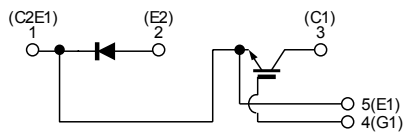
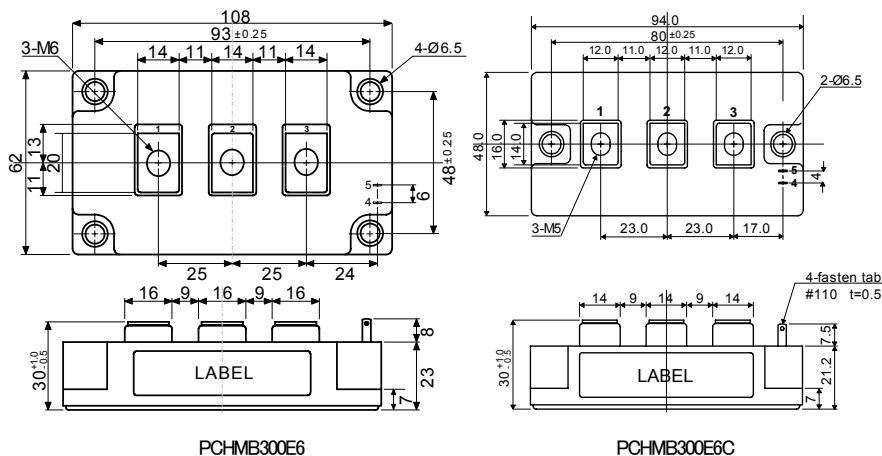


□ 回路図 : CIRCUIT



□ 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}	6 0 0			V	
ゲート・エミッタ間電圧 Gate-Emitter Voltage		V _{GES}	± 2 0			V	
コレクタ電流 Collector Current	DC	I _C	3 0 0			A	
	1 m s	I _{CP}	6 0 0				
コレクタ損失 Collector Power Dissipation		P _C	1, 0 4 0			W	
接合温度 Junction Temperature Range		T _j	－ 4 0 ～ + 1 5 0			℃	
保存温度 Storage Temperature Range		T _{stg}	－ 4 0 ～ + 1 2 5			℃	
絶縁耐圧(Terminal to Base AC, 1 minute) Isolation Voltage		V _{ISO}	2, 5 0 0			V _(RMS)	
締め付けトルク Mounting Torque	Module Base to Heatsink	F _{tor}	PDMB300E6	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 ($T_c = 25^\circ\text{C}$)

Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
コレクタ遮断電流 Collector-Emitter Cut-Off Current		I_{CES}	$V_{CE} = 600V, V_{GE} = 0V$	—	—	1.0	mA
ゲート漏れ電流 Gate-Emitter Leakage Current		I_{GES}	$V_{GE} = \pm 20V, V_{CE} = 0V$	—	—	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	$V_{CC} = 300V$ $R_L = 1.0\Omega$ $R_G = 3.6\Omega$ $V_{GE} = \pm 15V$	—	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 ($T_c = 25^\circ\text{C}$)

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 _F	300		A	
	1ms	I _{FM}	600			

C h a r a c t e r i s t i c		S y m b o l	T e s t C o n d i t i o n	Min.	T y p.	Max.	U n i t
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	$R_{th(j-c)}$	Junction to Case (T_c 測定点チップ直下)	—	—	0.12	$^\circ\text{C}/\text{W}$
	Diode			—	—	0.24	

Fig.1- Output Characteristics (Typical)

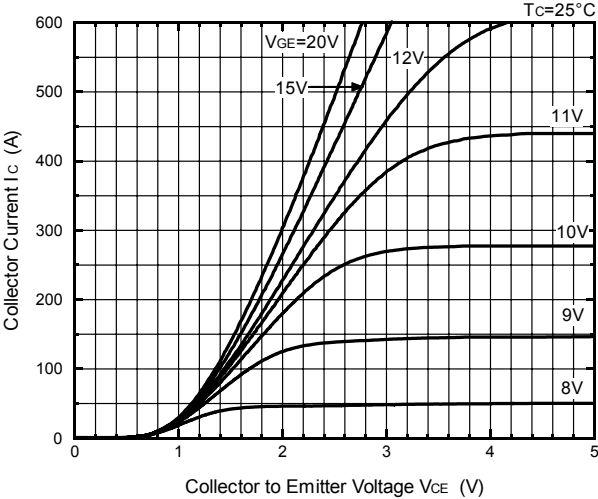


Fig.2- Output Characteristics (Typical)

