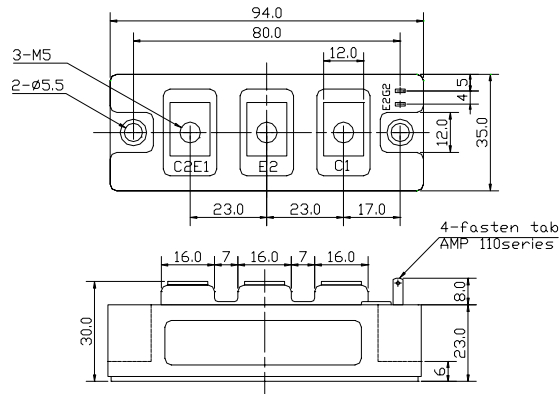
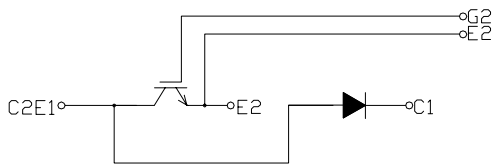


**CIRCUIT**

**OUTLINE DRAWING**



2 fasten- tab No 110

Dimension(mm)

**MAXMUM RATINGS (Tc=25°C)**

Approximate Weight : 220g

Item	Symbol	PRHMB100B12	Unit
Collector-Emmitter Voltage	$V_{CES}$	1200	V
Gate - Emmitter Voltage	$V_{GES}$	+/- 20	V
Collector Current	DC	$I_C$	A
	1 ms	$I_{CP}$	
Collector Power Dissipation	$P_C$	500	W
Junction Temperature Range	$T_j$	-40 to +150	°C
Storage Temperature Range	$T_{stg}$	-40 to +125	°C
Isolation Voltage Terminal to Base AC, 1 min.)	$V_{ISO}$	2500	V
Mounting Torque	Module Base to Heatsink	$F_{TOR}$	N•m
	Bus Bar to Main Terminals		

**ELECTRICAL CHARACTERISTICS (Tc=25°C)**

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Emmitter Cut-Off Current	$I_{CES}$	$V_{CE}=1200V, V_{GE}=0V$	-	-	2.0	mA
Gate-Emmitter Leakage Current	$I_{GES}$	$V_{GE}=\pm 20V, V_{CE}=0V$	-	-	1.0	μA
Collector-Emmitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100A, V_{GE}=15V$	-	1.9	2.4	V
Gate-Emmitter Threshold Voltage	$V_{GE(th)}$	$V_{CE}=5V, I_C=100mA$	4.0	-	8.0	V
Input Capacitance	$C_{ies}$	$V_{CE}=10V, V_{GE}=0V, f=1MHz$	-	8300	-	pF
Switching Time	Rise Time	$V_{CC}=600V$ $R_L=6\text{ ohm}$ $R_G=10\text{ ohm}$ $V_{GE}=\pm 15V$	-	0.25	0.45	μs
	Turn-on Time		-	0.40	0.70	
	Fall Time		-	0.25	0.35	
	Turn-off Time		-	0.80	1.10	

**FREE WHEELING DIODES RATINGS & CHARACTERISTICS (Tc=25°C)**

Item	Symbol	Rated Value	Unit
Forward Current	DC	$I_F$	A
	1 ms	$I_{FM}$	

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Peak Forward Voltage	$V_F$	$I_F=100A, V_{GE}=0V$	-	1.9	2.4	V
Reverse Recovery Time	$t_{rr}$	$I_F=100A, V_{CE}=-10V, di/dt=200A/\mu s$	-	0.2	0.3	μs

**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Thermal Impedance	IGBT	Junction to Case	-	-	0.24	°C/W
	DIODE		-	-	0.42	

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Fig.1- Output Characteristics (Typical)

