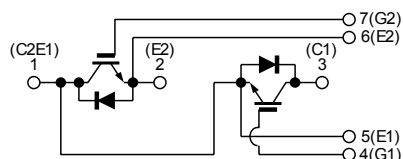
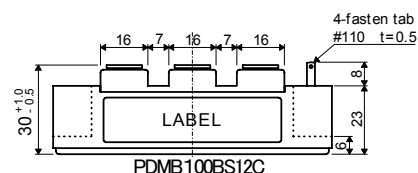
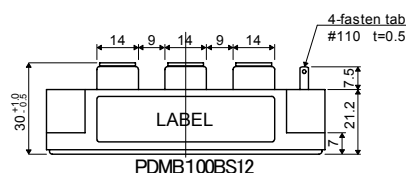
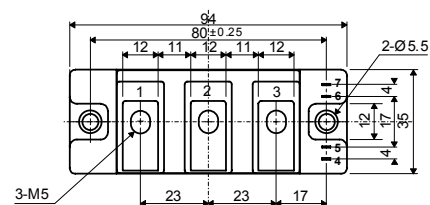
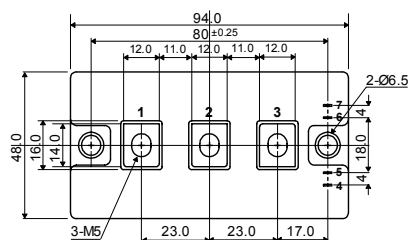


□ 回路図 : *CIRCUIT*



☐ 外形寸法図 : *OUTLINE DRAWING*



Dimension: [mm]

□ 最大定格 : *MAXIMUM RATINGS* ($T_c = 25^{\circ}\text{C}$)

I t e m		S y m b o l	R a t e d V a l u e				U n i t
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	DC	I_C	100				A
	1 m s	I_{CP}	200				
コレクタ損失 Collector Power Dissipation		P_C	600				W
接合温度 Junction Temperature Range		T_j	$-40 \sim +150$				$^{\circ}\text{C}$
保存温度 Storage Temperature Range		T_{stg}	$-40 \sim +125$				$^{\circ}\text{C}$
絶縁耐圧(Terminal to Base AC, 1 minute) Isolation Voltage		V_{ISO}	2,500				$V_{(RMS)}$
締め付けトルク Mounting Torque	Module Base to Heatsink	F_{tor}	PDMB100BS12	3 (30.6)	PDMB100BS12C	2 (20.4)	$N \cdot m$ ($\text{kgf} \cdot \text{cm}$)
	Busbar to Main Terminal			2 (20.4)		2 (20.4)	

□ 電 氣 的 特 性 : *ELECTRICAL CHARACTERISTICS* ($T_c = 25^{\circ}\text{C}$)

Characteristic		Symbol	Test Condition	Min.	T _{VD}	Max.	Unit
コレクタ遮断電流 Collector-Emitter Cut-Off Current		I _{CES}	V _{CE} = 1200V, V _{GE} = 0V	—	—	1.0	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 = 100A, 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 = 100mA	4.0	—	8.0	V
入力容量 Input Capacitance		C _{ies}	V _{CE} = 10V, V _{GE} = 0V, f= 1MHz	—	6,300	—	pF
スイッチング時間 Switching Time	上昇時間 Rise Time	t _r	V _{CC} = 600V R _i = 6.0Ω R _g = 15.0Ω 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* ($T_c = 25^\circ\text{C}$)

I t e m		S y m b o l	R a t e d V a l u e	U n i t
順電流 Forward Current	DC	I_v	100	A
	1 m s	I_{FM}	200	

Characteristic	Symbol	Test Condition	Min.	T _{vd}	Max.	Unit
順電壓 Peak Forward Voltage	V _F	I _F = 100A, V _{GE} = 0V	—	2.2	2.6	V
逆回復時間 Reverse Recovery Time	t _{rr}	I _F = 100A, V _{GE} = -10V d i / d t = 200A/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	I G B T	R _{th(j-c)}	Junction to Case (T _c 測定点チップ直下)	—	—	0.208	℃/W
	Diode			—	—	0.428	

