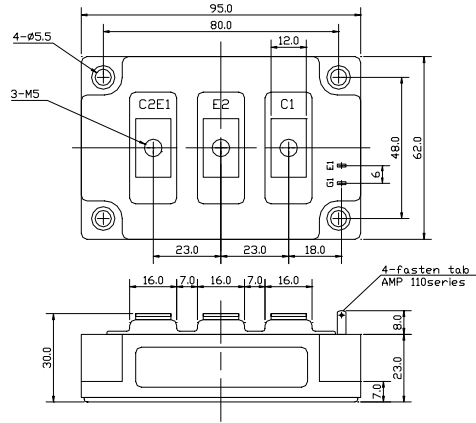
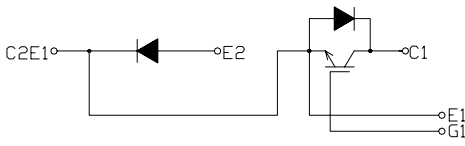


回路図 : **CIRCUIT**

外形寸法図 : **OUTLINE DRAWING**



Dimension: [mm]

最大定格 : MAXIMUM RATINGS ($T_c = 25$)

重量 : 430g

Item	Symbol	Rated Value		Unit
コレクタ・エミッタ間電圧 Collector-Emitter Voltage	V_{CES}	600		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	300	A
		1ms	600	
コレクタ損失 Collector Power Dissipation	P_c	1,040		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	F_{tor}	Module Base to Heatsink	PCHMB300A6 2 (20.4)	N · m (kgf · cm)
		Busbar to Main Terminal	PCHMB300A6C 3 (30.6)	

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 Collector-Emitter Cut-Off Current	I_{CES}	$V_{CE} = 600V, V_{GE} = 0V$	-	-	3.0	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	$V_{CE(sat)}$	$I_C = 300A, V_{GE} = 15V$	-	2.1	2.6	V
ゲートしきい値電圧 Gate-Emitter Threshold Voltage	$V_{GE(th)}$	$V_{CE} = 5V, I_C = 300mA$	4.0	-	8.0	V
入力容量 Input Capacitance	C_{ies}	$V_{CES} = 10V, V_{GE} = 0V, f = 1MHz$	-	30,000	-	pF
スイッチング時間 Switching Time	上昇時間 Rise Time	$V_{CC} = 300V$ $R_L = 1\Omega$ $R_G = 2.0\Omega$ $V_{GE} = \pm 15V$	-	0.20	0.40	μs
	ターンオン時間 Turn-on Time		-	0.40	0.75	
	下降時間 Fall Time		-	0.20	0.35	
	ターンオフ時間 Turn-off Time		-	0.60	0.80	

フリーホイーリングダイオードの特性 : FREE WHEELING DIODE RATINGS & CHARACTERISTICS ($T_c = 25$)

Item	Symbol	Rated Value		Unit
順電流 Forward Current		DC	300	A
		1ms	600	

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
順電圧 Peak Forward Voltage	V_F	$I_F = 300A, V_{GE} = 0V$	-	1.9	2.4	V
逆回復時間 Reverse Recovery Time	t_{rr}	$I_F = 300A, V_{GE} = -10V$ $di/dt = 300A/\mu s$	-	0.15	0.25	μs

熱的特性 : THERMAL CHARACTERISTICS

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
熱抵抗 Thermal Impedance	$R_{th(j-c)}$	IGBT	-	-	0.12	/W
		Diode	-	-	0.24	

PCHMB300A6A

Fig.1- Output Characteristics (Typical)