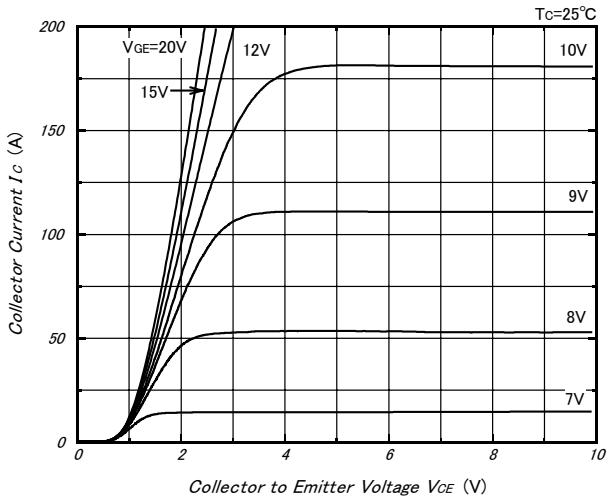


Fig.2- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

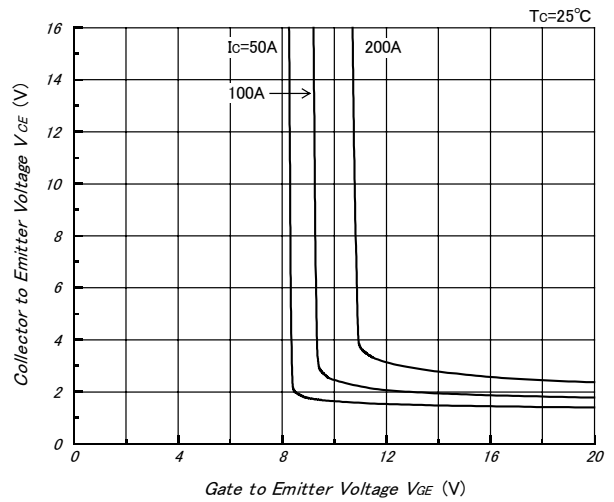


Fig.3- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

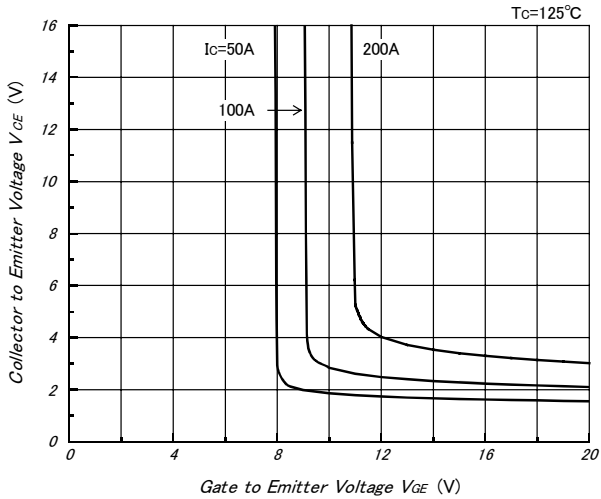


Fig.4- Gate Charge vs. Collector to Emitter Voltage (Typical)

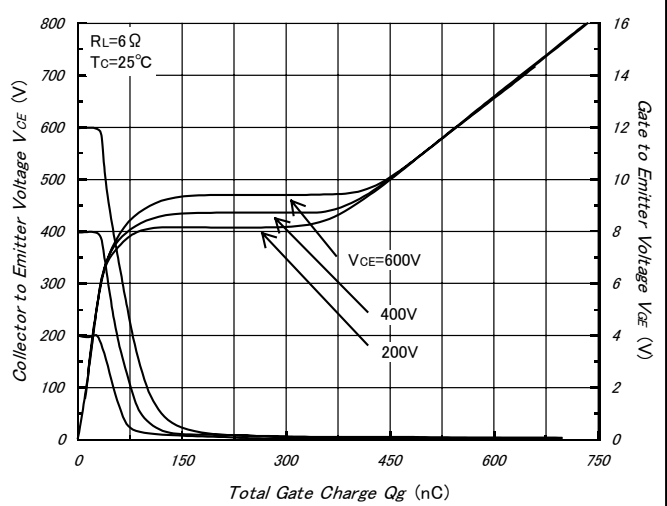


Fig.5- Capacitance vs. Collector to Emitter Voltage (Typical)

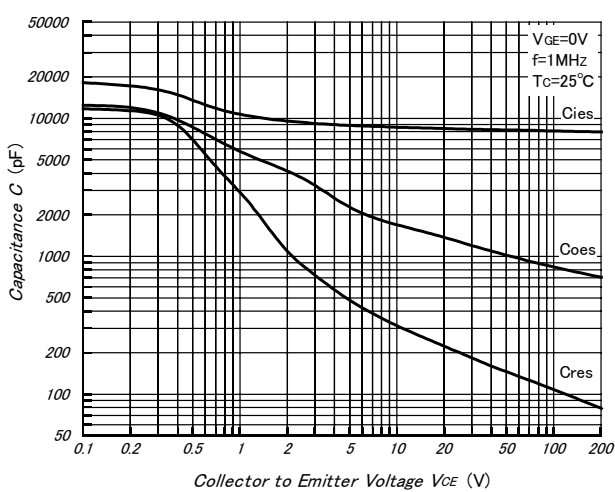
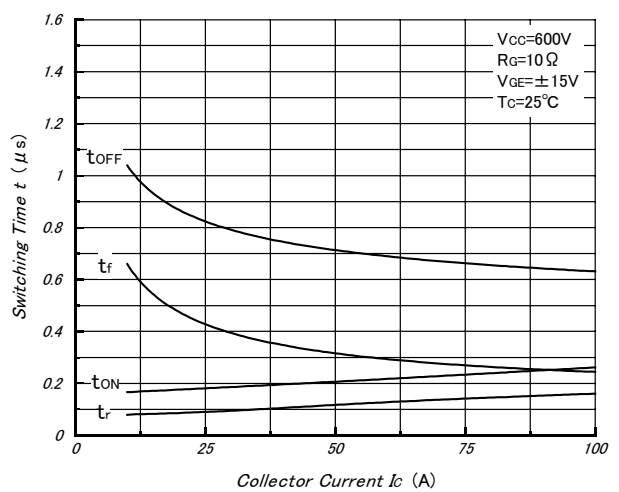