PDMB100BS12

PDMB100BS12C

Fig.1- Output Characteristics (Typical)

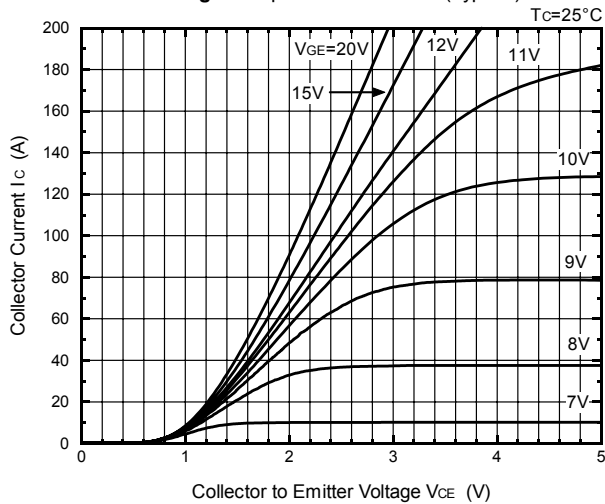


Fig.2- Output Characteristics (Typical)

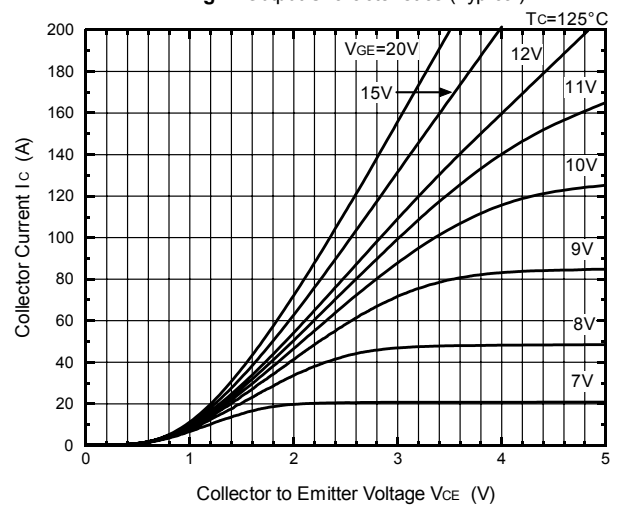


Fig.3- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

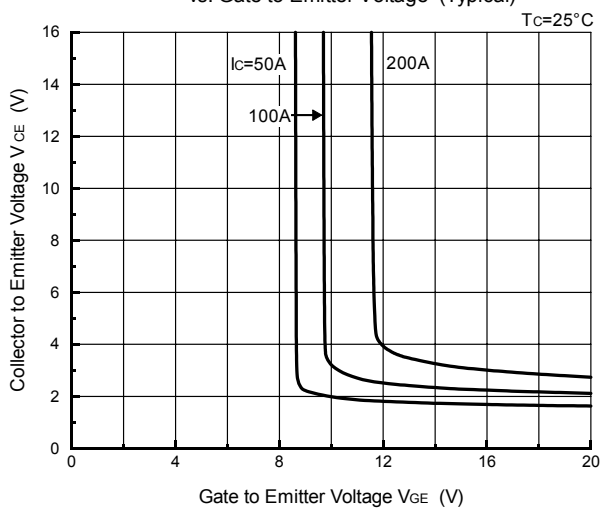


Fig.4- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

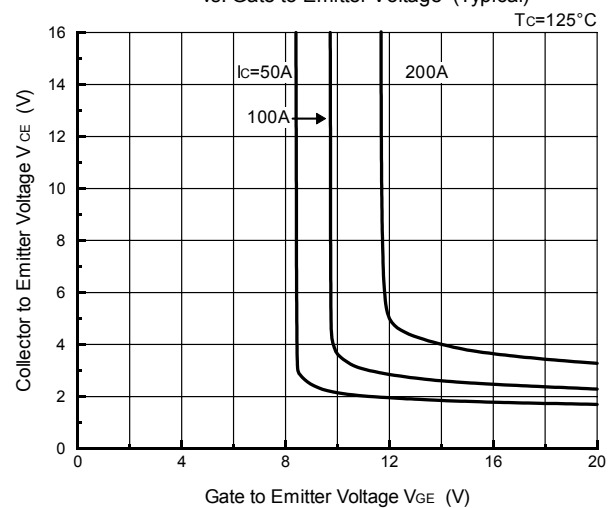


Fig.5- Gate Charge vs. Collector to Emitter Voltage (Typical)