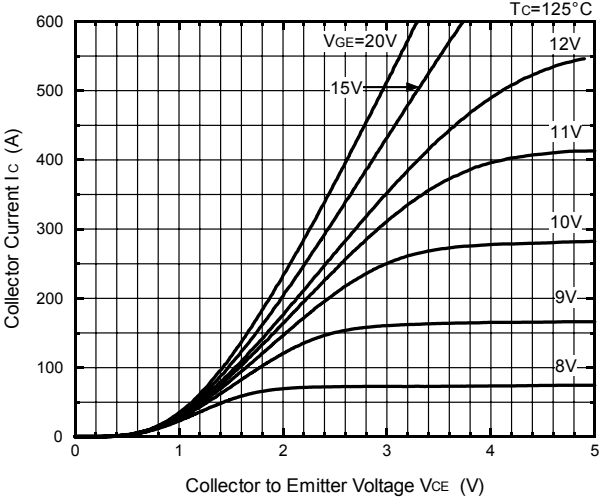


Fig.3- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

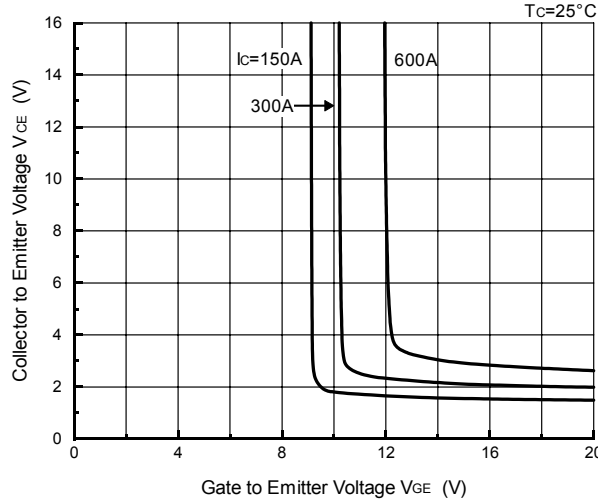


Fig.4- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

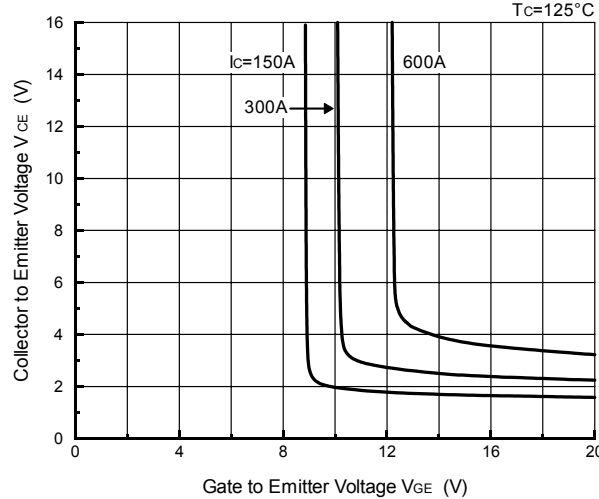


Fig.5- Gate Charge vs. Collector to Emitter Voltage (Typical)

