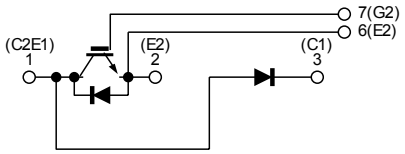
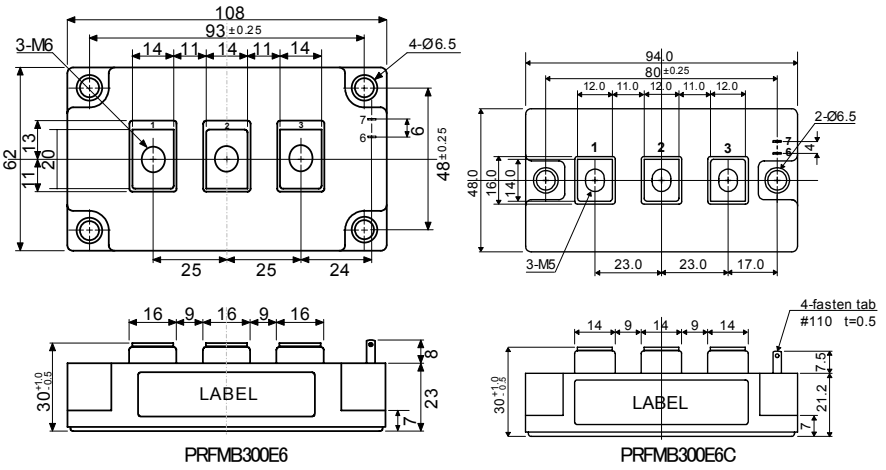
ＩＧＢＴ Module-Chopper　　３００A, 600V

ＰＲＦＭＢ３００Ｅ６
ＰＲＦＭＢ３００Ｅ６Ｃ

□ 回路図 : *CIRCUIT*



□ 外形寸法図 : *OUTLINE DRAWING*



Dimension: [mm]

□ 最大定格 : *MAXIMUM RATINGS* （T_C＝２５℃）

Item		Symbol	Rated Value				Unit
コレクタ・エミッタ間電圧 Collector-Emitter Voltage		V_{CES}	６００				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	３００				A
	1ms	I_{CP}	６００				
コレクタ損失 Collector Power Dissipation		P_C	１，０４０				W
接合温度 Junction Temperature Range		T_j	－４０～＋１５０				℃
保存温度 Storage Temperature Range		T_{stg}	－４０～＋１２５				℃
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	F_{tor}	PDMB3006	３ (30.6)	PDMB300E6C	３ (30.6)	N・m (kgf・cm)
	Busbar to Main Terminal			３ (30.6)		２ (20.4)	

□ 電気的特性 : *ELECTRICAL CHARACTERISTICS* （T_C＝２５℃）

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}= 600V, 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= 300A, V_{GE}= 15V	－	２．１	２．６	V
ゲートしきい値電圧 Gate-Emitter Threshold Voltage		$V_{GE(th)}$	V_{CE}= 5V, I_C= 300mA	４．０	－	８．０	V
入力容量 Input Capacitance		C_{ies}	V_{CE}= 10V, V_{GE}= 0V, f= 1MHz	－	15,000	－	pF
スイッチング時間 Switching Time	上昇時間 Rise Time	t_r	V_{CC}= 300V R_L= 1.0Ω R_G= 3.6Ω V_{GE}= ±15V	－	０．１５	０．４０	μs
	ターンオン時間 Turn-on Time	t_{on}		－	０．３０	０．７５	
	下降時間 Fall Time	t_f		－	０．１０	０．３５	
	ターンオフ時間 Turn-off Time	t_{off}		－	０．４０	０．８０	

□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℃）

Item		Symbol	Rated Value	Unit
順電流 Forward Current	DC	I_F	３００	A
	1ms	I_{FM}	６００	

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
順電圧 Peak Forward Voltage	V_F	I_F= 300A, V_{GE}= 0V	－	１．９	２．４	V
逆回復時間 Reverse Recovery Time	t_{rr}	I_F= 300A, V_{GE}= -10V di/dt= 600A/μs	－	０．１５	０．２５	μs