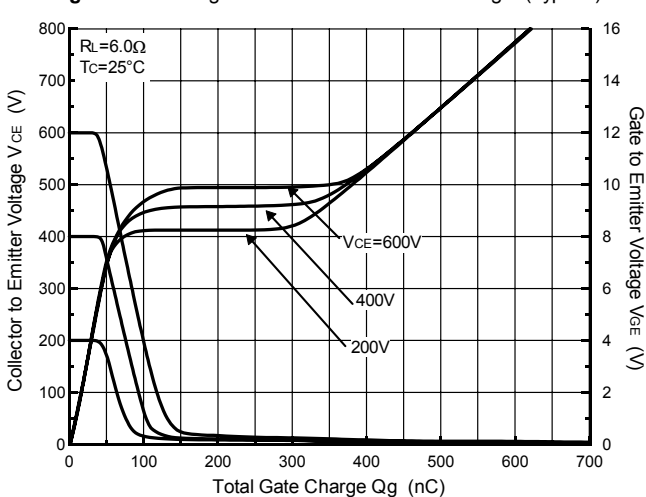
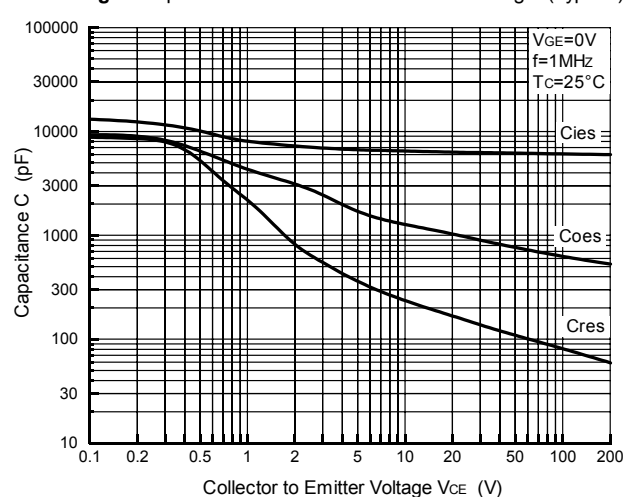


Fig.6- Capacitance vs. Collector to Emitter Voltage (Typical)



PDMB100BS12

PDMB100BS12C

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

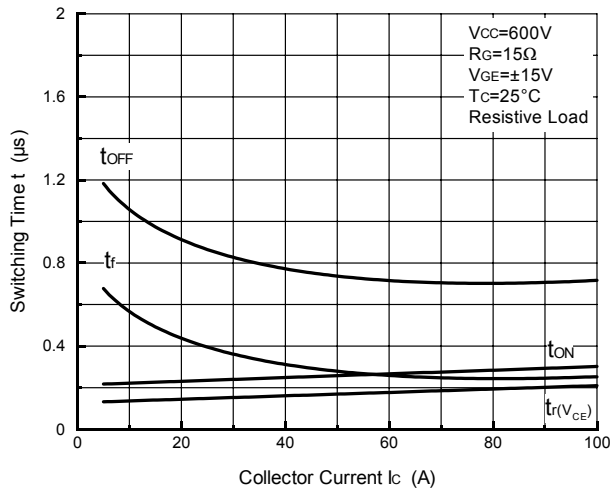


Fig.8- Series Gate Impedance vs. Switching Time (Typical)