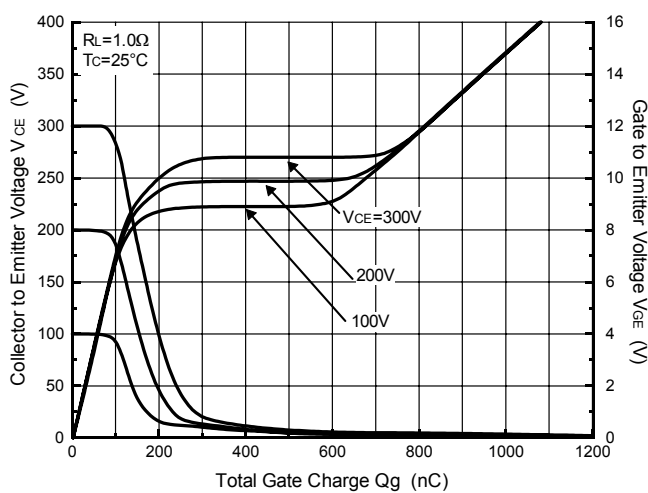
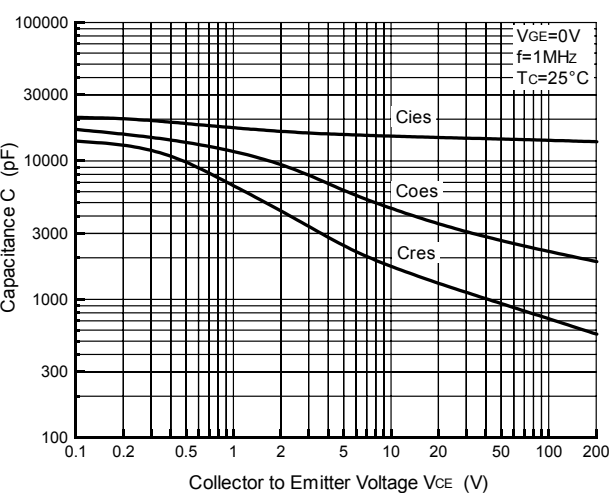


Fig.6- Capacitance vs. Collector to Emitter Voltage (Typical)



