

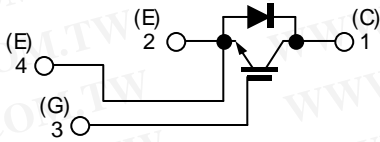
IGBT Module-Single

600 A, 1200V

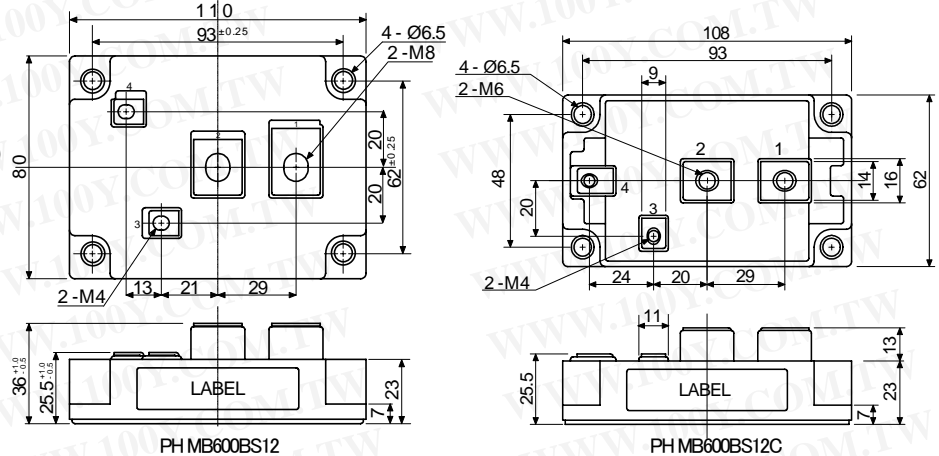
PHMB600BS12

PHMB600BS12C

回路図 : CIRCUIT



外形寸法図 : OUTLINE DRAWING



Dimension: [mm]

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-34970699
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

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-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	I _C	DC	600			
		1ms	1,200			
コレクタ損失 Collector Power Dissipation	P _C	3,600	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	F _{tor}	PHMB600BS12	3 (30.6)	PHMB600BS12C	3 (30.6)	N·m (kgf·cm)
			M4 1.4 (14.3)		M4 1.4 (14.3)	
			M8 1.05 (10.7)		M6 3 (30.6)	

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-Emitter Cut-Off Current	I _{CEs}	V _{CE} = 1200V, V _{GE} = 0V	-	-	6.0	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 = 600A, V _{GE} = 15V	-	2.3	2.7	V
ゲートしきい値電圧 Gate-Emitter Threshold Voltage	V _{GE(th)}	V _{CE} = 5V, I _C = 600mA	4.0	-	8.0	V
入力容量 Input Capacitance	C _{ies}	V _{CE} = 10V, V _{GE} = 0V, f = 1MHz	-	37,800	-	pF
スイッチング時間 Switching Time	上昇時間 Rise Time	V _{CC} = 600V R _L = 1.0Ω R _G = 2.7Ω V _{GE} = ±15V	-	0.25	0.45	μs
	ターンオン時間 Turn-on Time		-	0.40	0.70	
	下降時間 Fall Time		-	0.25	0.35	
	ターンオフ時間 Turn-off Time		-	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	I _F	DC	600
		1ms	1,200

