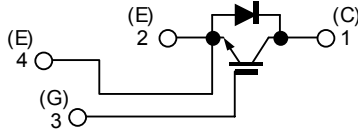
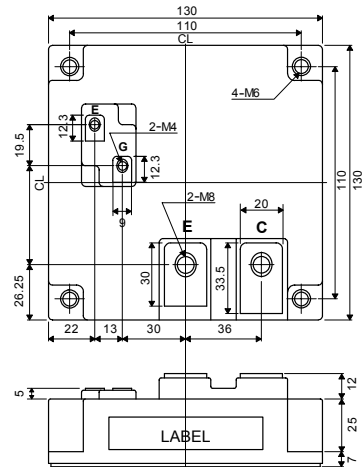


□ 回路図 : *CIRCUIT*



□ 外形寸法図 : *OUTLINE DRAWING*



Dimension: [mm]

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

| Item | Symbol | Rated Value | Unit | |
|--|--|-----------------|------------------|-----------------|
| コレクタ・エミッタ間電圧 Collector-Emitter Voltage | V_{CES} | 1,200 | V | |
| ゲート・エミッタ間電圧 Gate-Emitter Voltage | V_{GES} | ± 20 | V | |
| コレクタ電流 Collector Current | DC | 1,200 | A | |
| | 1ms | 2,400 | | |
| コレクタ損失 Collector Power Dissipation | P_C | 5,600 | W | |
| 接合温度 Junction Temperature Range | T_j | $-40 \sim +150$ | $^\circ\text{C}$ | |
| 保存温度 Storage Temperature Range | T_{stg} | $-40 \sim +125$ | $^\circ\text{C}$ | |
| 絶縁耐圧(Terminal to Base AC, 1 minute) Isolation Voltage | V_{ISO} | 2,500 | $V_{(RMS)}$ | |
| 締め付けトルク Mounting Torque | Module Base to Heatsink Busbar to Main Terminal | F_{tor} | 3 (30.6) | N·m (kgf·cm) |
| | | M4 | 1.4 (14.3) | |
| | | M8 | 10.5 (107) | |

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

| Characteristic | Symbol | Test Condition | Min. | Tvp. | Max. | Unit |
|--|-----------------------|--|------|---------|------|---------------|
| コレクタ遮断電流 Collector-Emitter Cut-Off Current | I_{CES} | $V_{CE}=1200V, V_{GE}=0V$ | - | - | 2.4 | mA |
| ゲート漏れ電流 Gate-Emitter Leakage Current | I_{GES} | $V_{GE}=\pm 20V, V_{CE}=0V$ | - | - | 1.0 | μA |
| コレクタ・エミッタ間飽和電圧 Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=1200A, V_{GE}=15V$ | - | 1.9 | 2.4 | V |
| ゲートしきい値電圧 Gate-Emitter Threshold Voltage | $V_{GE(th)}$ | $V_{CE}=5V, I_C=1200mA$ | 4 | - | 8 | V |
| 入力容量 Input Capacitance | C_{ies} | $V_{CE}=10V, V_{GE}=0V, f=1MHz$ | - | 100,000 | - | pF |
| スイッチング時間 Switching Time | 上昇時間 Rise Time | $V_{CC}=600V$ $R_t=0.5\Omega$ $R_g=0.33\Omega$ $V_{GE}=\pm 15V$ | - | 0.25 | 0.45 | μs |
| | ターンオン時間 Turn-on Time | | - | 0.40 | 0.70 | |
| | 下降時間 Fall Time | | - | 0.25 | 0.35 | |
| | ターンオフ時間 Turn-off Time | | - | 1.00 | 1.50 | |

