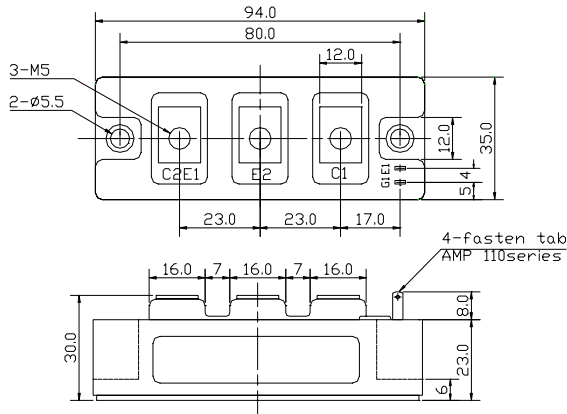
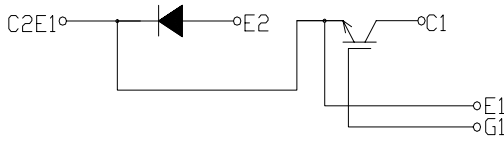


CIRCUIT

OUTLINE DRAWING



2 -fasten- tab No 110

Dimension(mm)

MAXIMUM RATINGS (Tc=25°C)

Approximate Weight : 220g

Item	Symbol	PCHMB100B12	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} =+/- 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	t _r	-	0.25	0.45	µs
	Turn-on Time	t _{on}	-	0.40	0.70	
	Fall Time	t _f	-	0.25	0.35	
	Turn-off Time	t _{off}	-	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/µs	-	0.2	0.3	µs

THERMAL CHARACTERISTICS

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Thermal Impedance	IGBT	R _{th(j-c)}	-	-	0.24	°C/W
	DIODE		-	-	0.42	

PCHMB100B12

Fig.1- Output Characteristics (Typical)