□ 熱的特性 : *THERMAL CHARACTERISTICS*

Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
熱抵抗 Thermal Impedance	IGBT	Rth(j-c)	Junction to Case (Tc測定点チップ直下)	－	－	０．１２	℃／W
	Diode			－	－	０．２４	

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PRFMB300E6
PRFMB300E6C

Fig.1- Output Characteristics (Typical)

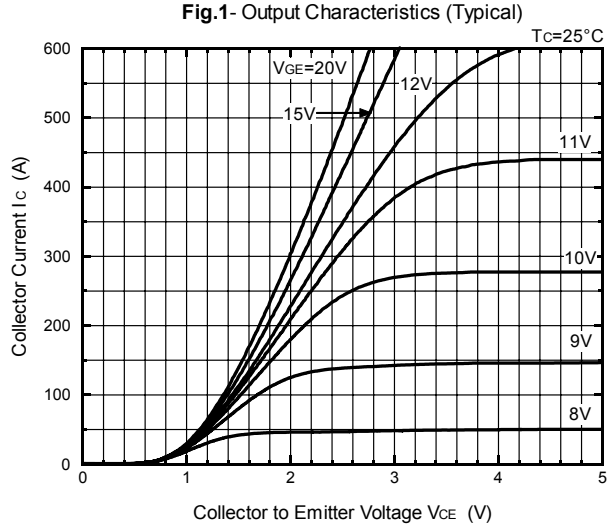


Fig.2- Output Characteristics (Typical)

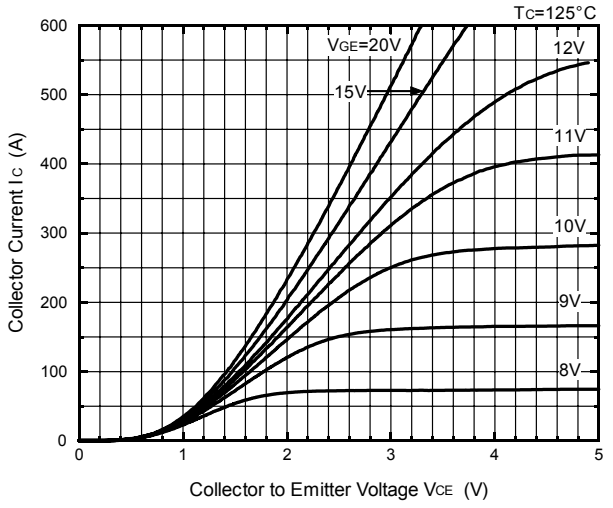


Fig.3- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

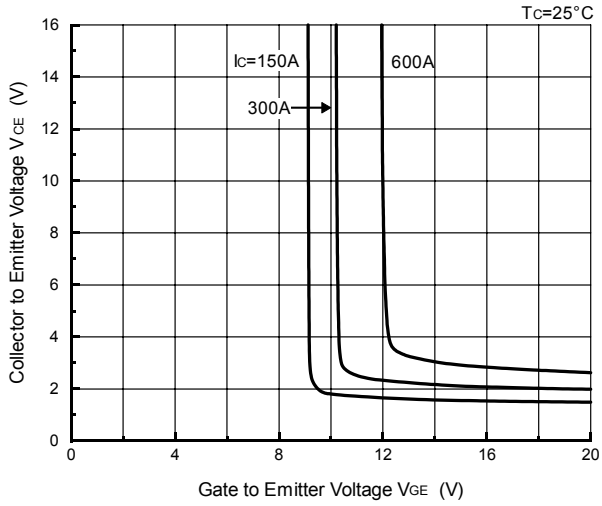


Fig.4- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

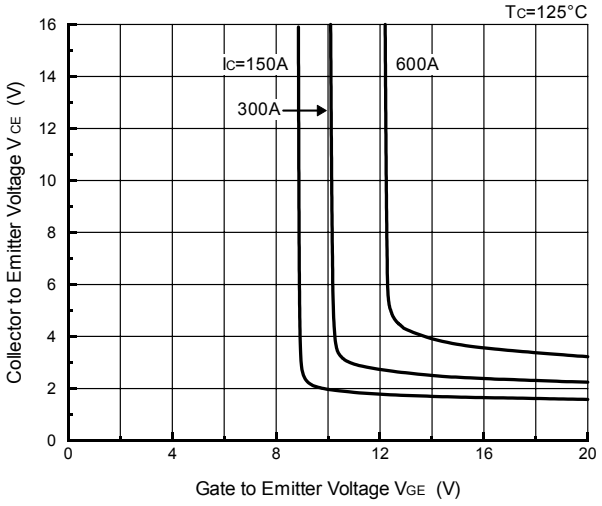


Fig.5- Gate Charge vs. Collector to Emitter Voltage (Typical)