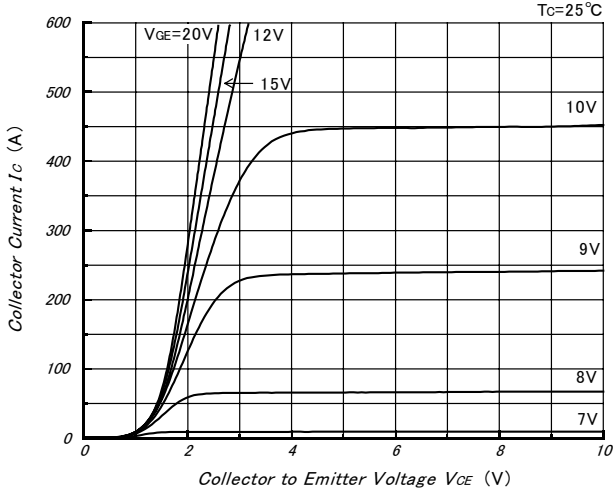


Fig.2- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

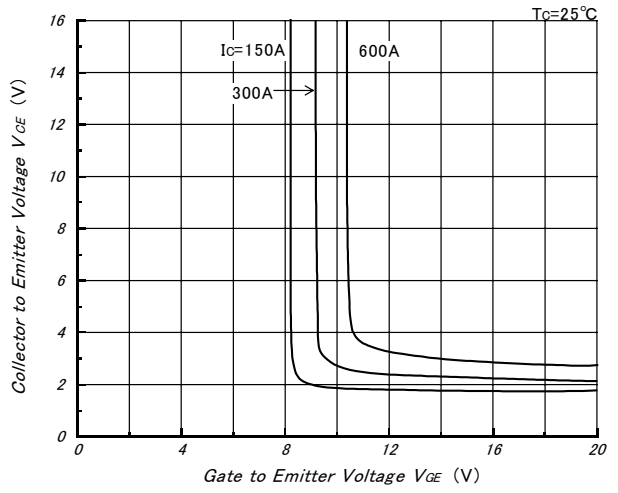


Fig.3- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

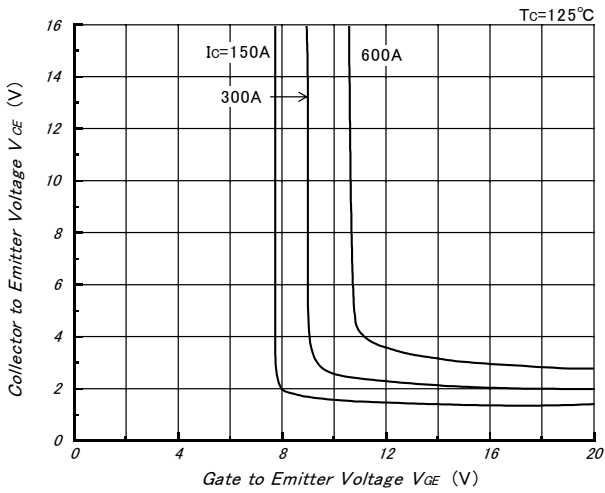


Fig.4- Gate Charge vs. Collector to Emitter Voltage (Typical)

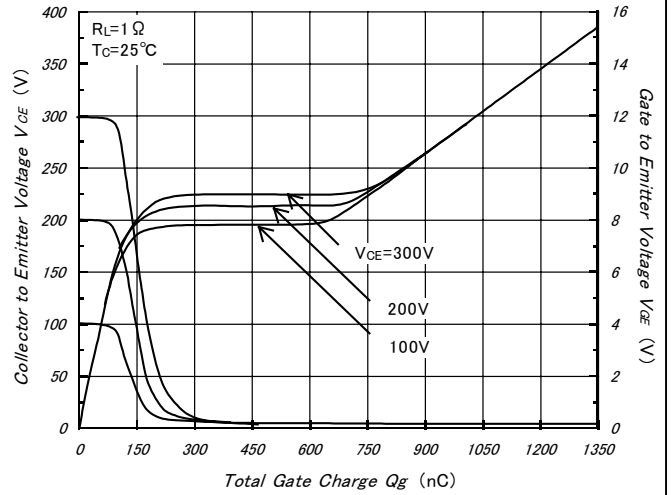


Fig.5- Capacitance vs. Collector to Emitter Voltage (Typical)

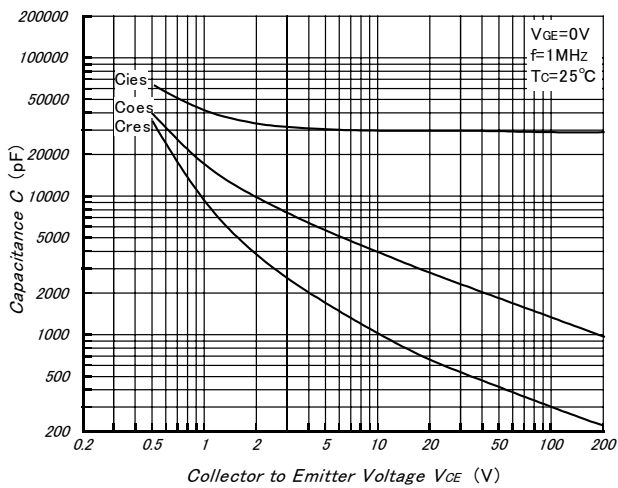
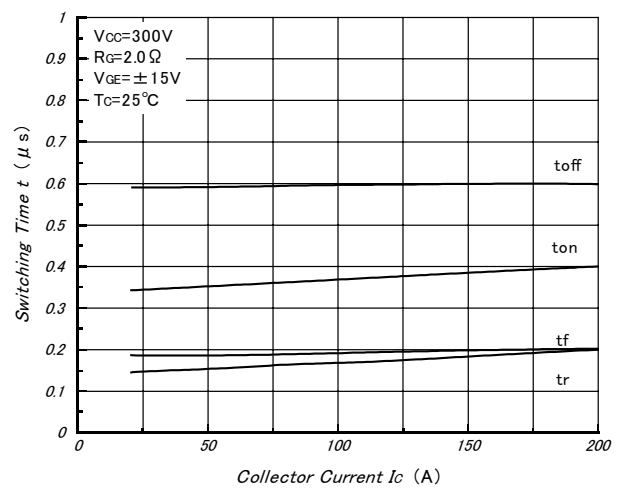