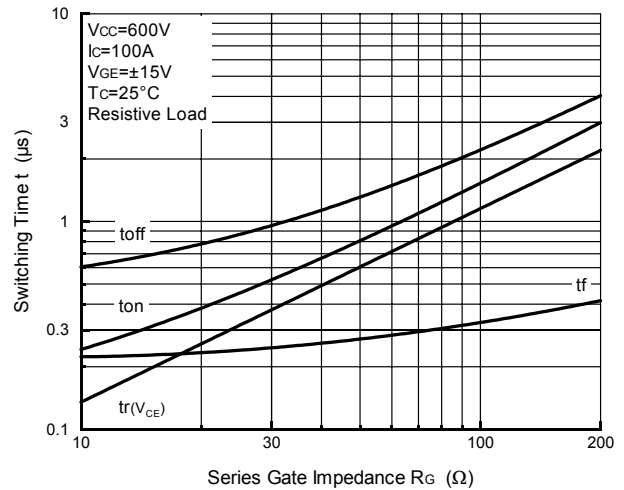


Fig.9- Collector Current vs. Switching Time

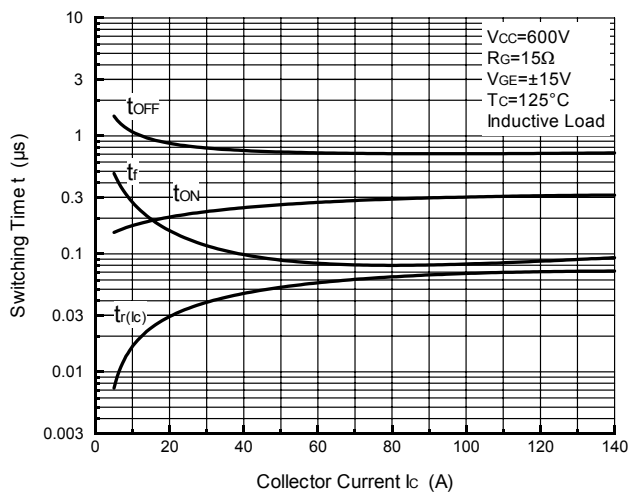


Fig.10- Series Gate Impedance vs. Switching Time

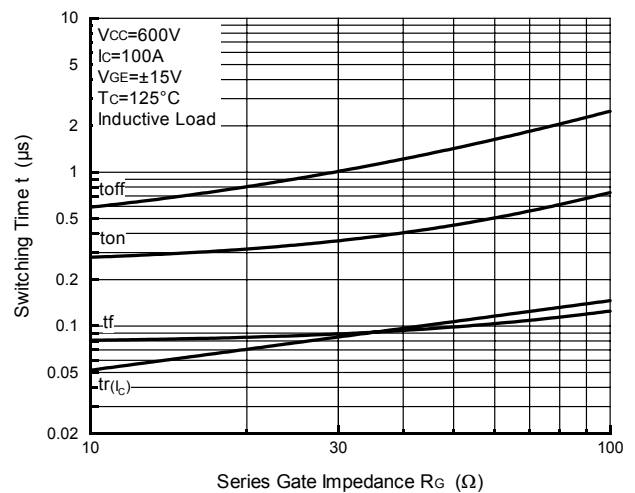


Fig.11- Collector Current vs. Switching Loss

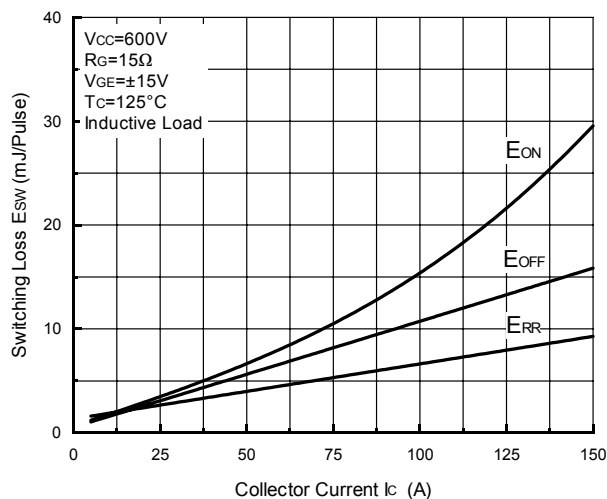