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

| Item | Symbol | Rated Value | Unit | | | |
|--------------------------------|----------|---|------|------|------|---------------|
| 順電流 Forward Current | DC | 1,200 | A | | | |
| | 1ms | 2,400 | | | | |
| Characteristic | Symbol | Test Condition | Min. | Tvp. | Max. | Unit |
| 順電圧 Peak Forward Voltage | V_F | $I_F=1200A, V_{GE}=0V$ | - | 1.9 | 2.4 | V |
| 逆回復時間 Reverse Recovery Time | t_{rr} | $I_F=1200A, V_{GE}=-10V$ $di/dt=2400A/\mu\text{s}$ | - | 0.4 | 0.5 | μs |

□ 熱的特性 : *THERMAL CHARACTERISTICS*

| Characteristic | Symbol | Test Condition | Min. | Tvp. | Max. | Unit |
|--------------------------|--------|------------------|------|------|-------|---------------------------|
| 熱抵抗 Thermal Impedance | IGBT | Junction to Case | - | - | 0.022 | $^\circ\text{C}/\text{W}$ |
| | Diode | | - | - | 0.043 | |

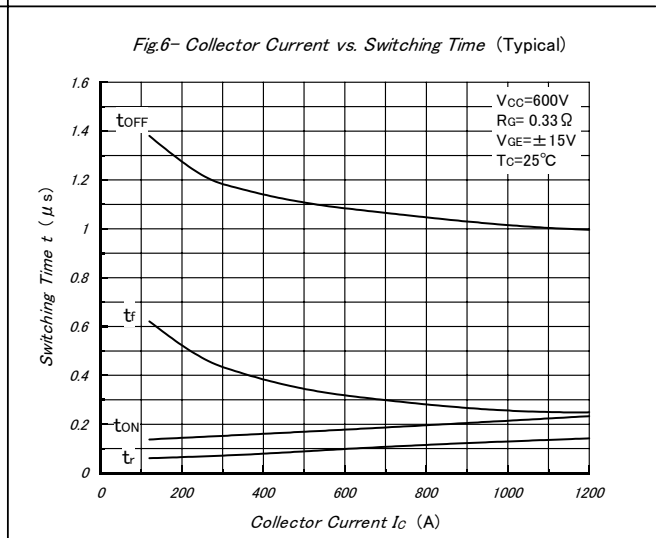
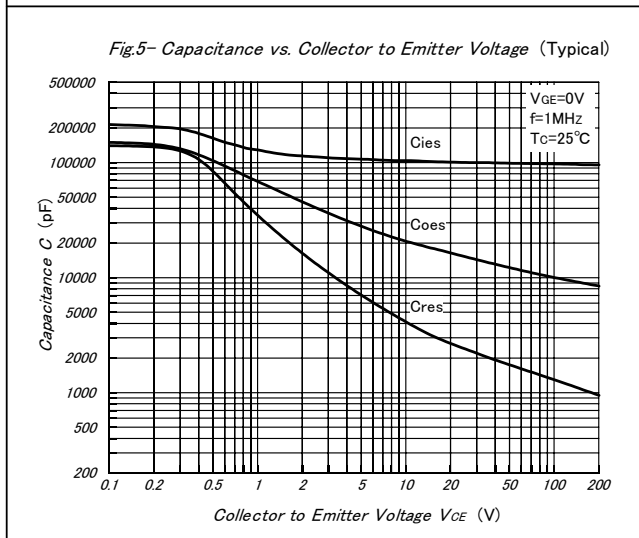
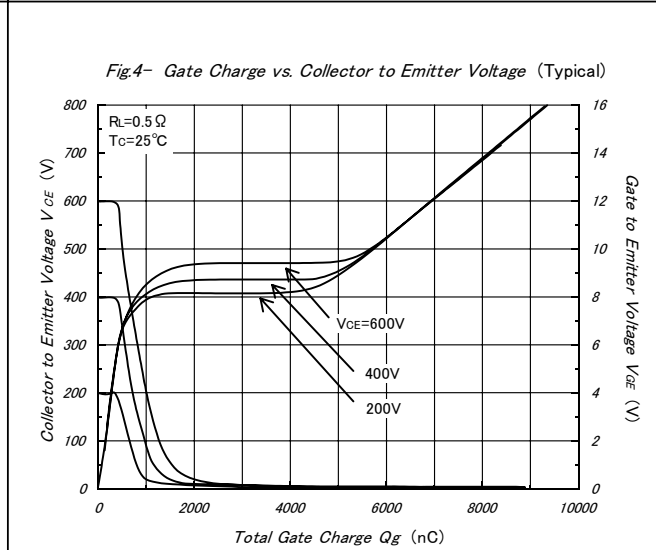
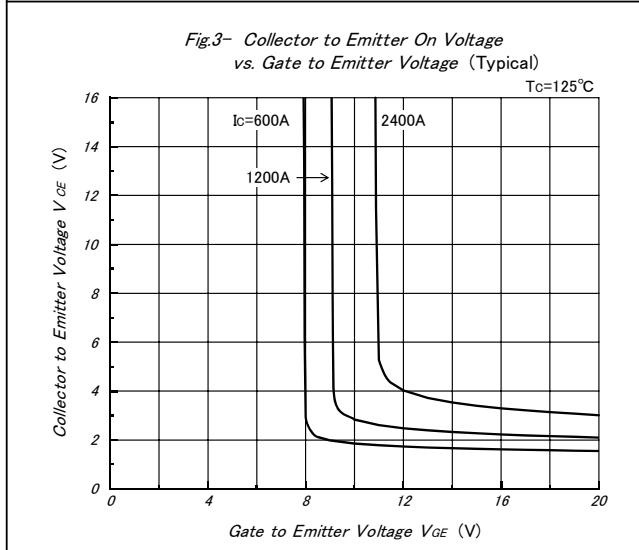
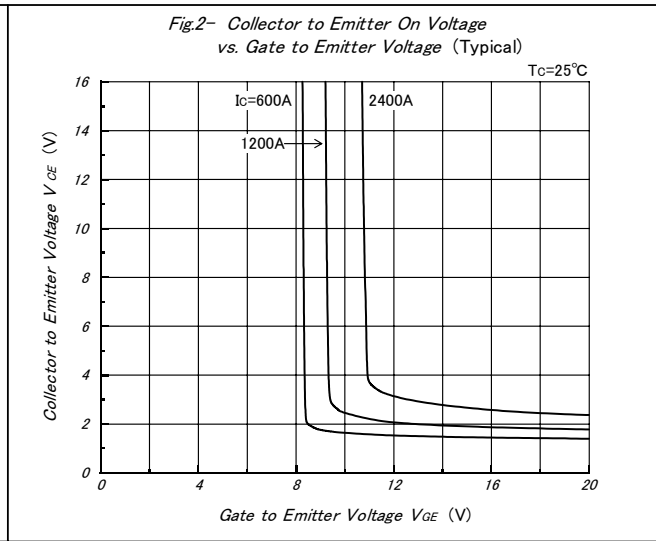
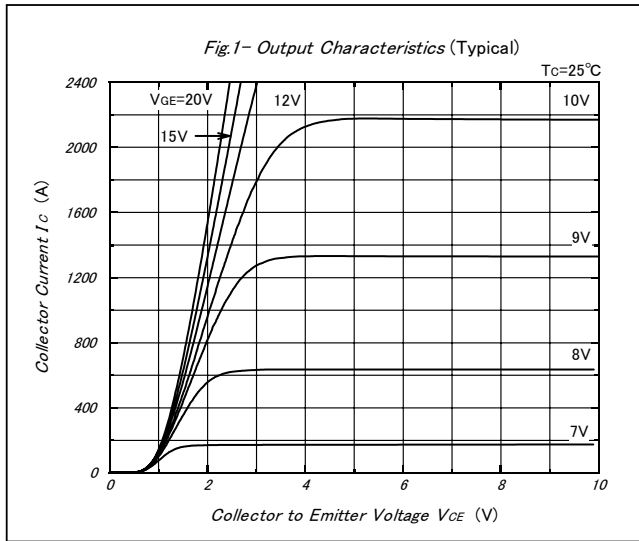


Fig.7- Series Gate Impedance vs. Switching Time (Typical)