Fig.6- Collector Current vs. Switching Time (Typical)



PCHMB300A6A

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

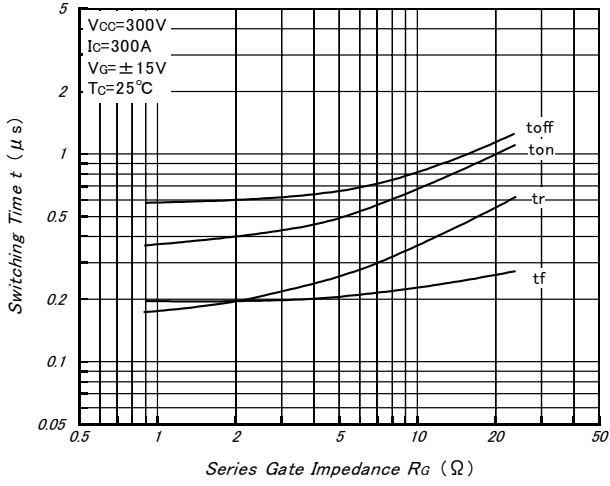


Fig.8- Forward Characteristics of Free Wheeling Diode (Typical)

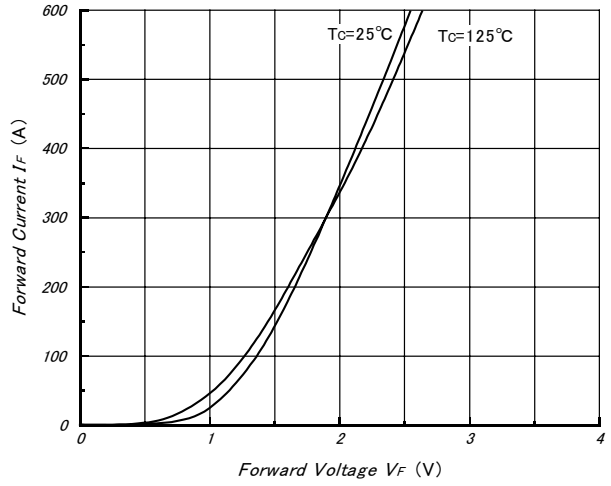


Fig.9- Reverse Recovery Characteristics (Typical)

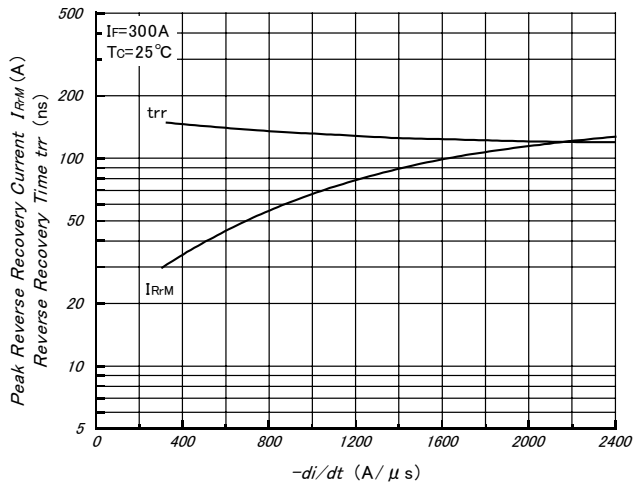


Fig.10- Reverse Bias Safe Operating Area (Typical)

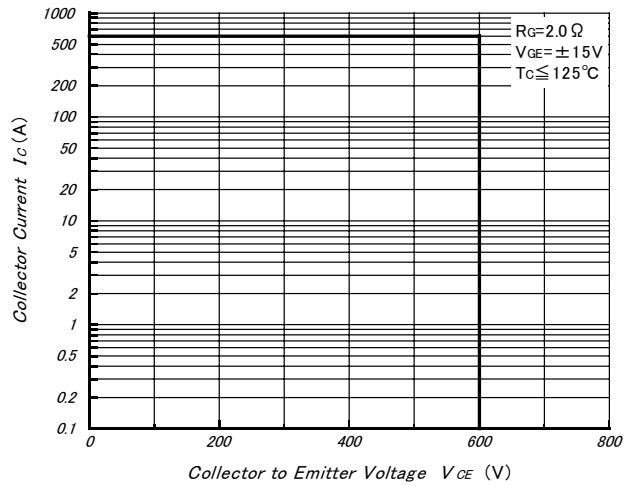


Fig.11- Transient Thermal Impedance