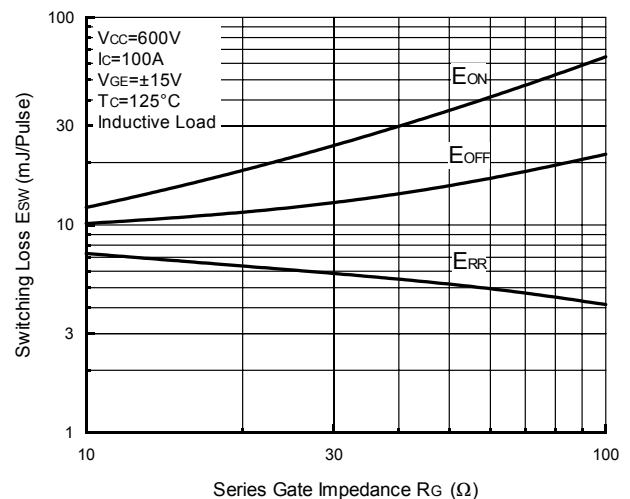
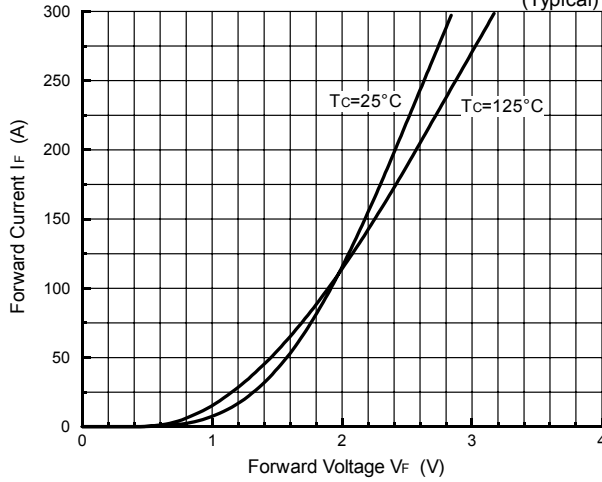
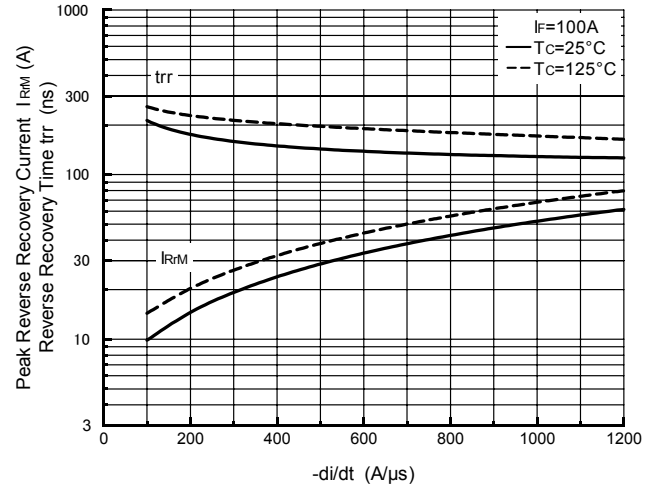
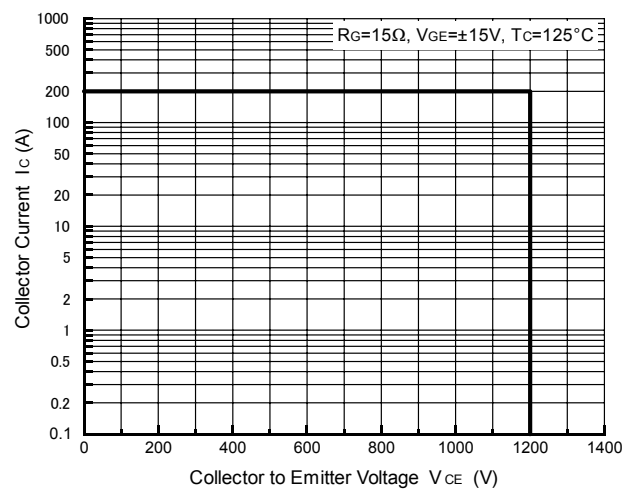


Fig.12- Series Gate Impedance vs. Switching Loss



PDMB100BS12

PDMB100BS12C

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**