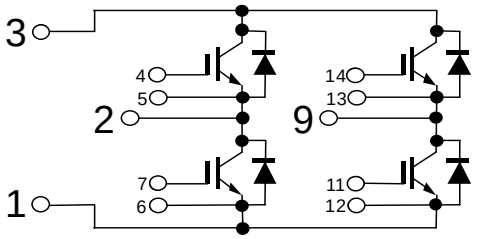
日本インター株式会社
Nihon Inter Electronics Corporation

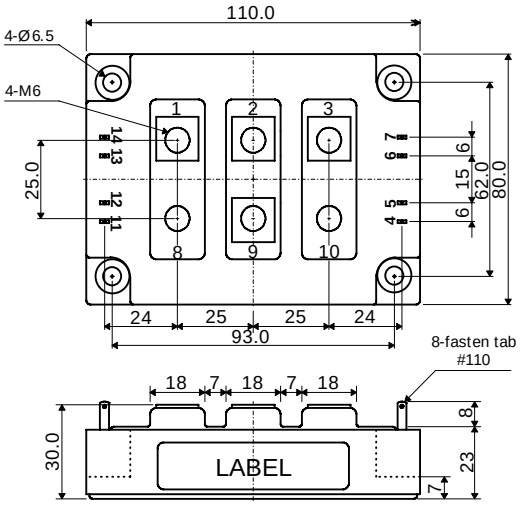
Full Bridge ＩＧＢＴ Module
200A／1200V

ＰＢＭＢ２００Ｂ１２

□ 回路図 : *CIRCUIT*



□ 外形寸法図 : *OUTLINE DRAWING*



Dimension: [mm]

□ 最大定格 : *MAXIMUM RATINGS* (at Tc=25℃ unless otherwise specified)

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	I_C	200	A
	1ms	I_{CP}	400	
コレクタ損失 Collector Power Dissipation		P_C	1，000	W
接合温度 Junction Temperature Range		T_j	−40～+150	℃
保存温度 Storage Temperature Range		T_{stg}	−40～+125	℃
絶縁耐圧 (Terminal to Base AC，1minute) Isolation Voltage		V_{ISO}	2，500	V(RMS)
締め付けトルク Mounting Torque	Module Base to Heatsink	F_{tor}	3（30.6）	N・m (kgf・cm)
	Busbar to Main Terminal			

□ 電気的特性 : *ELECTRICAL CHARACTERISTICS* (at Tj=25℃ unless otherwise specified)

Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
コレクタ遮断電流 Collector-Emitter Cut-Off Current		I_{CES}	V_{CE}= 1200V, V_{GE}= 0V	−	−	4.0	mA
ゲート漏れ電流 Gate-Emitter Leakage Current		I_{GES}	V_{GE}= ±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= 200A, 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= 200mA	4.0	−	8.0	V
入力容量 Input Capacitance		C_{ies}	V_{CE}= 10V, V_{GE}= 0V, f= 1MHz	−	16,600	−	pF
スイッチング時間 Switching Time	上昇時間 Rise Time	t_r	V_{CC}= 600V, R_L= 3.0Ω, R_G= 2Ω, V_{GE}= ±15V	−	0.25	0.45	μs
	ターンオン時間 Turn-on Time	t_{on}		−	0.40	0.70	
	下降時間 Fall Time	t_f		−	0.25	0.35	
	ターンオフ時間 Turn-off Time	t_{off}		−	0.80	1.10	

□ フリーホイーリングダイオードの特性 : *FREE WHEELING DIODE RATINGS* (at Tc=25℃) & *CHARACTERISTICS* (at Tj=25℃)

Item		Symbol	Rated Value	Unit
順電流 Forward Current	DC	I_F	200	A
	1ms	I_{FM}	400	

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
順電圧 Peak Forward Voltage	V_F	I_F= 200A, V_{GE}= 0V	−	1.9	2.4	V
逆回復時間 Reverse Recovery Time	t_{rr}	I_F= 200A, V_{GE}= −10V, di/dt= 400A/μs	−	0.2	0.3	μs

□ 熱的特性 : *THERMAL CHARACTERISTICS*

Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
熱抵抗 Thermal Impedance	IGBT	Rth(j-c)	Junction to Case	−	−	0.125	℃／W
	Diode			−	−	0.240	

Fig.1- Output Characteristics (Typical)