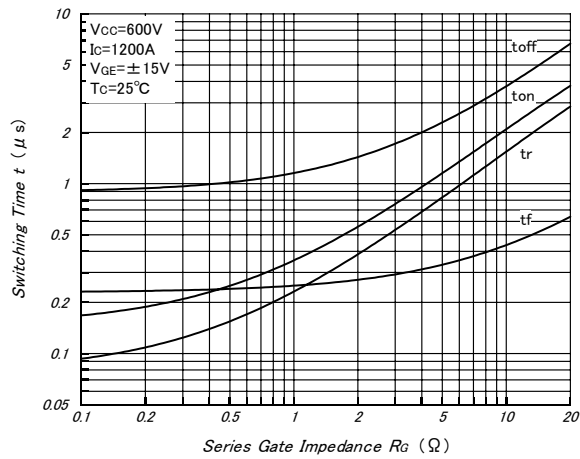


Fig.8- Forward Characteristics of Free Wheeling Diode (Typical)

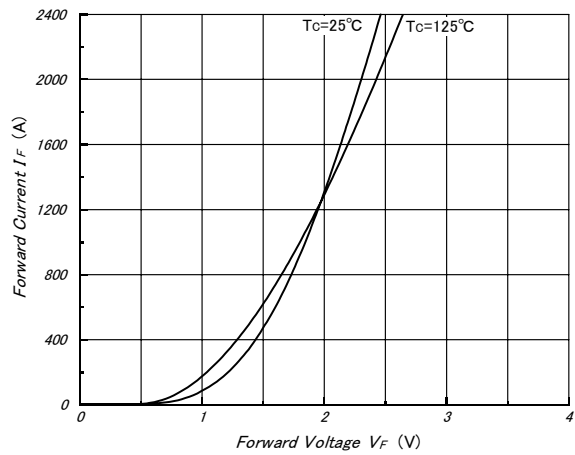


Fig.9- Reverse Recovery Characteristics (Typical)

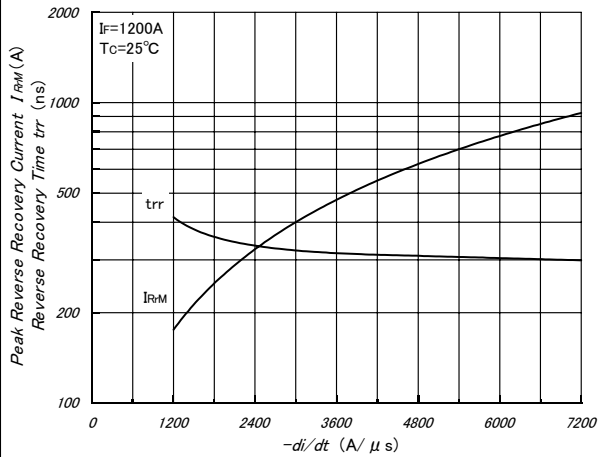


Fig.10- Reverse Bias Safe Operating Area

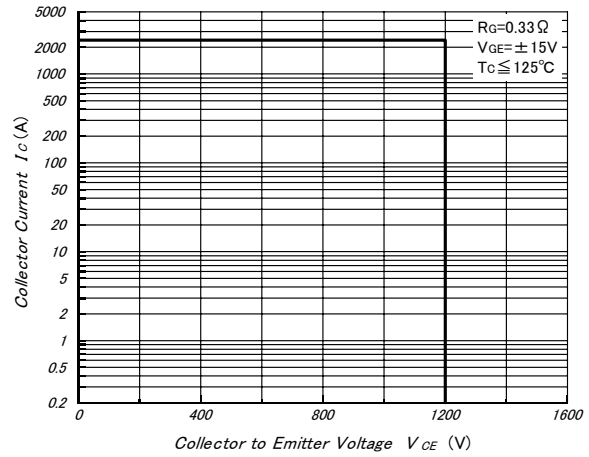


Fig.11- Transient Thermal Impedance

