

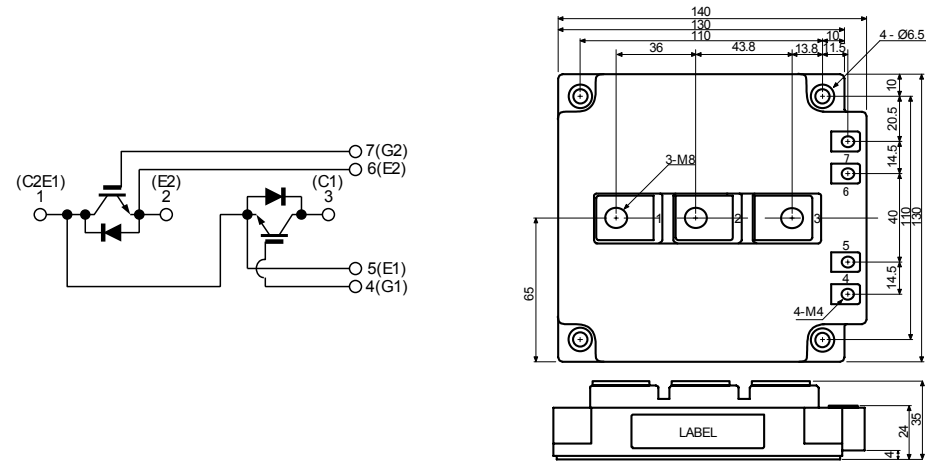
I G B T Module-Dual

8 0 0 A, 6 0 0 V

P D M B 8 0 0 E 6

□ 回路図 : C I R C U I T

□ 外形寸法図 : O U T L I N E D R A W I N G



Dimension: [mm]

□ 最大定格 : M A X I M U M R A T I N G S (T_c = 25℃)

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	8 0 0		A
	1 m s	I _{CP}	1, 6 0 0		
コレクタ損失 Collector Power Dissipation		P _C	2, 7 0 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}	3 (30.6)		N・m (kgf・cm)
	Busbar to Terminals		M4	1.4 (14.3)	
			M8	10.5 (107)	

□ 電気的特性 : E L E C T R I C A L C H A R A C T E R I S T I C S (T_c = 25℃)

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	M i n.	T y p.	M a x.	U n i t
コレクタ遮断電流 Collector-Emitter Cut-Off Current		I _{CES}	V _{CE} = 800V, 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 = 800A, 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 = 800mA	4.0	—	8.0	V
入力容量 Input Capacitance		C _{ies}	V _{CE} = 10V, V _{GE} = 0V, f = 1MHz	—	40,000	—	pF
スイッチング時間 Switching Time	上昇時間 Rise Time	t _r	V _{CC} = 300V R _L = 0.375Ω R _G = 1.5Ω V _{GE} = ±15V	—	0.15	0.35	μs
	ターンオン時間 Turn-on Time	t _{on}		—	0.30	0.85	
	下降時間 Fall Time	t _f		—	0.10	0.25	
	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: F R E E W H E E L I N G D I O D E R A T I N G S & C H A R A C T E R I S T I C S (T_c = 25℃)

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	800		A		
	1ms	I _{FM}	1,600				
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	M i n.	T y p.	M a x.	U n i t
順電圧 Peak Forward Voltage		V _F	I _F = 800A, V _{GE} = 0V	—	1.9	2.4	V
逆回復時間 Reverse Recovery Time		t _{rr}	I _F = 800A, V _{GE} = -10V di/dt= 1600A/μs	—	0.15	0.25	μs

□ 熱的特性 : T H E R M A L C H A R A C T E R I S T I C S

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	M i n.	T y p.	M a x.	U n i t
熱抵抗 Thermal Impedance	IGBT	R _{th(j-c)}	Junction to Case (Tc測定点チップ直下)	—	—	0.045	℃/W
	Diode			—	—	0.110	

PDMB800E6

Fig.1- Output Characteristics (Typical)

