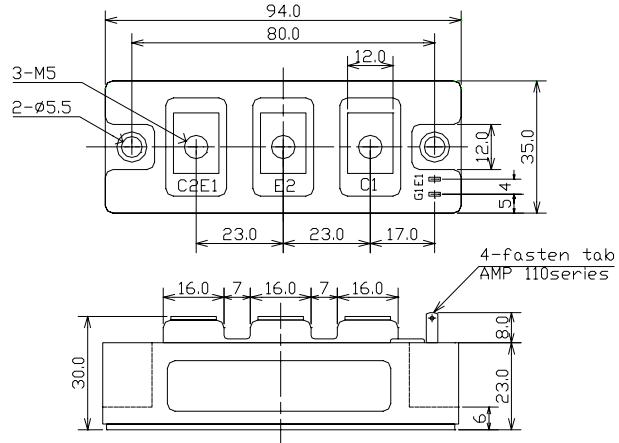
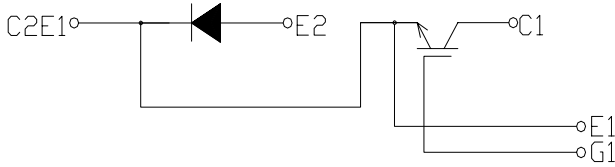


回路図 : **CIRCUIT**

外形寸法図 : **OUTLINE DRAWING**

Dimension: [mm]



最大定格 : **MAXIMUM RATINGS** ( $T_c = 25$ )

重量 : 220g

| Item   | Symbol                  | Rated Value | Unit     |
|--|-------------------------|-------------|----------|
| コレクタ・エミッタ間電圧<br>Collector-Emitter Voltage              | $V_{CES}$               | 600         | V        |
| ゲート・エミッタ間電圧<br>Gate-Emitter Voltage                    | $V_{GES}$               | $\pm 20$    | V        |
| コレクタ電流<br>Collector Current                            | DC                      | $I_C$       | 100      |
|  | 1ms                     | $I_{CP}$    | 200      |
| コレクタ損失<br>Collector Power Dissipation                  | $P_c$                   | 400         | W        |
| 接合温度<br>Junction Temperature Range                     | $T_j$                   | -40 ~ +150  |          |
| 保存温度<br>Storage Temperature Range                      | $T_{stg}$               | -40 ~ +125  |          |
| 絶縁耐圧(Terminal to Base AC,1minute)<br>Isolation Voltage | $V_{iso}$               | 2,500       | V (RMS)  |
| 締め付けトルク<br>Mounting Torque                             | Module Base to Heatsink | $F_{tor}$   | 2 (20.4) |
|  | Busbar to Main Terminal |             |          |

電気的特性 : **ELECTRICAL CHARACTERISTICS** ( $T_c = 25$ )

| Characteristic   | Symbol                | Test Condition  | Min. | Typ.   | Max. | Unit    |
|--|-----------------------|---|------|--------|------|---------|
| コレクタ遮断電流<br>Collector-Emitter Cut-Off Current          | $I_{CES}$             | $V_{CE} = 600V, V_{GE} = 0V$                                      | -    | -      | 1.0  | mA      |
| ゲート漏れ電流<br>Gate-Emitter Leakage Current                | $I_{GES}$             | $V_{GE} = \pm 20V, V_{CE} = 0V$                                   | -    | -      | 1.0  | $\mu A$ |
| コレクタ・エミッタ間飽和電圧<br>Collector-Emitter Saturation Voltage | $V_{CE(sat)}$         | $I_C = 100A, V_{GE} = 15V$  | -    | 2.1    | 2.6  | V       |
| ゲートしきい値電圧<br>Gate-Emitter Threshold Voltage            | $V_{GE(th)}$          | $V_{CE} = 5V, I_C = 100mA$  | 4.0  | -      | 8.0  | V       |
| 入力容量<br>Input Capacitance                              | $C_{ies}$             | $V_{CES} = 10V, V_{GE} = 0V, f = 1MHz$                            | -    | 10,000 | -    | pF      |
| スイッチング時間<br>Switching Time                             | 上昇時間 Rise Time        | $V_{CC} = 300V$<br>$R_L = 3$<br>$R_G = 7.5$<br>$V_{GE} = \pm 15V$ | -    | 0.15   | 0.30 | $\mu s$ |
|  | ターンオン時間 Turn-on Time  |   | -    | 0.25   | 0.40 |         |
|  | 下降時間 Fall Time        |   | -    | 0.20   | 0.35 |         |
|  | ターンオフ時間 Turn-off Time |   | -    | 0.45   | 0.70 |         |

