

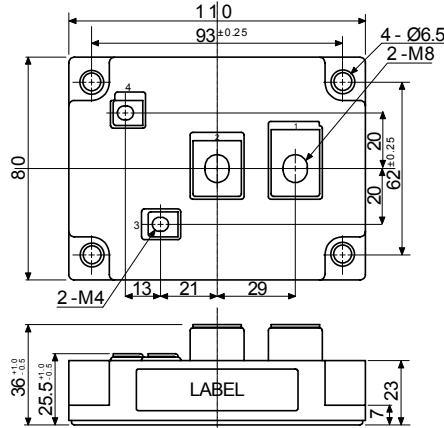
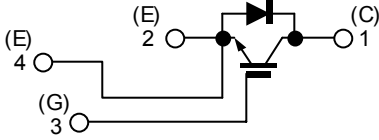
IGBT Module-Dual

800 A, 1200V

PHMB800BS12

□ 回路図 : CIRCUIT

□ 外形寸法図 : OUTLINE DRAWING



Dimension: [mm]

□ 最大定格 : MAXIMUM RATINGS (T_c = 25°C)

Item	Symbol	Rated Value	Unit
コレクタ・エミッタ間電圧 Collector-Emmitter Voltage	V _{CEs}	1, 200	V
ゲート・エミッタ間電圧 Gate-Emmitter Voltage	V _{GEs}	±20	V
コレクタ電流 Collector Current	DC	I _C = 800	A
	1ms	I _{CP} = 1, 600	
コレクタ損失 Collector Power Dissipation	P _C	4, 800	W
接合温度 Junction Temperature Range	T _j	-40~+150	°C
保存温度 Storage Temperature Range	T _{stg}	-40~+125	°C
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 Busbar to Terminals	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°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
コレクタ遮断電流 Collector-Emmitter Cut-Off Current	I _{CEs}	V _{CE} = 1200V, V _{GE} = 0V	-	-	8.0	mA	
ゲート漏れ電流 Gate-Emmitter 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-Emmitter Saturation Voltage	V _{CE(sat)}	I _C = 800A, V _{GE} = 15V	-	2.3	2.7	V	
ゲートしきい値電圧 Gate-Emmitter Threshold Voltage	V _{GE(th)}	V _{CE} = 5V, I _C = 800mA	4.0	-	8.0	V	
入力容量 Input Capacitance	C _{ies}	V _{CE} = 10V, V _{GE} = 0V, f = 1MHz	-	50,400	-	pF	
スイッチング時間 Switching Time	上昇時間 Rise Time	t _r	V _{CC} = 600V R _L = 0.75Ω R _G = 2.0Ω 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 & CHARACTERISTICS (T_c = 25°C)