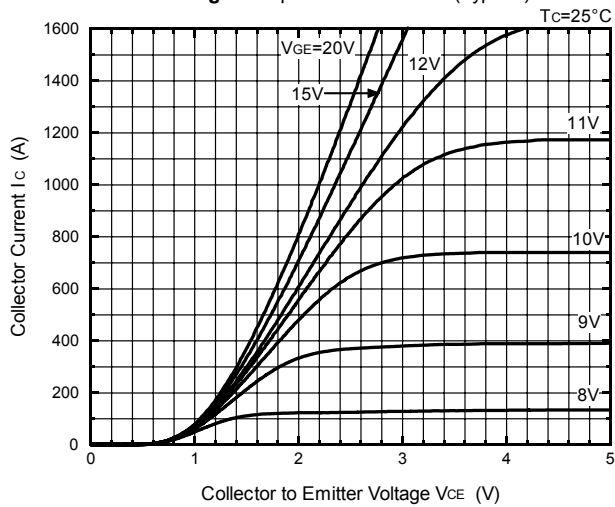


Fig.2- Output Characteristics (Typical)

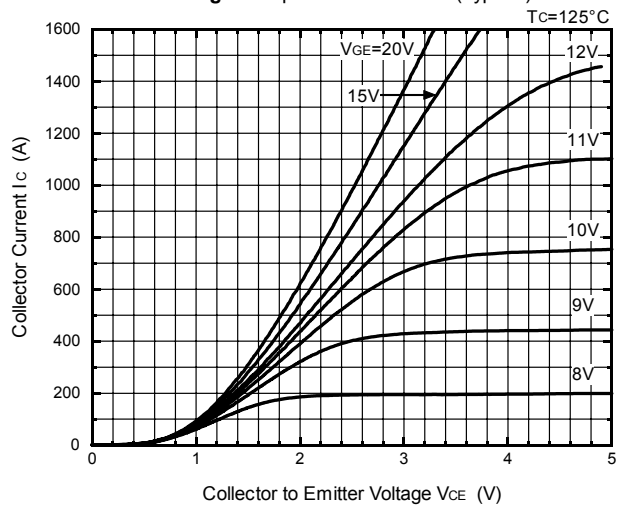


Fig.3- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

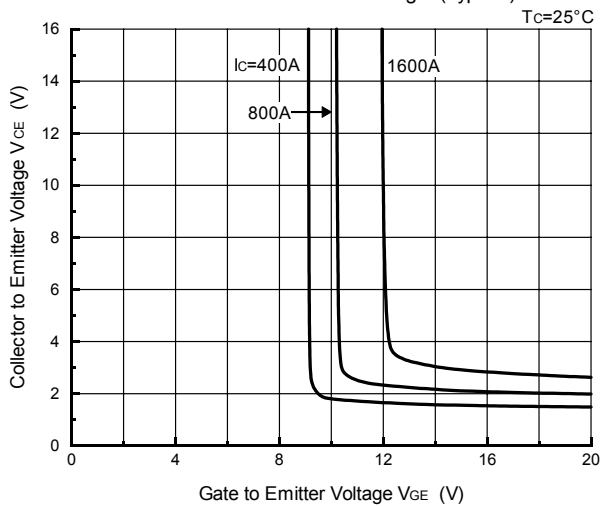


Fig.4- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

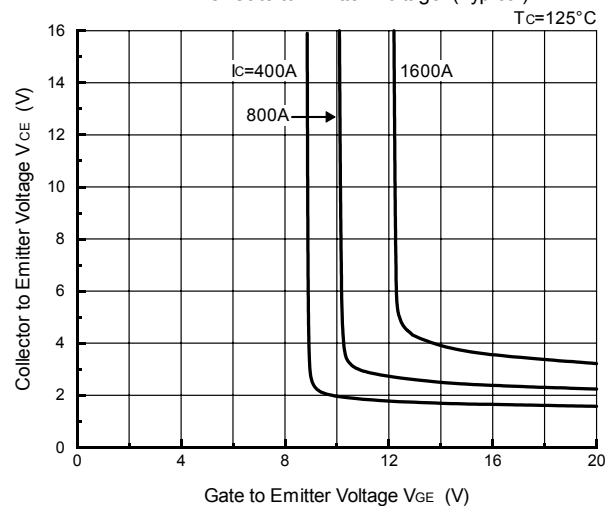


Fig.5- Gate Charge vs. Collector to Emitter Voltage (Typical)