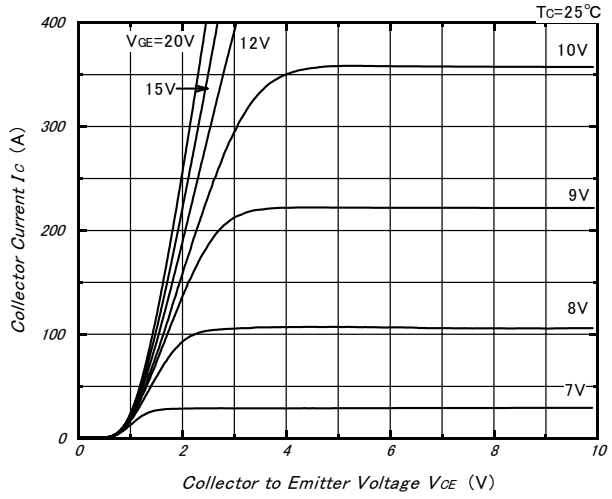


Fig.2- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

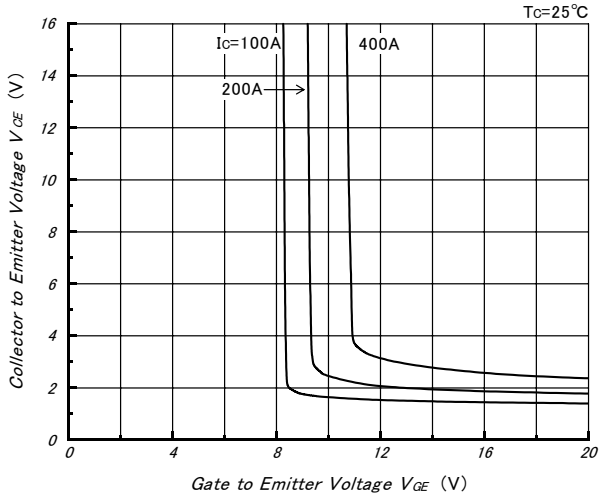


Fig.3- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

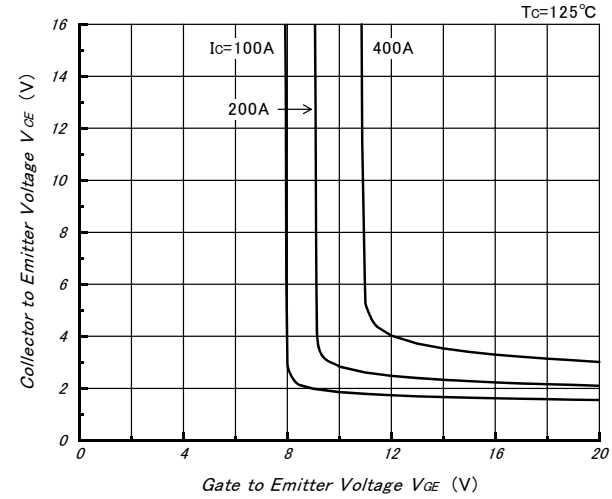


Fig.4- Gate Charge vs. Collector to Emitter Voltage (Typical)

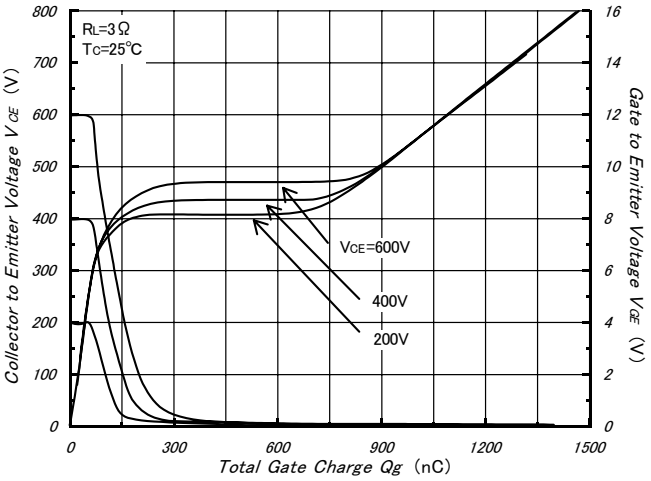


Fig.5- Capacitance vs. Collector to Emitter Voltage (Typical)

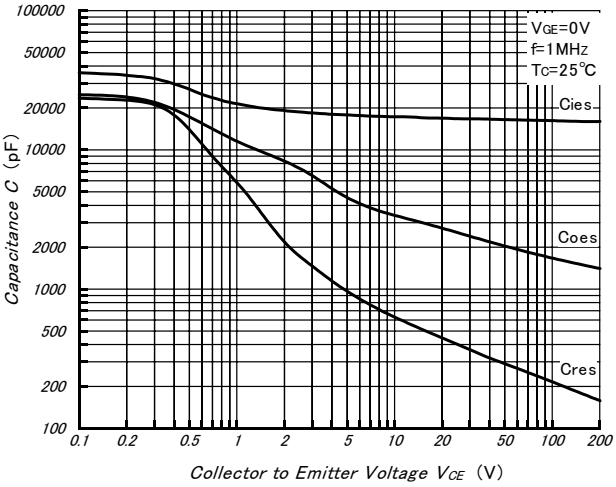


Fig.6- Collector Current vs. Switching Time (Typical)