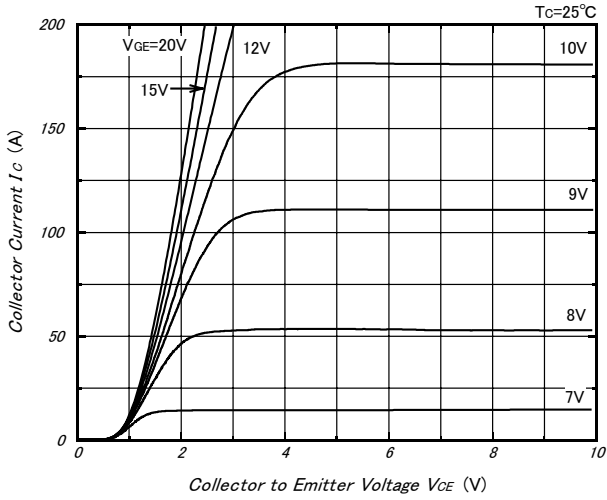


Fig.2- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

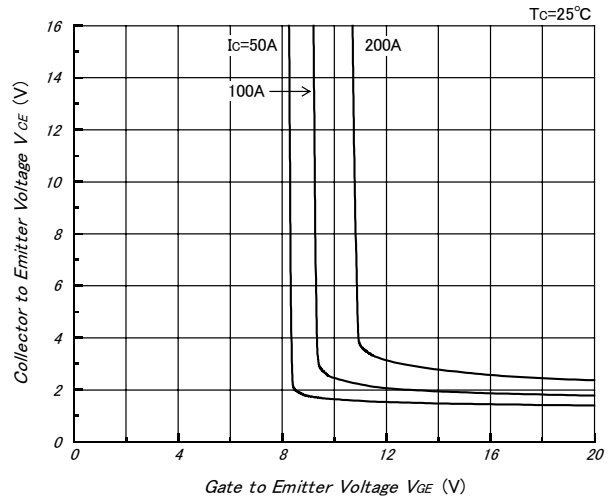


Fig.3- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

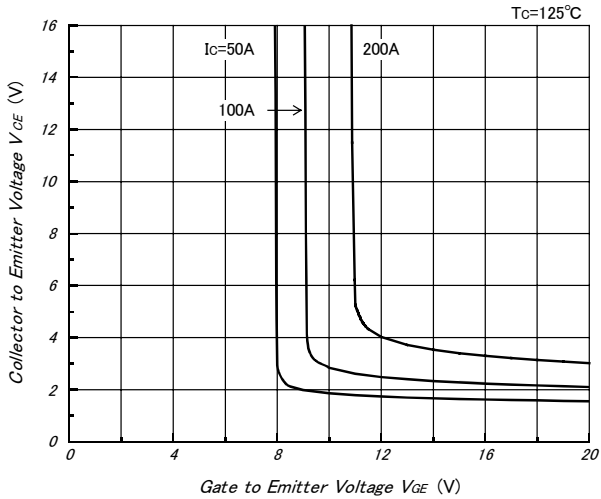


Fig.4- Gate Charge vs. Collector to Emitter Voltage (Typical)

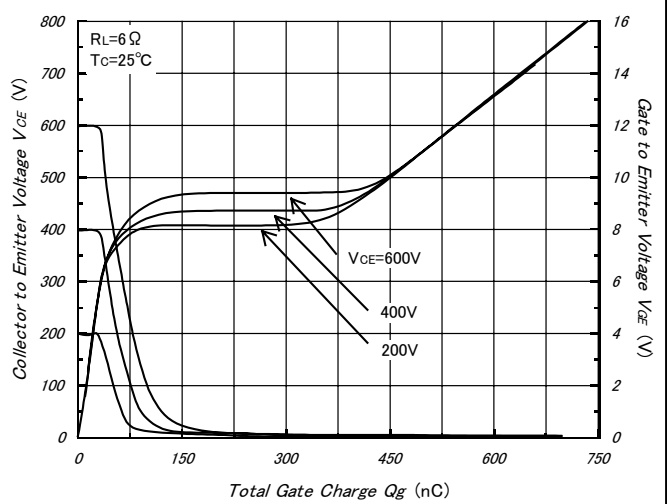


Fig.5- Capacitance vs. Collector to Emitter Voltage (Typical)

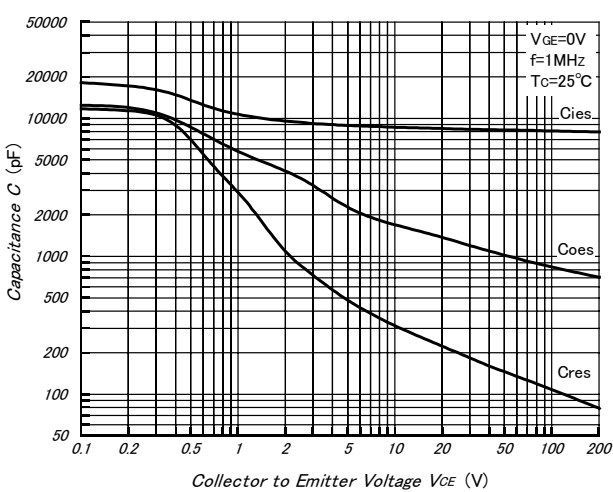
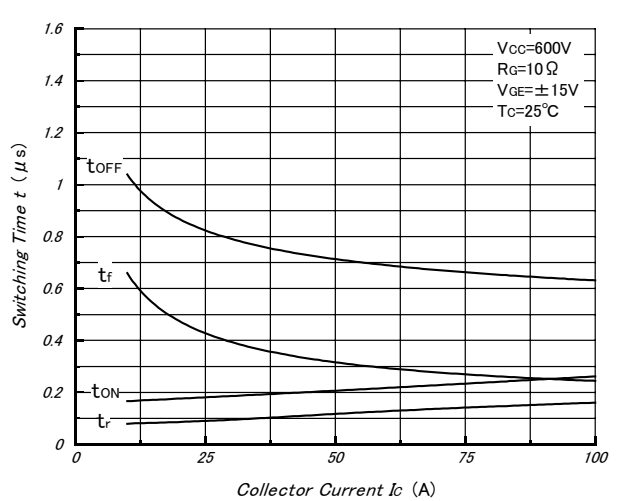


Fig.6- Collector Current vs. Switching Time (Typical)