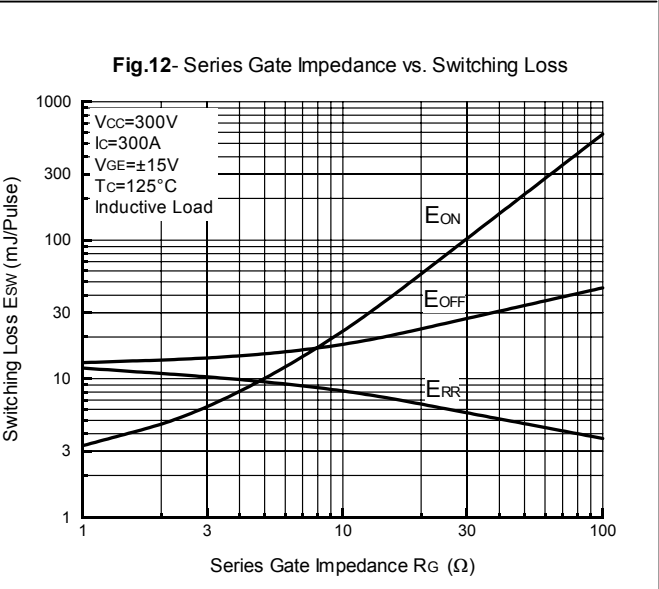
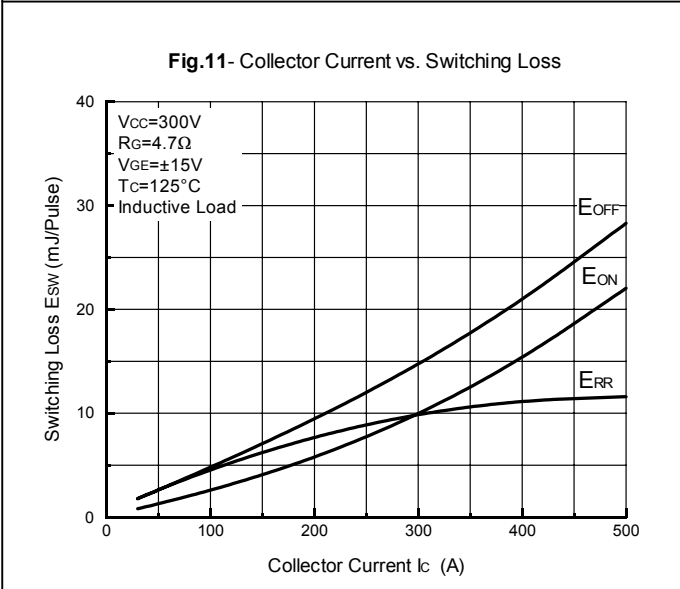
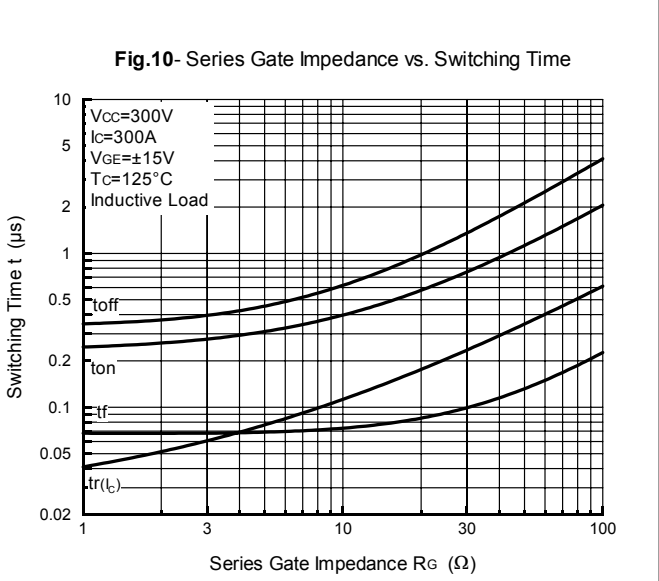
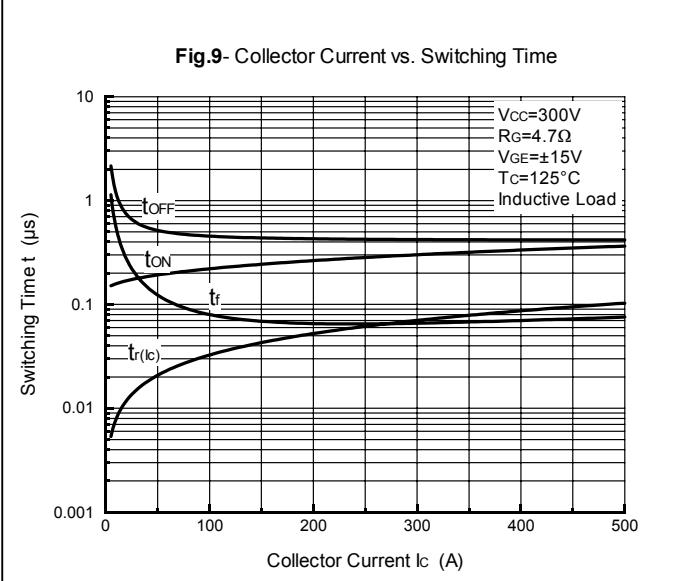
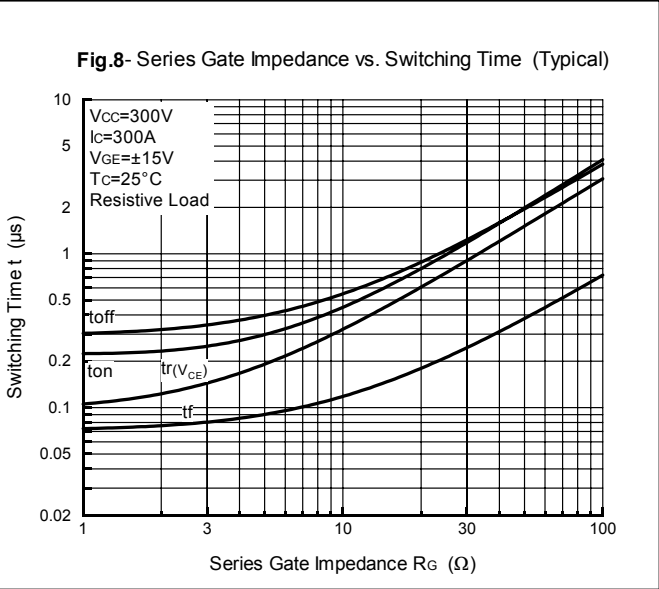
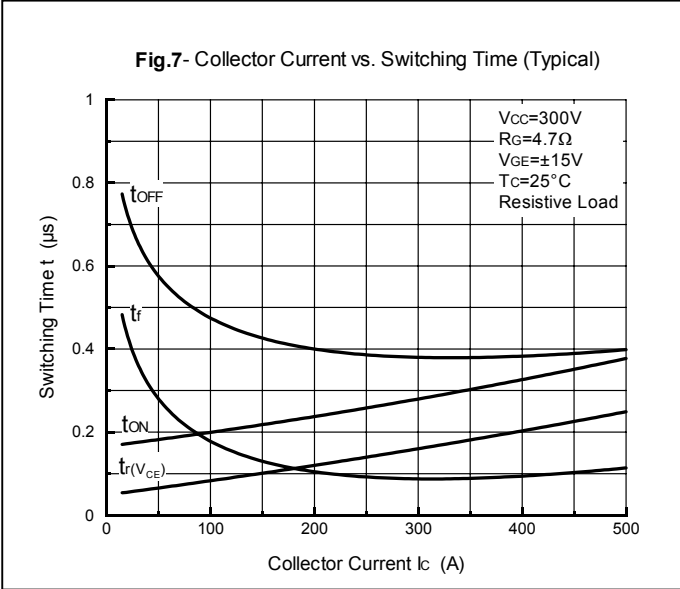