Fig.6- Collector Current vs. Switching Time (Typical)



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

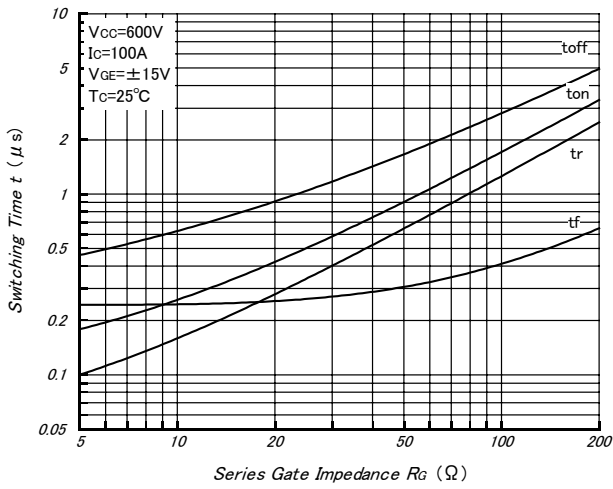


Fig.8- Forward Characteristics of Free Wheeling Diode (Typical)

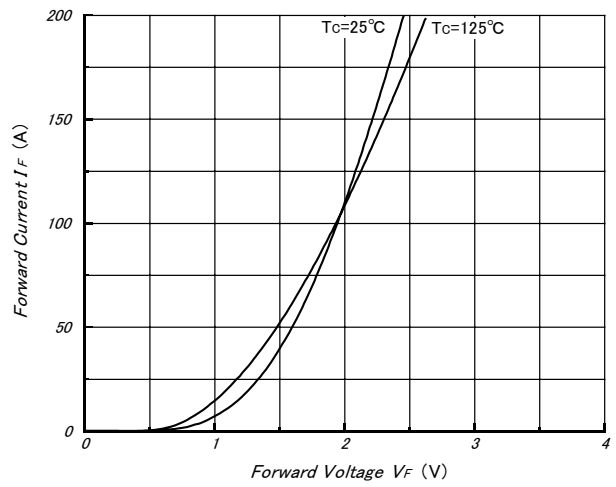


Fig.9- Reverse Recovery Characteristics (Typical)

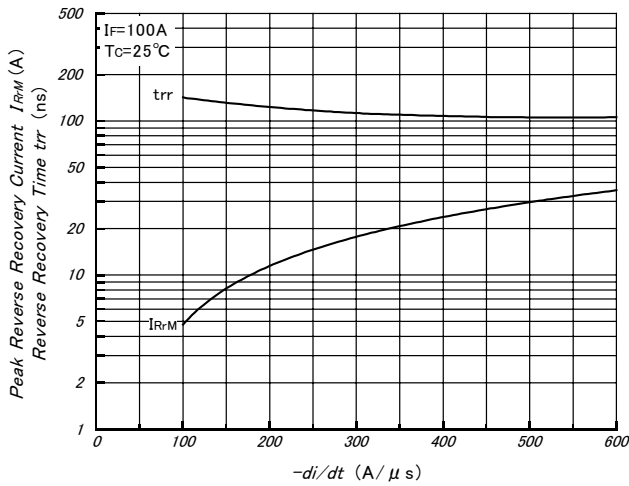


Fig.10- Reverse Bias Safe Operating Area (Typical)

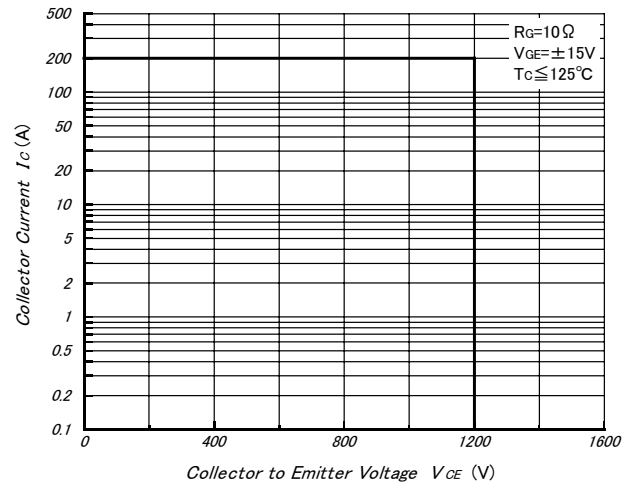


Fig.11- Transient Thermal Impedance