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

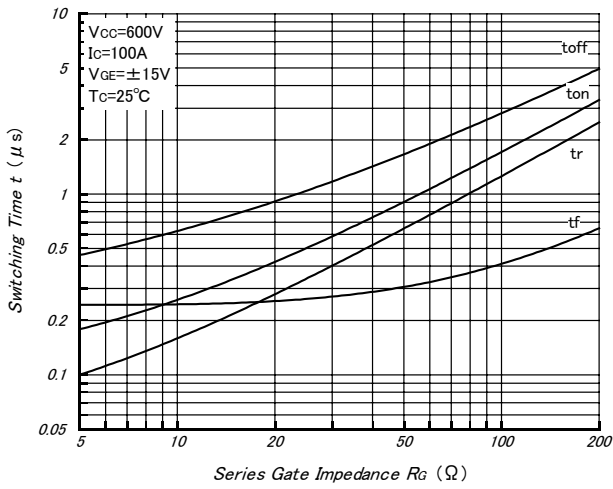


Fig.8- Forward Characteristics of Free Wheeling Diode (Typical)

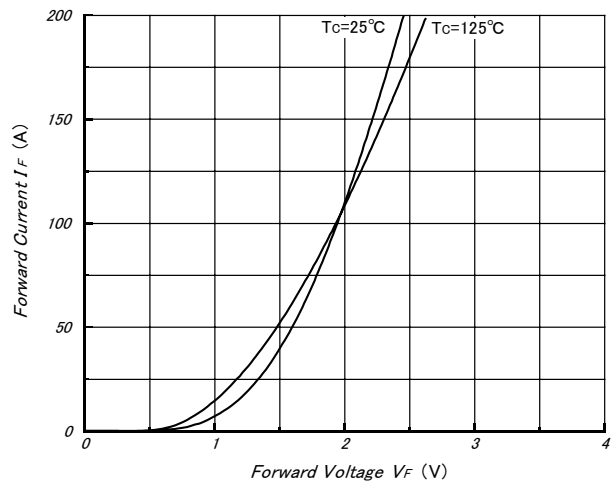


Fig.9- Reverse Recovery Characteristics (Typical)

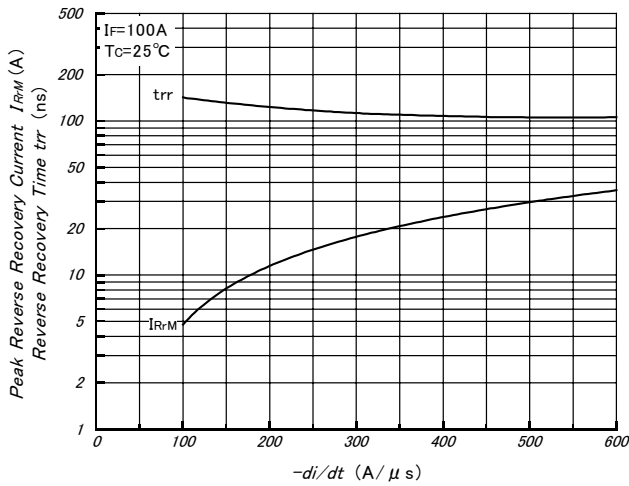


Fig.10- Reverse Bias Safe Operating Area (Typical)

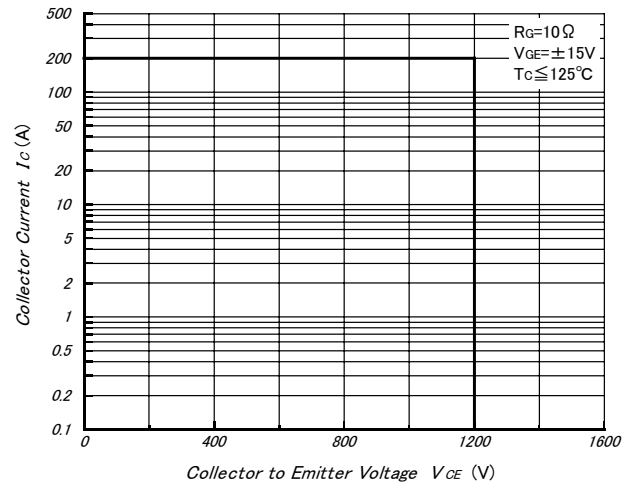


Fig.11- Transient Thermal Impedance