フリーホイールダイオードの特性 : **FREE WHEELING DIODE RATINGS & CHARACTERISTICS** ( $T_c = 25$ )

| Item                   | Symbol | Rated Value | Unit |
|------------------------|--------|-------------|------|
| 順電流<br>Forward Current | DC     | $I_F$       | 100  |
|                        | 1ms    | $I_{FM}$    | 200  |

| Characteristic                 | Symbol   | Test Condition                                      | Min. | Typ. | Max. | Unit    |
|--------------------------------|----------|---|------|------|------|---------|
| 順電圧<br>Peak Forward Voltage    | $V_F$    | $I_F = 100A, V_{GE} = 0V$                           | -    | 1.9  | 2.4  | V       |
| 逆回復時間<br>Reverse Recovery Time | $t_{rr}$ | $I_F = 100A, V_{GE} = -10V$<br>$di/dt = 100A/\mu s$ | -    | 0.15 | 0.25 | $\mu s$ |

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 | -    | -    | 0.31 |
|                          | Diode  |                |                  | -    | -    | 0.65 |

PCHMB100A6

Fig.1- Output Characteristics (Typical)

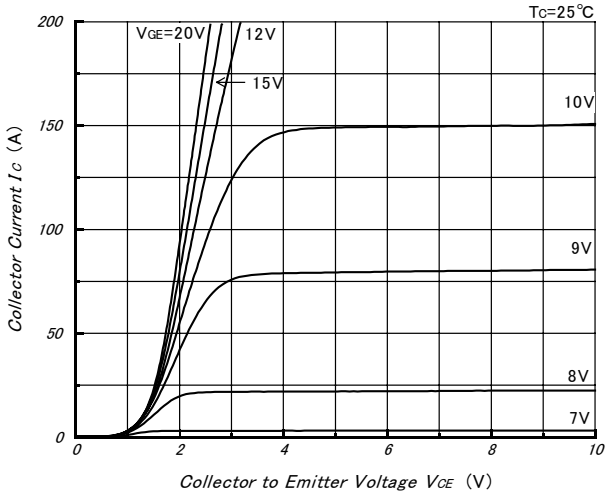


Fig.2- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

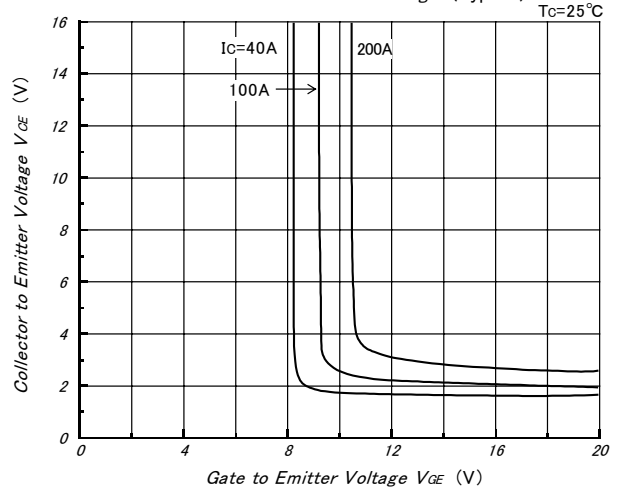


Fig.3- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

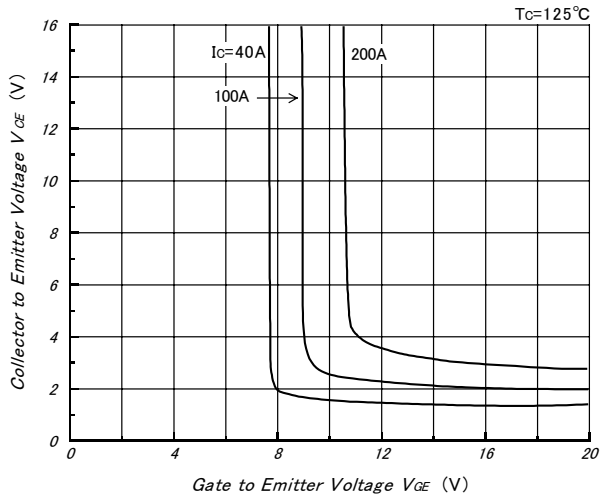


Fig.4- Gate Charge vs. Collector to Emitter Voltage (Typical)