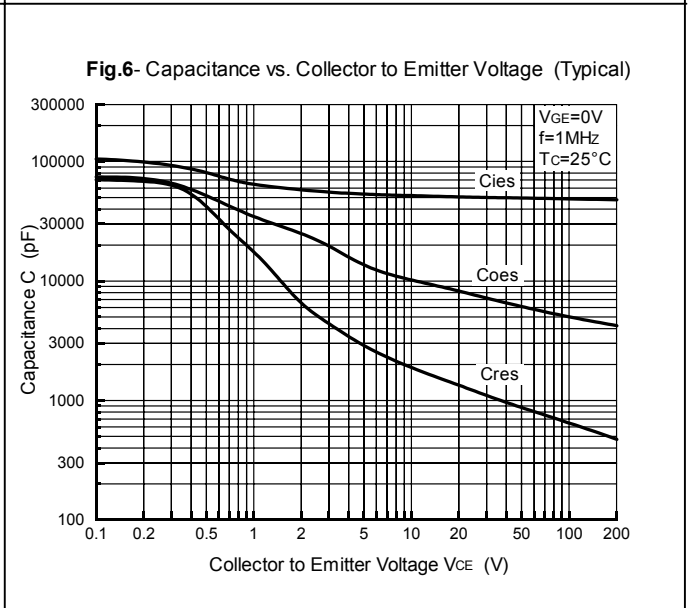
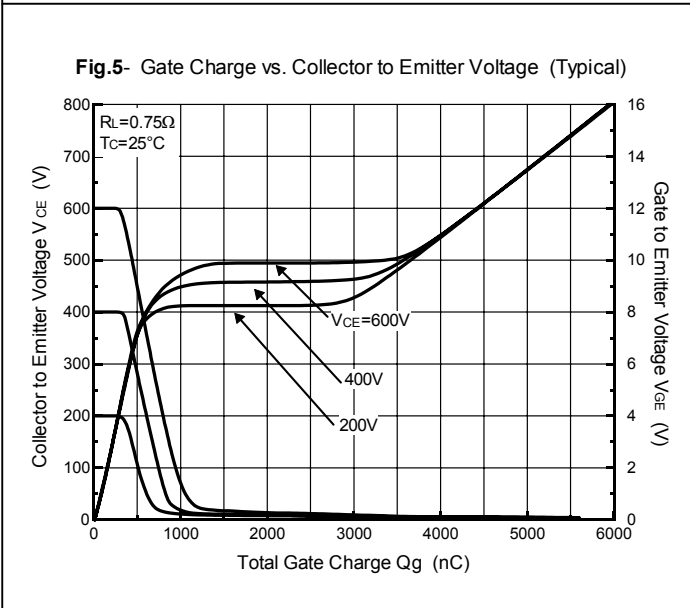
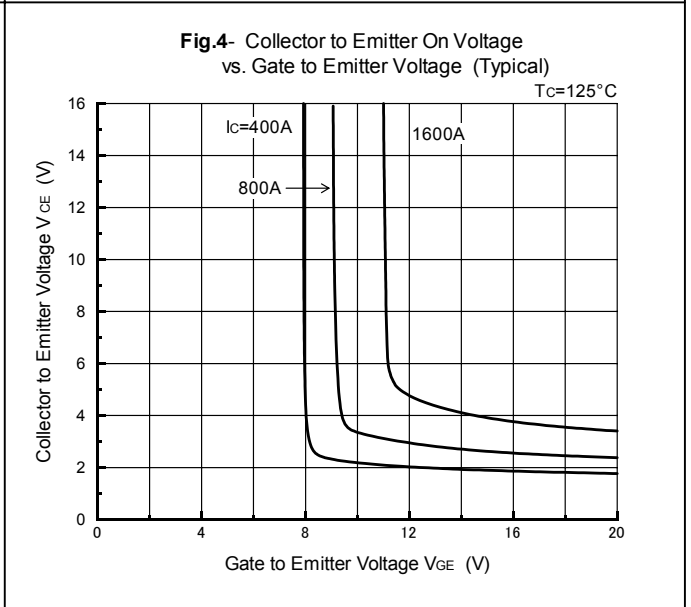
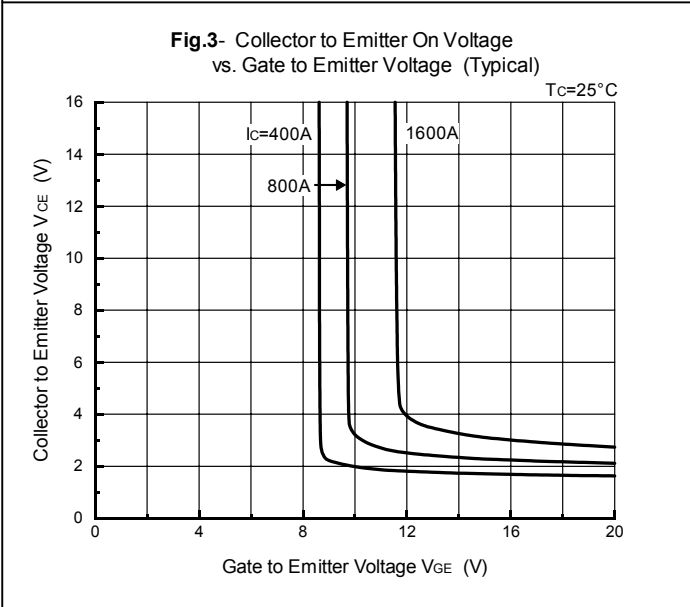
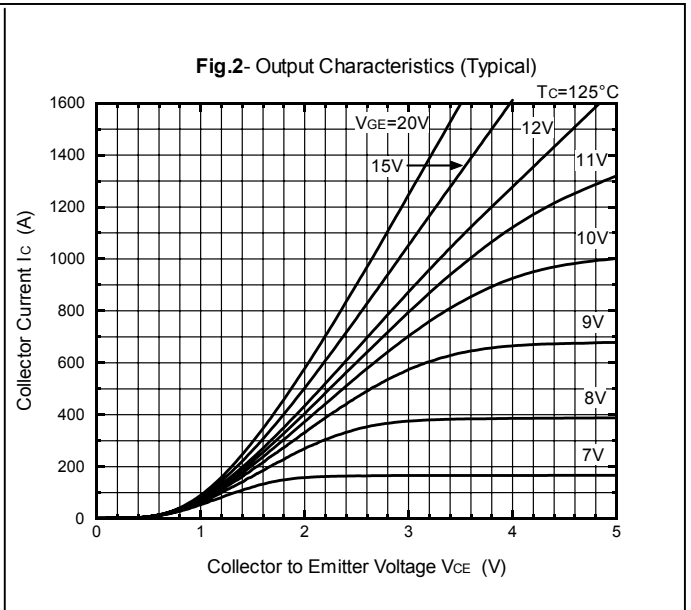
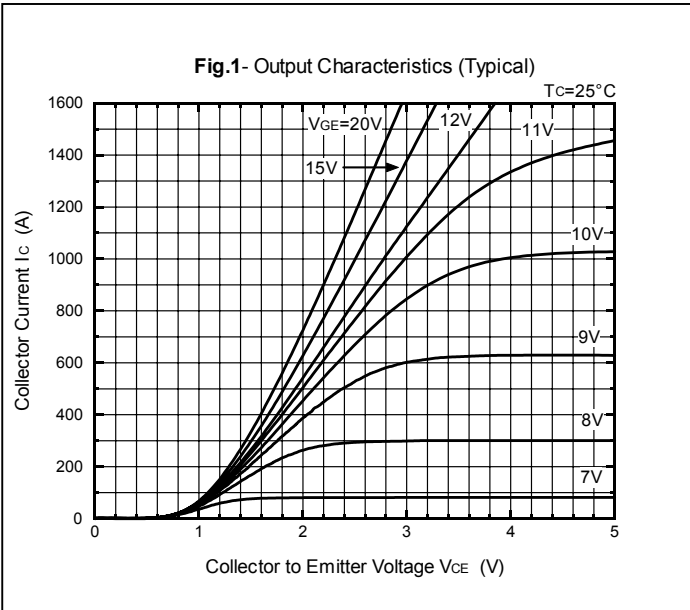
Item	Symbol	Rated Value	Unit
順電流 Forward Current	DC	I _F = 800	A
	1ms	I _{FM} = 1, 600	