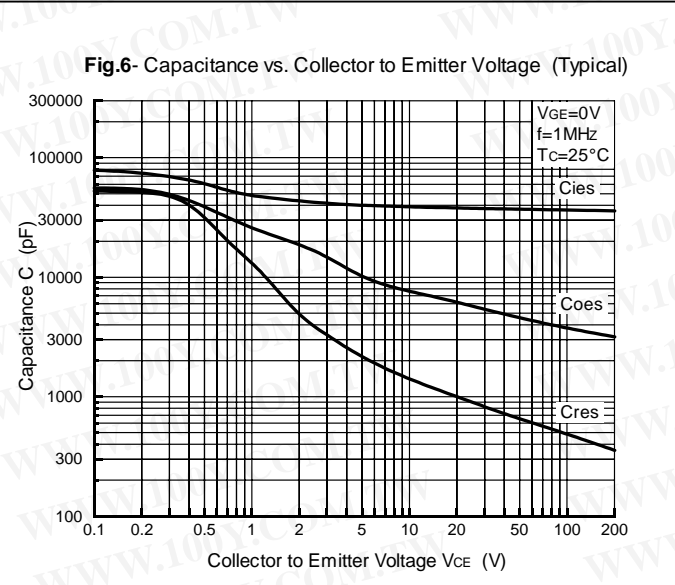
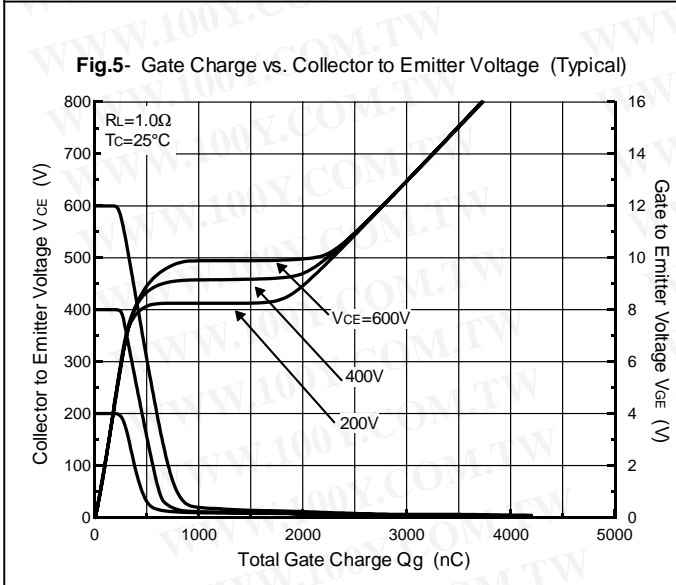
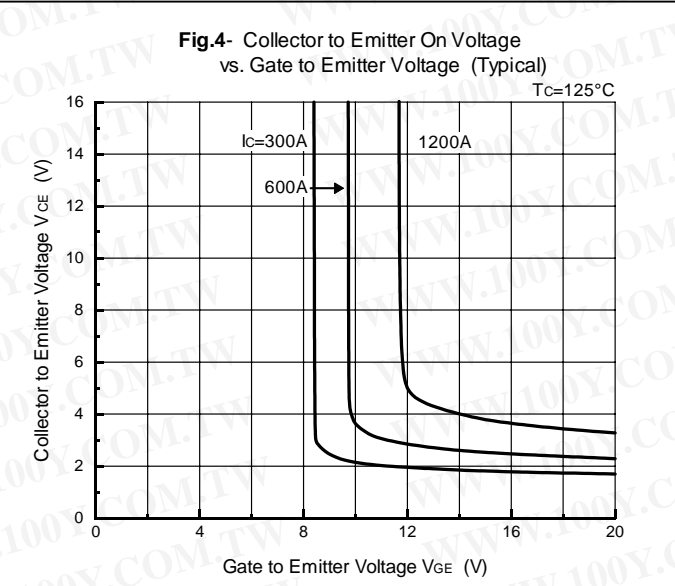
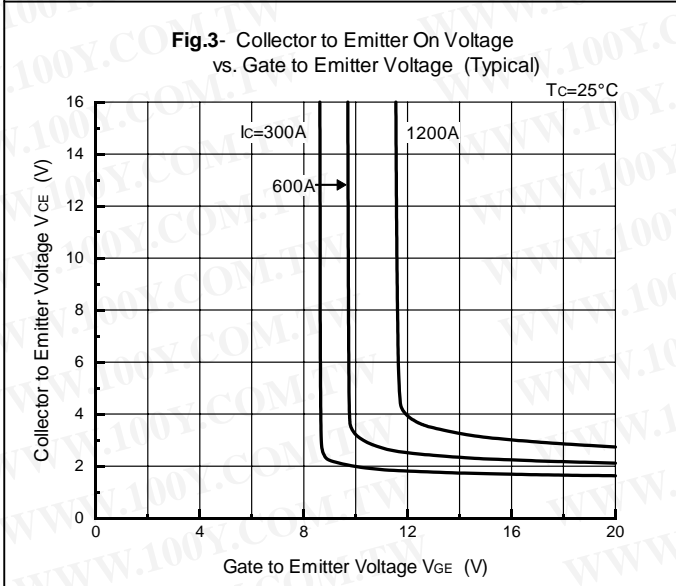
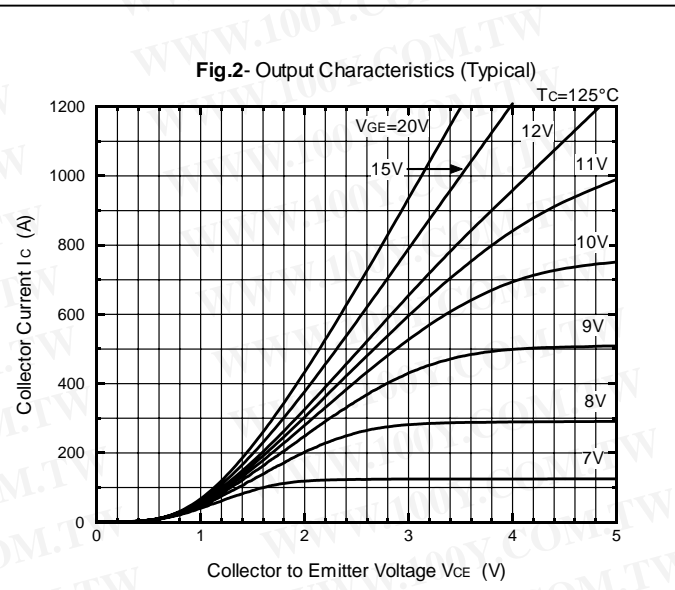
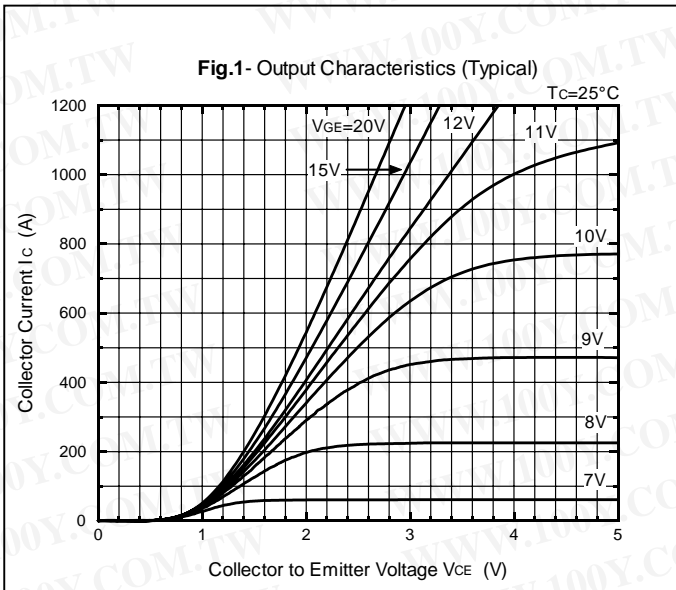
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
順電圧 Peak Forward Voltage	V _F	I _F = 600A, V _{GE} = 0V	-	2.2	2.6	V
逆回復時間 Reverse Recovery Time	t _{rr}	I _F = 600A, V _{GE} = -10V di/dt = 1200A/μs	-	0.2	0.3	μs