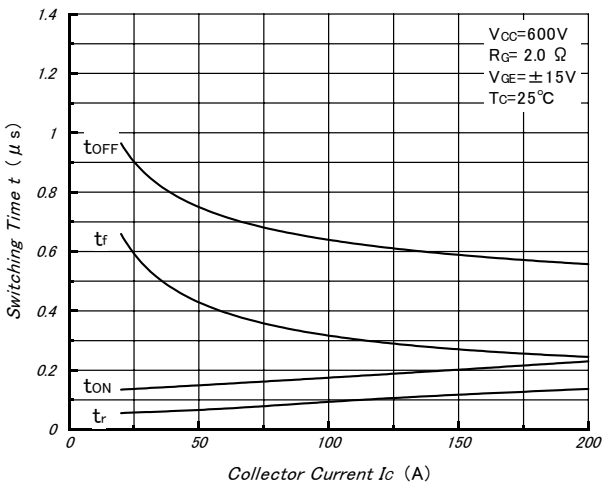


Fig.7- Series Gate Impedance vs. Switching Time (Typical)

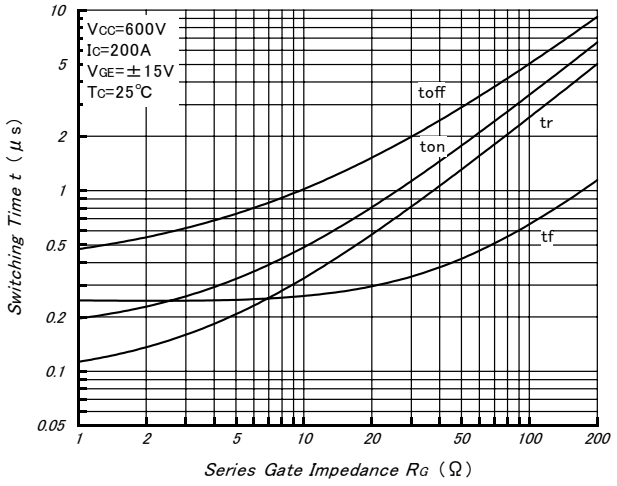


Fig.8- Forward Characteristics of Free Wheeling Diode (Typical)

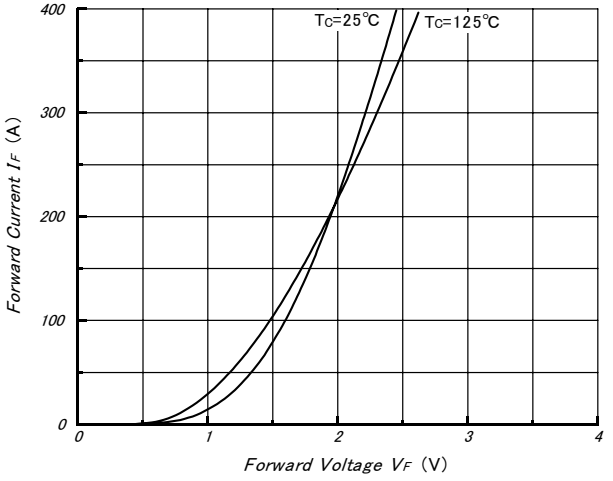


Fig.9- Reverse Recovery Characteristics (Typical)

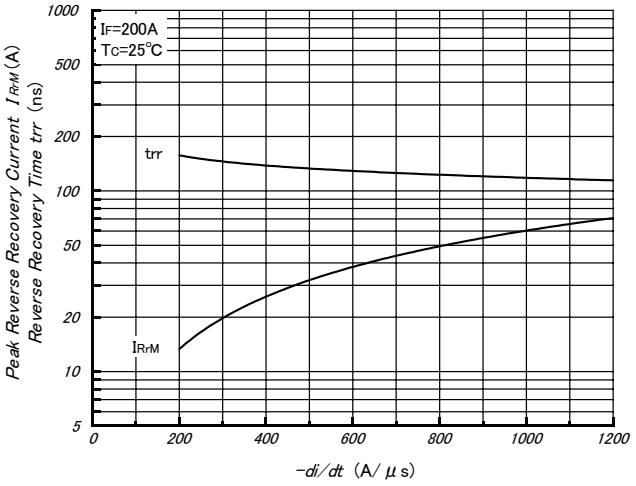


Fig.10- Reverse Bias Safe Operating Area

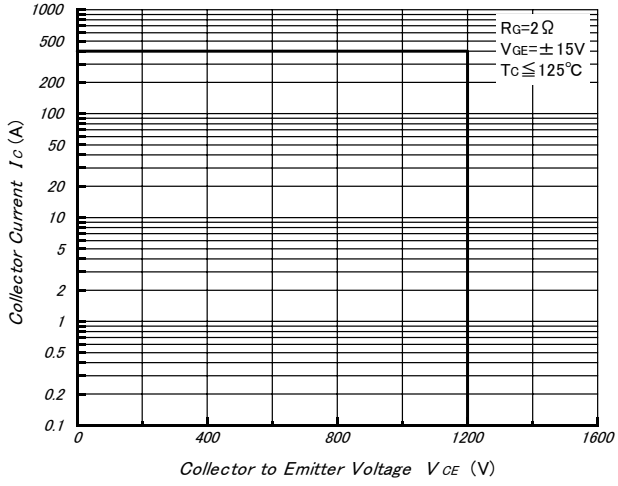


Fig.11- Transient Thermal Impedance