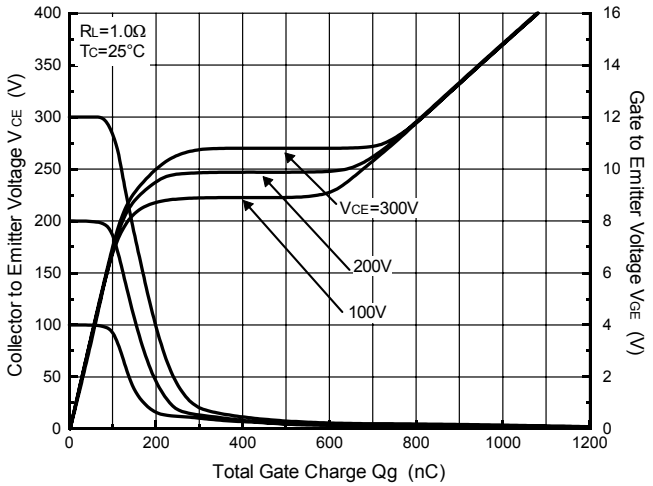


Fig.6- Capacitance vs. Collector to Emitter Voltage (Typical)

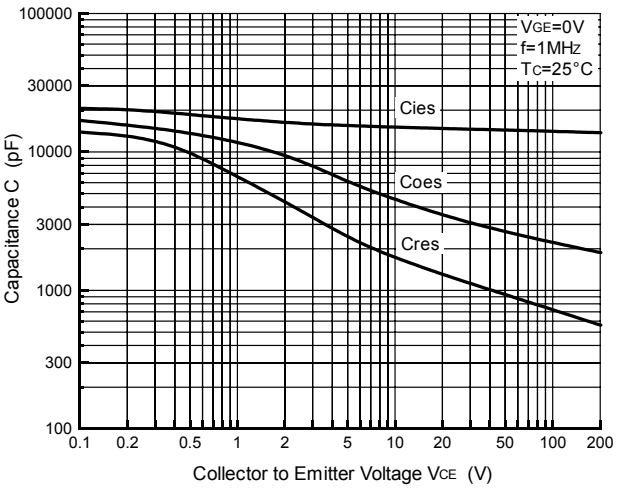


Fig.7- Collector Current vs. Switching Time (Typical)

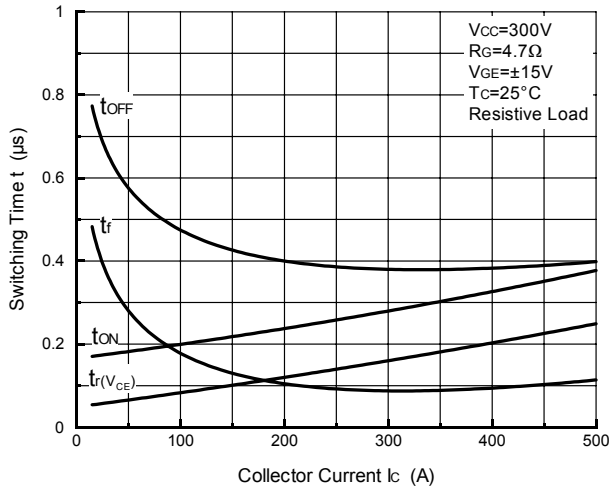


Fig.8- Series Gate Impedance vs. Switching Time (Typical)

