                 |          |            | V                  |                 |
| コレクタ電流<br>Collector Current                              | DC                      | I <sub>C</sub>   | 3 0 0                 |          |            | A                  |                 |
|  | 1 m s                   | I <sub>CP</sub>  | 6 0 0                 |          |            |                    |                 |
| コレクタ損失<br>Collector Power Dissipation                    |                         | P <sub>C</sub>   | 1, 0 4 0              |          |            | W                  |                 |
| 接合温度<br>Junction Temperature Range                       |                         | T <sub>j</sub>   | － 4 0 ～ + 1 5 0       |          |            | ℃                  |                 |
| 保存温度<br>Storage Temperature Range                        |                         | T <sub>stg</sub> | － 4 0 ～ + 1 2 5       |          |            | ℃                  |                 |
| 絶縁耐圧(Terminal to Base AC, 1 minute)<br>Isolation Voltage |                         | V <sub>ISO</sub> | 2, 5 0 0              |          |            | V <sub>(RMS)</sub> |                 |
| 締め付けトルク<br>Mounting Torque                               | Module Base to Heatsink | F <sub>tor</sub> | PDMB3006              | 3 (30.6) | PDMB300E6C | 3 (30.6)           | N・m<br>(kgf・cm) |
|  | Busbar to Main Terminal |                  |                       | 3 (30.6) |            | 2 (20.4)           |                 |

□ 電気的特性 : ELECTRICAL CHARACTERISTICS ( $T_c = 25^\circ\text{C}$ )

| Characteristic   |                       | Symbol        | Test Condition  | Min. | Typ.   | Max. | Unit          |
|--|-----------------------|---------------|---|------|--------|------|---------------|
| コレクタ遮断電流<br>Collector-Emitter Cut-Off Current          |                       | $I_{CES}$     | $V_{CE} = 600\text{V}, V_{GE} = 0\text{V}$  | —    | —      | 1.0  | mA            |
| ゲート漏れ電流<br>Gate-Emitter Leakage Current                |                       | $I_{GES}$     | $V_{GE} = \pm 20\text{V}, V_{CE} = 0\text{V}$   | —    | —      | 1.0  | $\mu\text{A}$ |
| コレクタ・エミッタ間飽和電圧<br>Collector-Emitter Saturation Voltage |                       | $V_{CE(sat)}$ | $I_C = 300\text{A}, V_{GE} = 15\text{V}$  | —    | 2.1    | 2.6  | V             |
| ゲートしきい値電圧<br>Gate-Emitter Threshold Voltage            |                       | $V_{GE(th)}$  | $V_{CE} = 5\text{V}, I_C = 300\text{mA}$  | 4.0  | —      | 8.0  | V             |
| 入力容量<br>Input Capacitance                              |                       | $C_{ies}$     | $V_{CE} = 10\text{V}, V_{GE} = 0\text{V}, f = 1\text{MHz}$                                    | —    | 15,000 | —    | pF            |
| スイッチング時間<br>Switching Time                             | 上昇時間 Rise Time        | $t_r$         | $V_{CC} = 300\text{V}$<br>$R_L = 1.0\Omega$<br>$R_G = 3.6\Omega$<br>$V_{GE} = \pm 15\text{V}$ | —    | 0.15   | 0.40 | $\mu\text{s}$ |
|  | ターンオン時間 Turn-on Time  | $t_{on}$      |   | —    | 0.30   | 0.75 |               |
|  | 下降時間 Fall Time        | $t_f$         |   | —    | 0.10   | 0.35 |               |
|  | ターンオフ時間 Turn-off Time | $t_{off}$     |   | —    | 0.40   | 0.80 |               |

□ フリーホイーリングダイオードの特性 : FREE WHEELING DIODE RATINGS & CHARACTERISTICS ( $T_c = 25^\circ\text{C}$ )

| I t e m                |     | S y m b o l     | R a t e d   V a l u e |  |  |  | U n i t |
|------------------------|-----|-----------------|-----------------------|--|--|--|---------|
| 順電流<br>Forward Current | DC  | I <sub>F</sub>  | 300                   |  |  |  | A       |
|                        | 1ms | I <sub>FM</sub> | 600                   |  |  |  |         |

| C h a r a c t e r i s t i c    |  | S y m b o l     | T e s t   C o n d i t i o n                                     | M i n . | T y p . | M a x . | U n i t |
|--------------------------------|--|-----------------|---|---------|---------|---------|---------|
| 順電圧<br>Peak Forward Voltage    |  | V <sub>F</sub>  | I <sub>F</sub> = 300A, V <sub>GE</sub> = 0V                     | —       | 1.9     | 2.4     | V       |
| 逆回復時間<br>Reverse Recovery Time |  | t <sub>rr</sub> | I <sub>F</sub> = 300A, V <sub>GE</sub> = -10V<br>di/dt= 600A/μs | —       | 0.15    | 0.25    | μs      |

## □ 熱的特性 : THERMAL CHARACTERISTICS

| Characteristic           |       | Symbol        | Test Condition                        | Min. | Typ. | Max. | Unit                      |
|--------------------------|-------|---------------|---------------------------------------|------|------|------|---------------------------|
| 熱抵抗<br>Thermal Impedance | IGBT  | $R_{th(j-c)}$ | Junction to Case<br>( $T_c$ 測定点チップ直下) | —    | —    | 0.12 | $^\circ\text{C}/\text{W}$ |
|                          | Diode |               |                                       | —    | —    | 0.24 |                           |