熱的特性 : THERMAL CHARACTERISTICS

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
熱抵抗 Thermal Impedance	R _{th(j-c)}	IGBT	-	-	0.035	°C/W
		Diode	-	-	0.071	

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

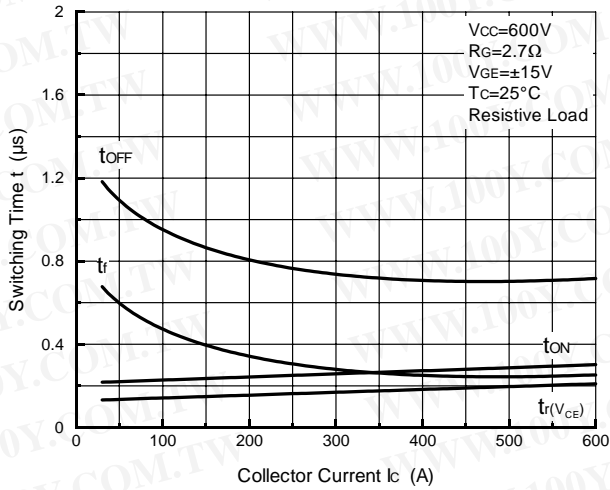


Fig.8- Series Gate Impedance vs. Switching Time (Typical)