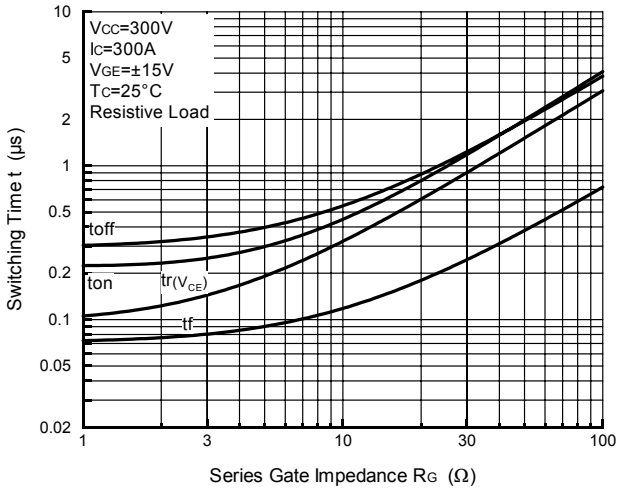


Fig.9- Collector Current vs. Switching Time

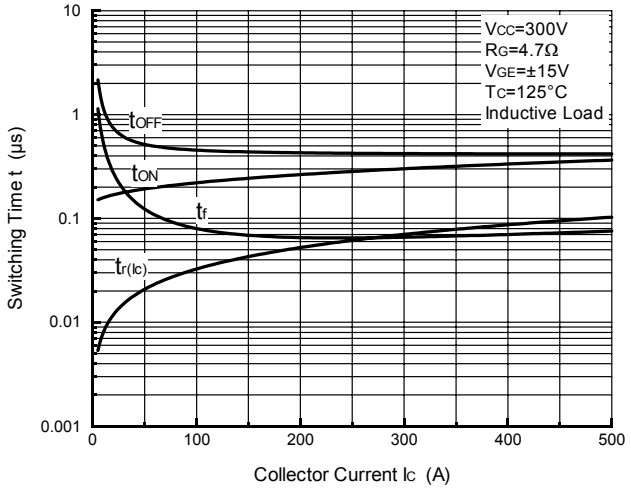


Fig.10- Series Gate Impedance vs. Switching Time

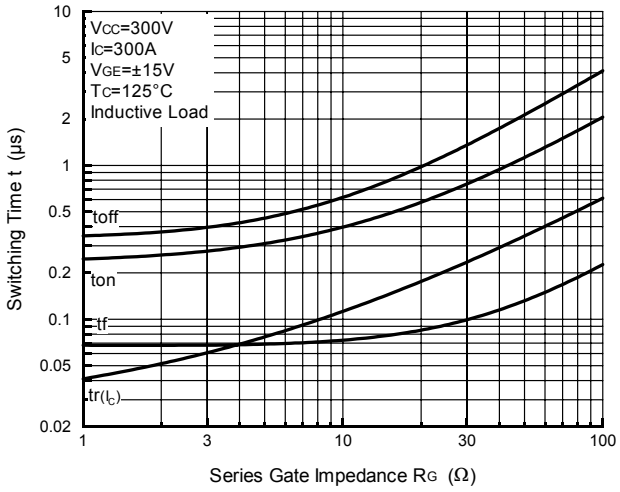


Fig.11- Collector Current vs. Switching Loss

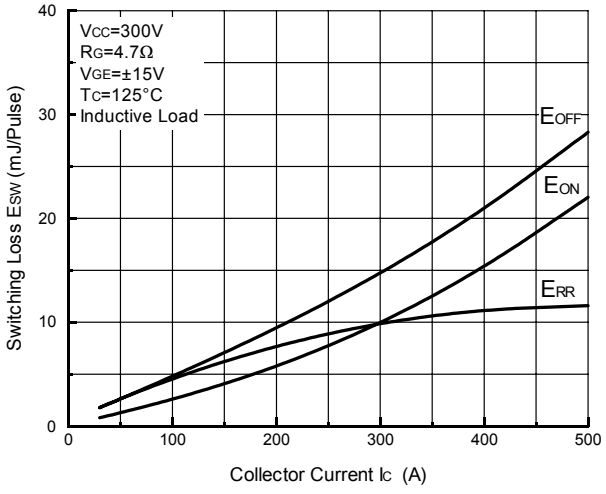


Fig.12- Series Gate Impedance vs. Switching Loss