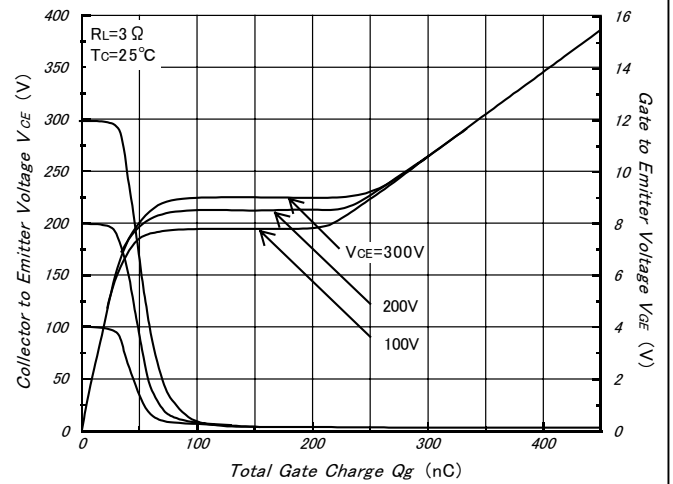


Fig.5- Capacitance vs. Collector to Emitter Voltage (Typical)

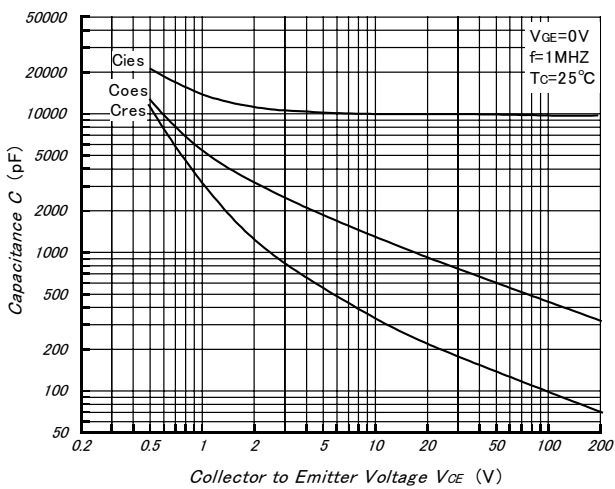
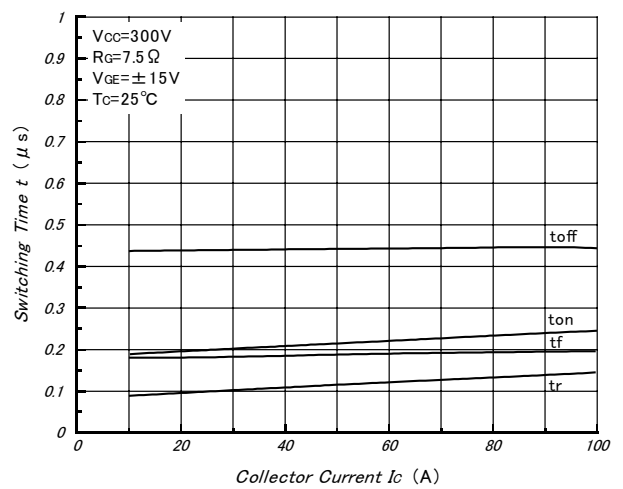


Fig.6- Collector Current vs. Switching Time (Typical)



PC HMB 100A6

Fig.7- Series Gate Impedance vs. Switching Time (Typical)