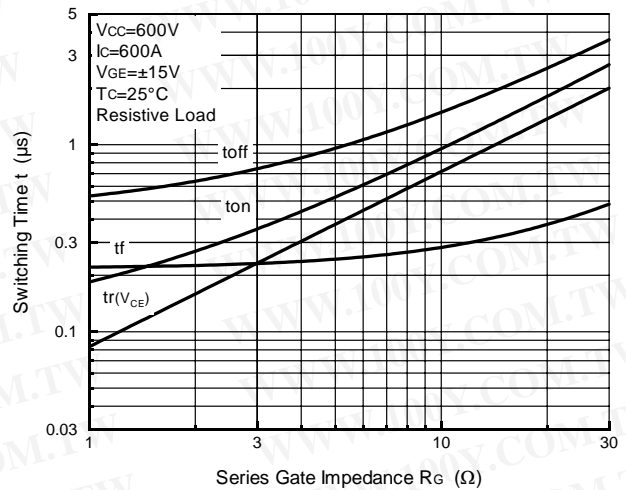


Fig.9- Collector Current vs. Switching Time

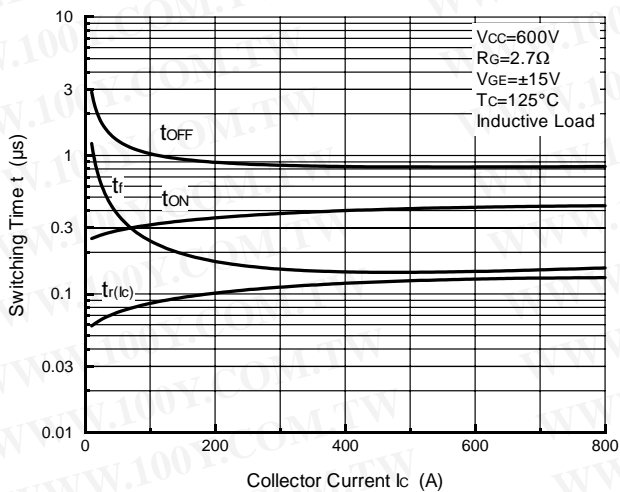


Fig.10- Series Gate Impedance vs. Switching Time

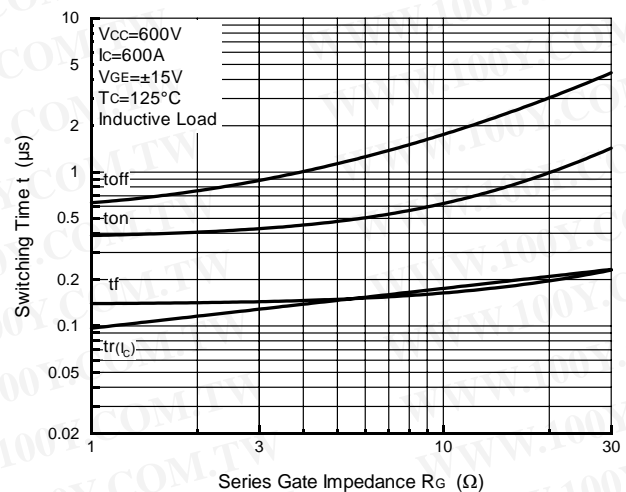


Fig.11- Collector Current vs. Switching Loss

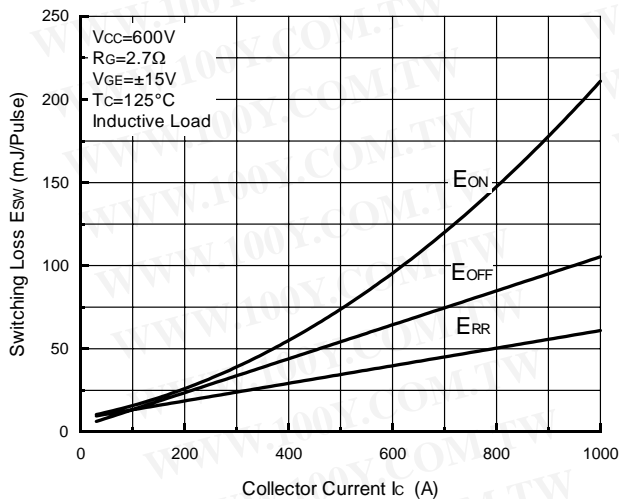
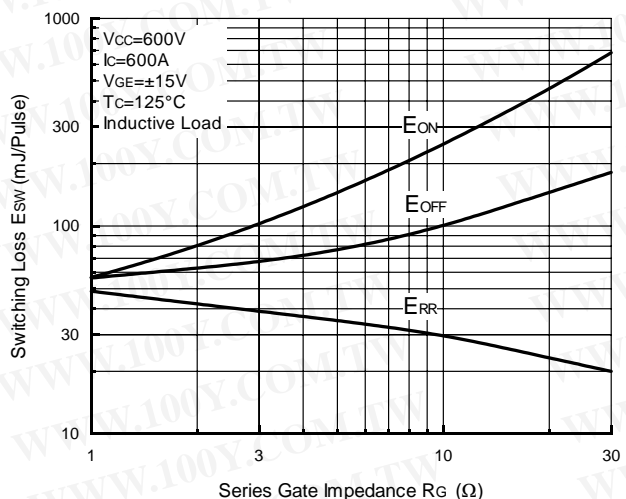