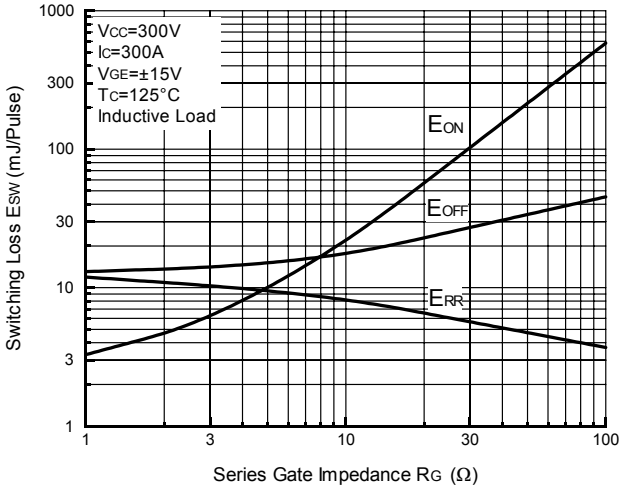


Fig.13- Forward Characteristics of Free Wheeling Diode (Typical)

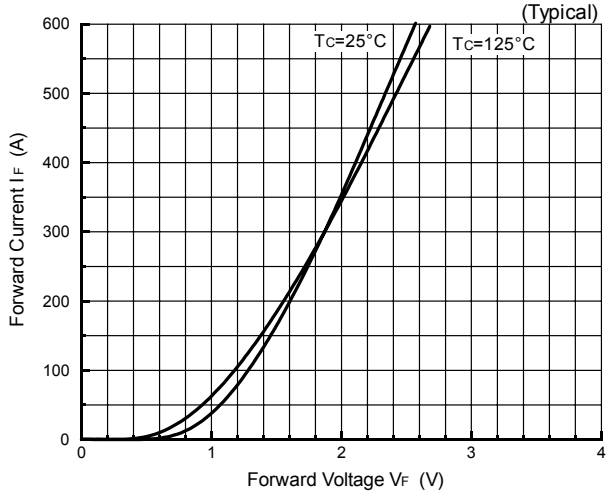


Fig.14- Reverse Recovery Characteristics (Typical)

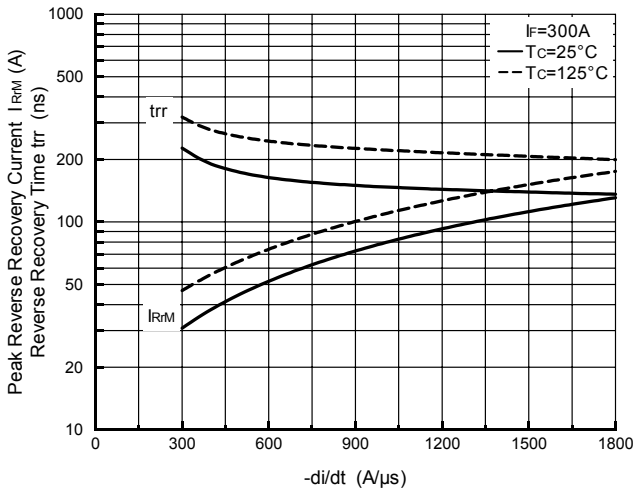


Fig.15- Reverse Bias Safe Operating Area

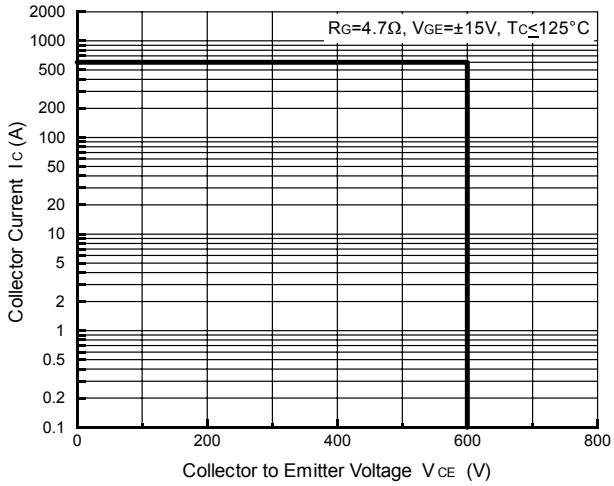


Fig.16- Transient Thermal Impedance