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
順電圧 Peak Forward Voltage	V _F	I _F = 800A, V _{GE} = 0V	-	2.2	2.6	V
逆回復時間 Reverse Recovery Time	t _{rr}	I _F = 800A, V _{GE} = -10V di/dt = 1600A/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	R _{th(j-c)}	-	-	0.040	°C/W
	Diode		-	-	0.540	

PHMB 800BS12



PHMB800BS12

Fig.7- Collector Current vs. Switching Time (Typical)

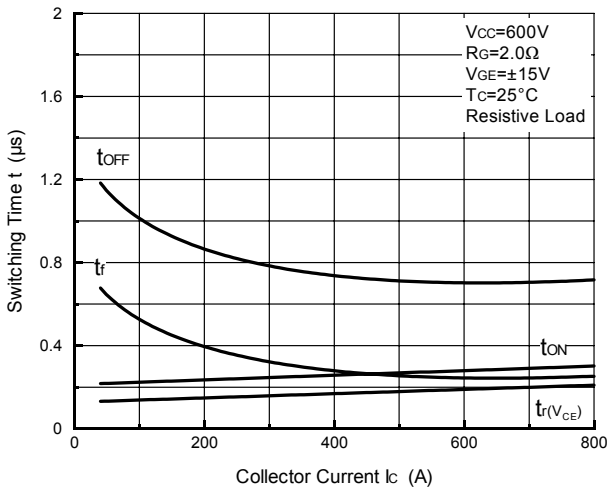


Fig.8- Series Gate Impedance vs. Switching Time (Typical)