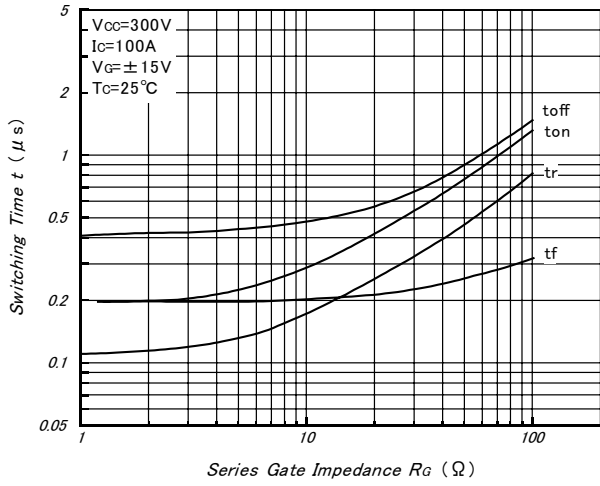


Fig.8- Forward Characteristics of Free Wheeling Diode (Typical)

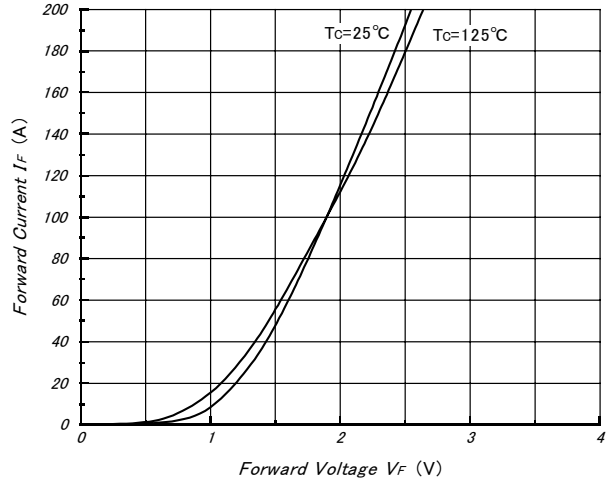


Fig.9- Reverse Recovery Characteristics (Typical)

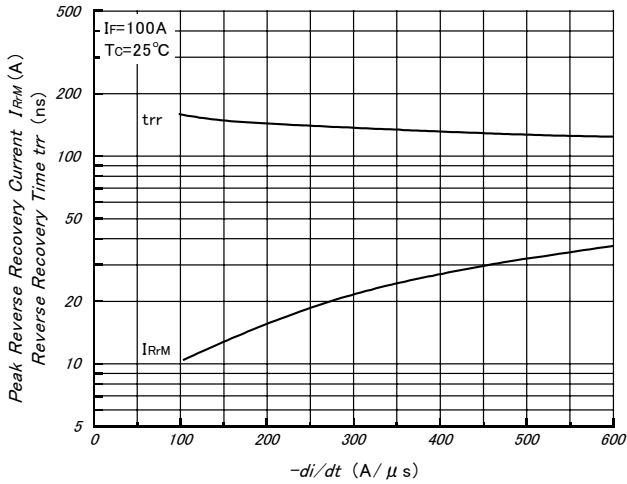


Fig.10- Reverse Bias Safe Operating Area (Typical)

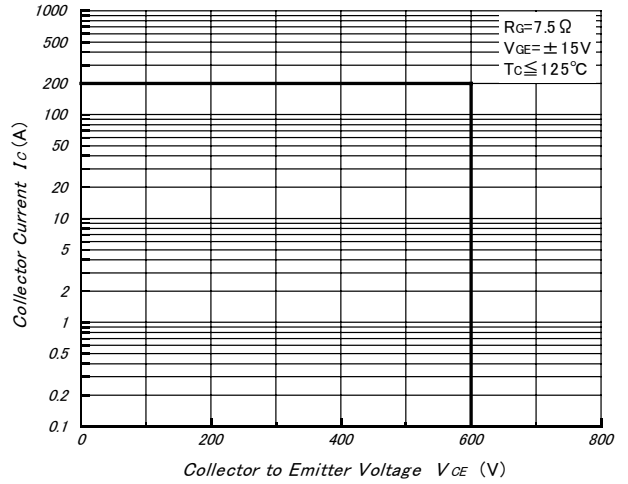


Fig.11- Transient Thermal Impedance