Fig.13- Forward Characteristics of Free Wheeling Diode
(Typical)

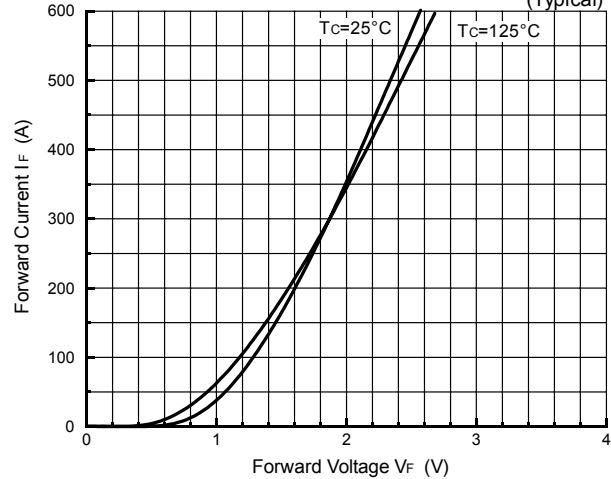


Fig.14- Reverse Recovery Characteristics (Typical)

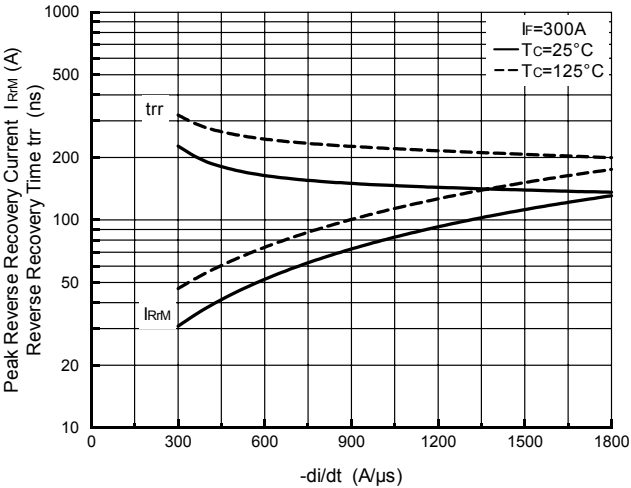


Fig.15- Reverse Bias Safe Operating Area

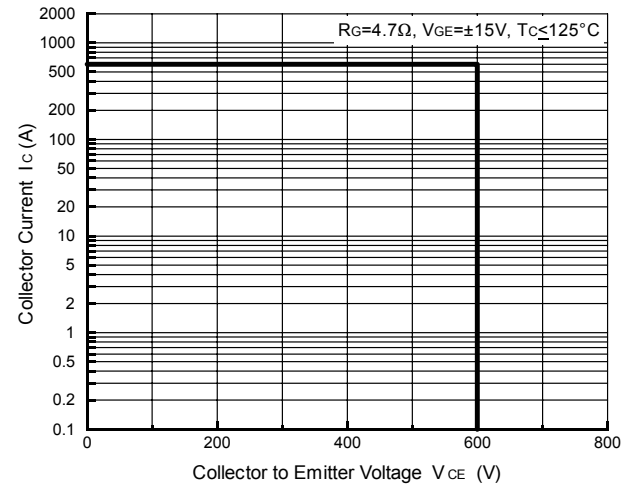


Fig.16- Transient Thermal Impedance