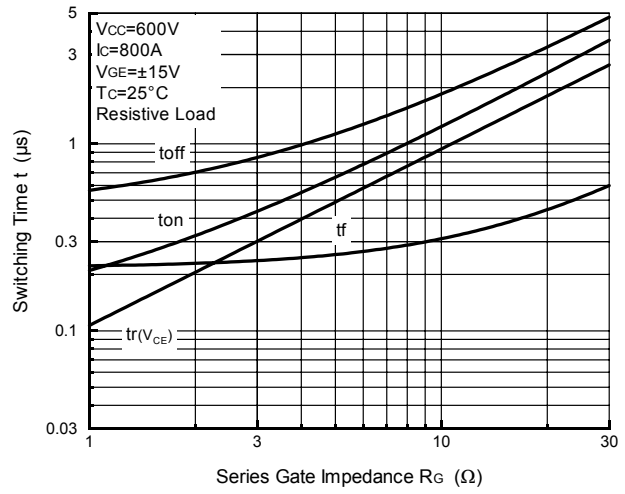


Fig.9- Collector Current vs. Switching Time

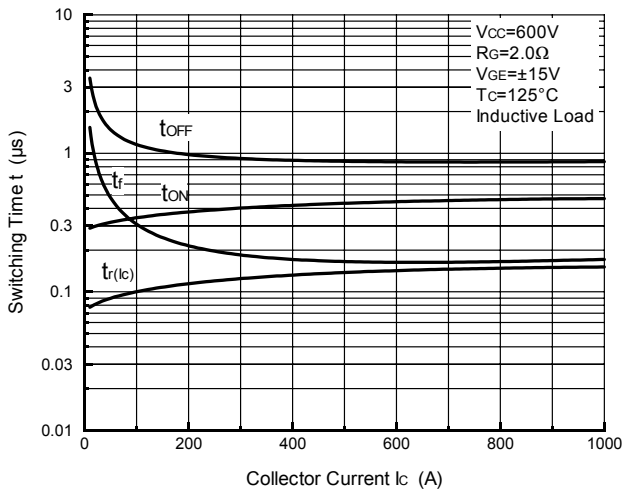


Fig.10- Series Gate Impedance vs. Switching Time

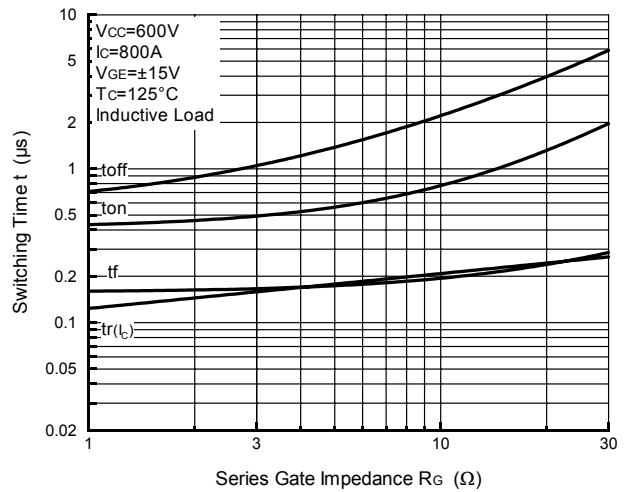


Fig.11- Collector Current vs. Switching Loss

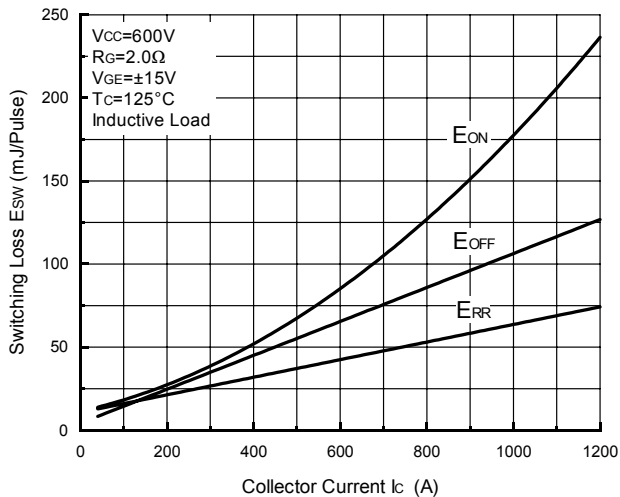
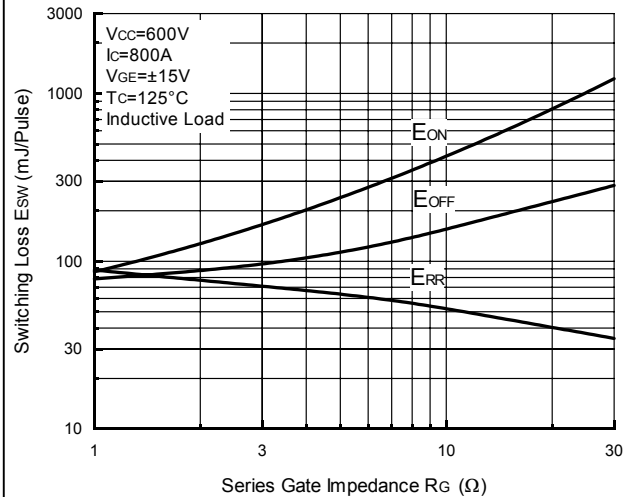