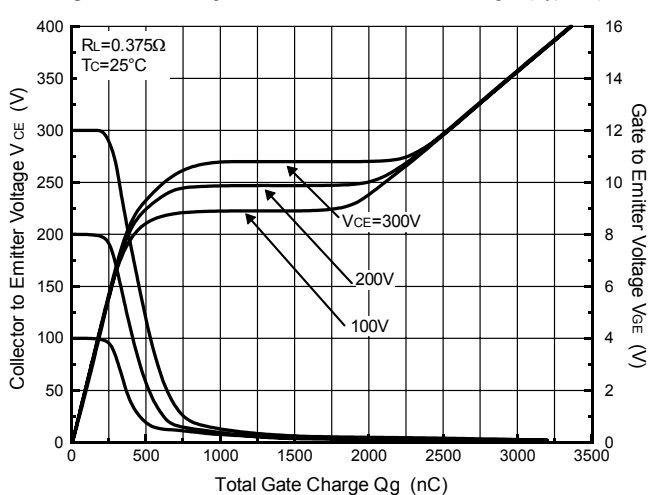
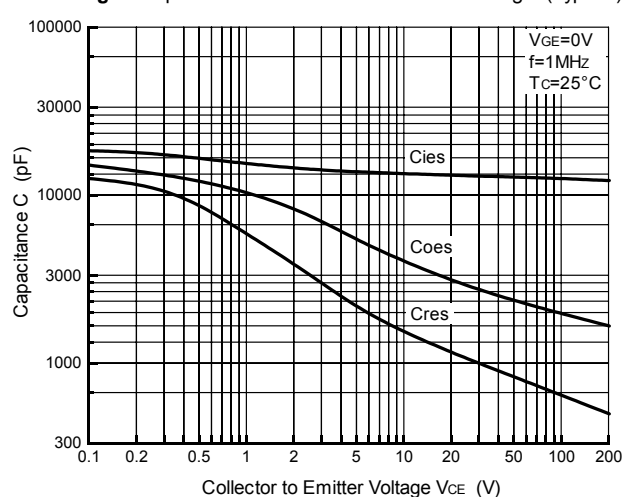


Fig.6- Capacitance vs. Collector to Emitter Voltage (Typical)



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

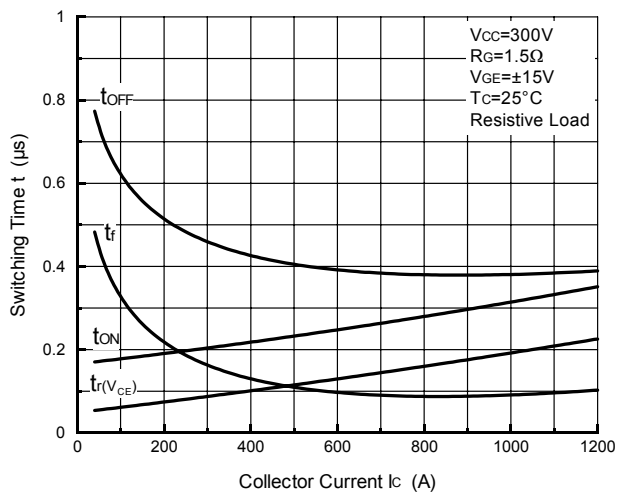


Fig.8- Series Gate Impedance vs. Switching Time (Typical)