Fig.12- Series Gate Impedance vs. Switching Loss



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

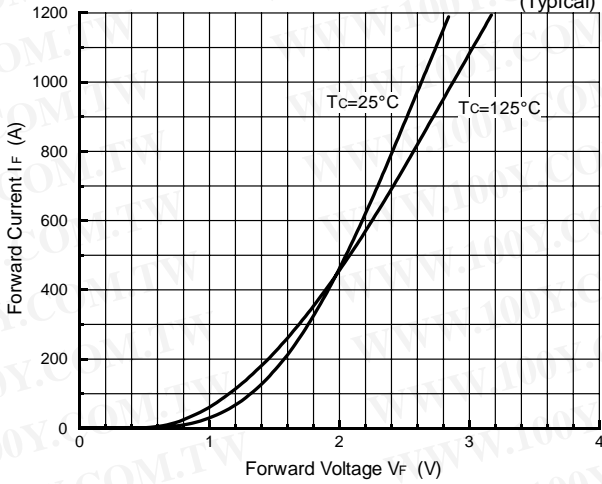


Fig.14- Reverse Recovery Characteristics (Typical)

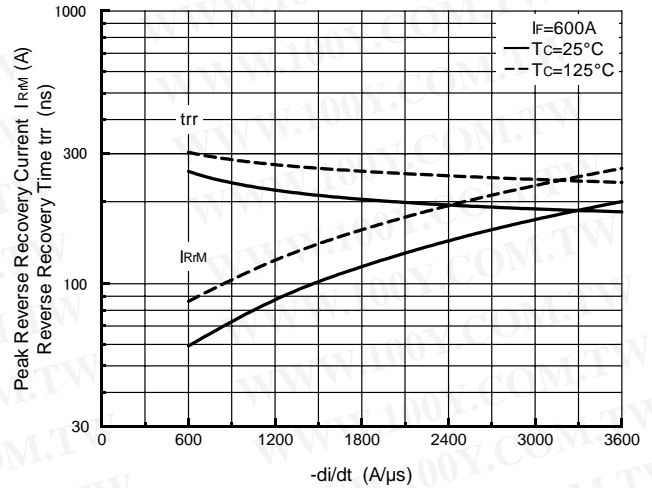
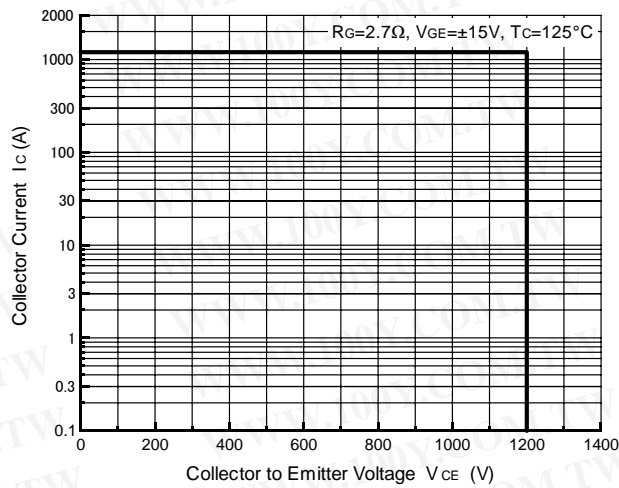


Fig.15- Reverse Bias Safe Operating Area



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Fig.16- Transient Thermal Impedance