Fig.12- Series Gate Impedance vs. Switching Loss



PHMB800BS12

Fig.13- Forward Characteristics of Free Wheeling Diode (Typical)

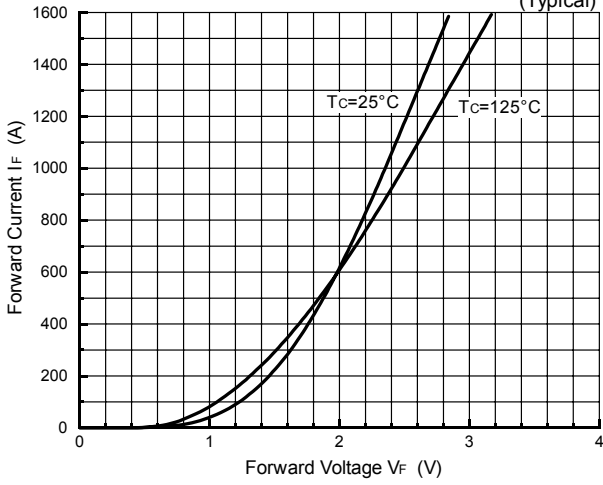


Fig.14- Reverse Recovery Characteristics (Typical)

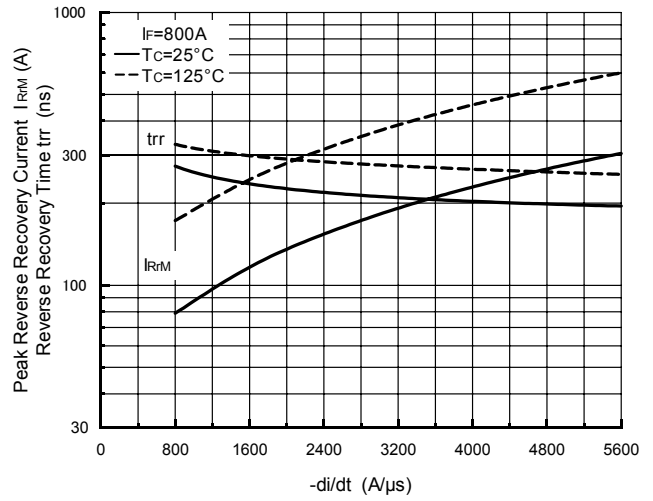


Fig.15- Reverse Bias Safe Operating Area

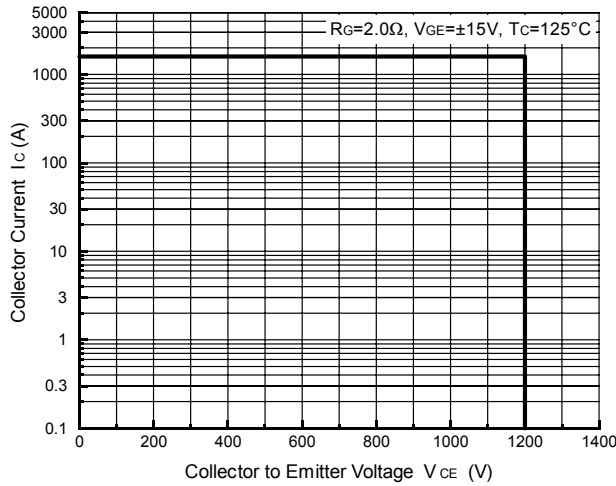


Fig.16- Transient Thermal Impedance