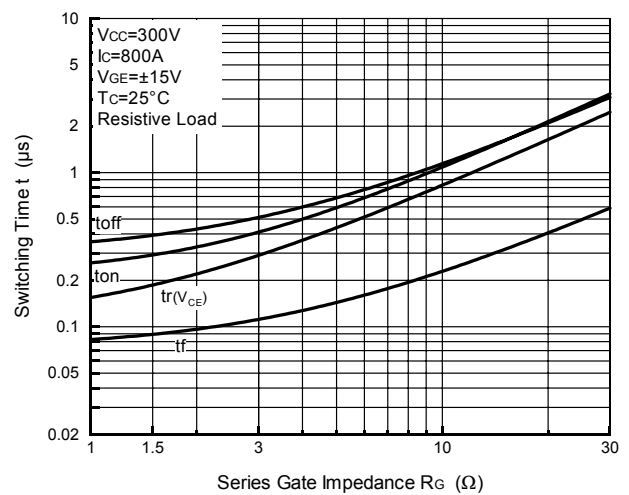


Fig.9- Collector Current vs. Switching Time

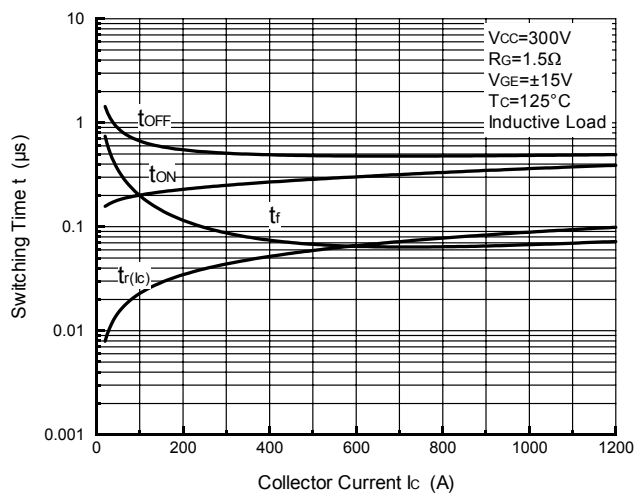


Fig.10- Series Gate Impedance vs. Switching Time

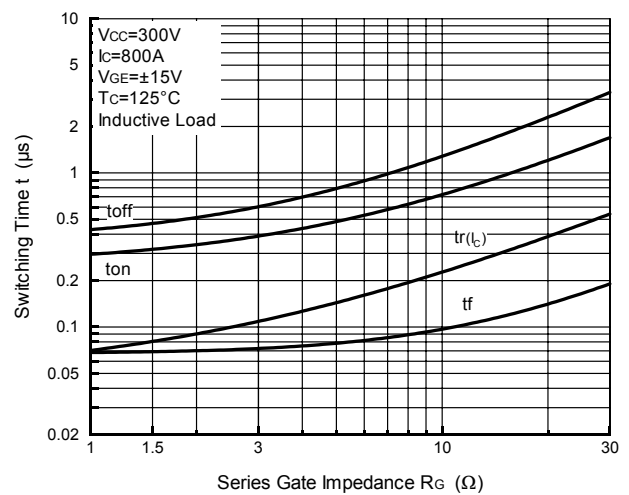


Fig.11- Collector Current vs. Switching Loss

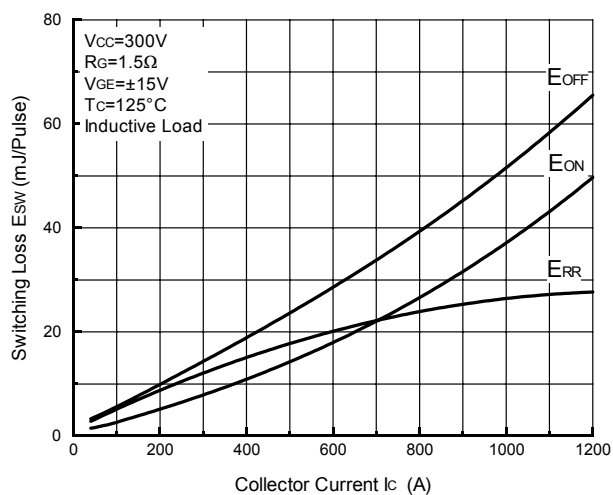
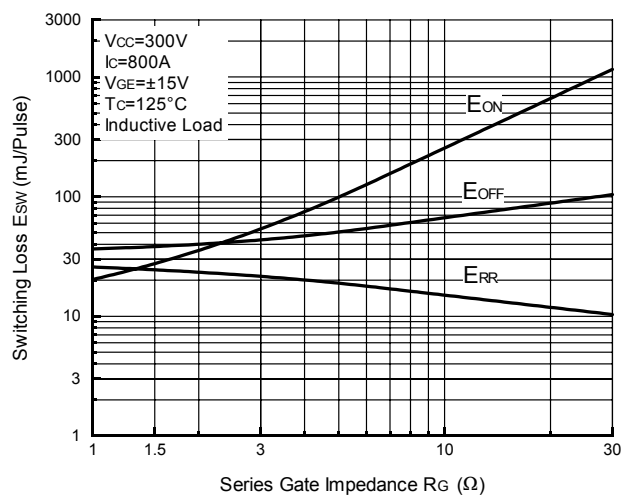


Fig.12- Series Gate Impedance vs. Switching Loss



P D M B 8 0 0 E 6

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

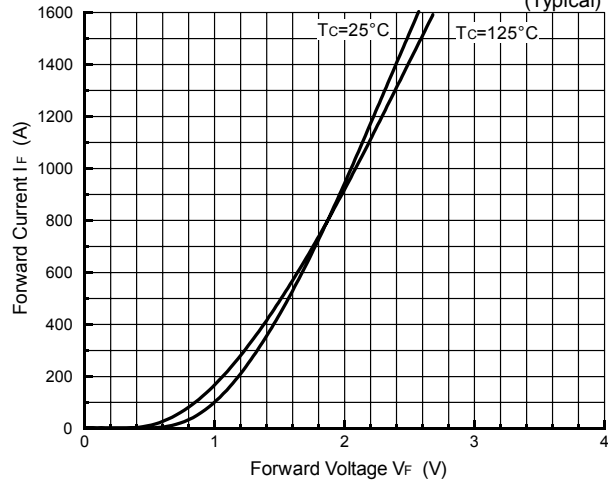


Fig.14- Reverse Recovery Characteristics (Typical)

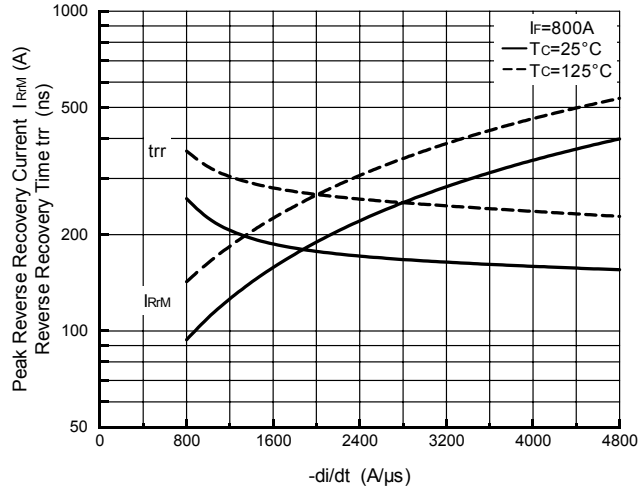


Fig.15- Reverse Bias Safe Operating Area

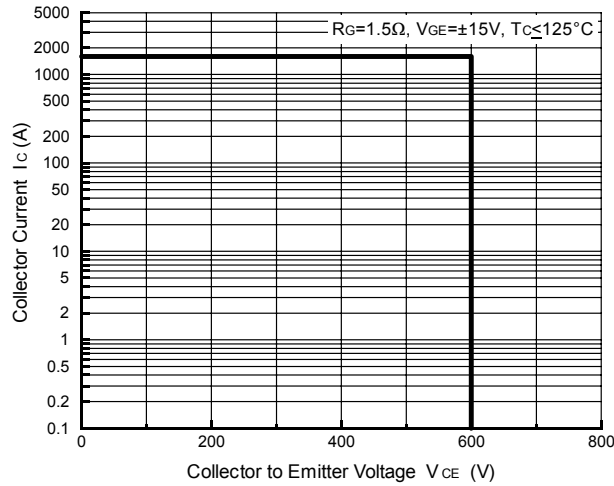


Fig.16- Transient Thermal Impedance

