

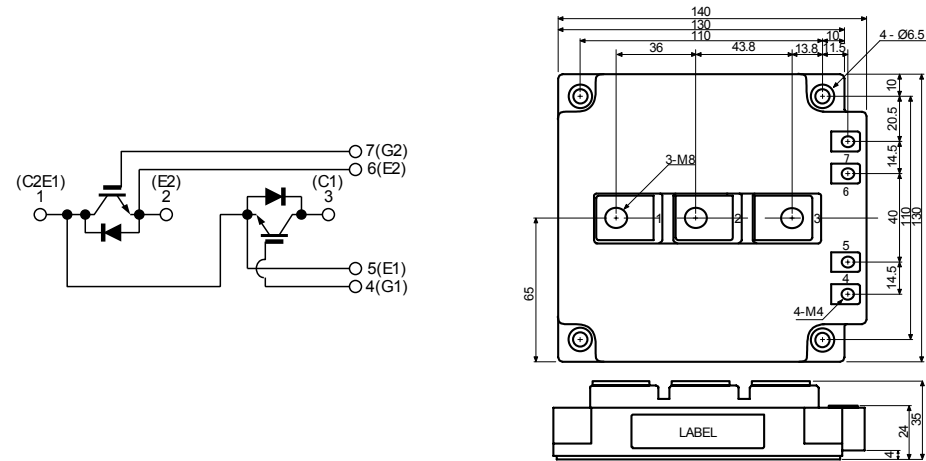
I G B T Module-Dual

8 0 0 A, 6 0 0 V

P D M B 8 0 0 E 6

□ 回路図 : *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	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 (3 0 . 6)		N ・ m (kgf・cm)
	Busbar to Terminals		M4	1 . 4 (1 4 . 3)	
			M8	1 0 . 5 (1 0 7)	

□ 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}	$V_{CE} = 800\text{V}, V_{GE} = 0\text{V}$	—	—	1.0	mA
ゲート漏れ電流 Gate-Emitter Leakage Current		I_{GES}	$V_{GE} = \pm 20\text{V}, V_{CE} = 0\text{V}$	—	—	1.0	μA
コレクタ・エミッタ間飽和電圧 Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 800\text{A}, V_{GE} = 15\text{V}$	—	2.1	2.6	V
ゲートしきい値電圧 Gate-Emitter Threshold Voltage		$V_{GE(th)}$	$V_{CE} = 5\text{V}, I_C = 800\text{mA}$	4.0	—	8.0	V
入力容量 Input Capacitance		C_{ies}	$V_{CE} = 10\text{V}, V_{GE} = 0\text{V}, f = 1\text{MHz}$	—	40,000	—	pF
スイッチング時間 Switching Time	上昇時間 Rise Time	t_r	$V_{CC} = 300\text{V}$ $R_L = 0.375\Omega$ $R_G = 1.5\Omega$ $V_{GE} = \pm 15\text{V}$	—	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	

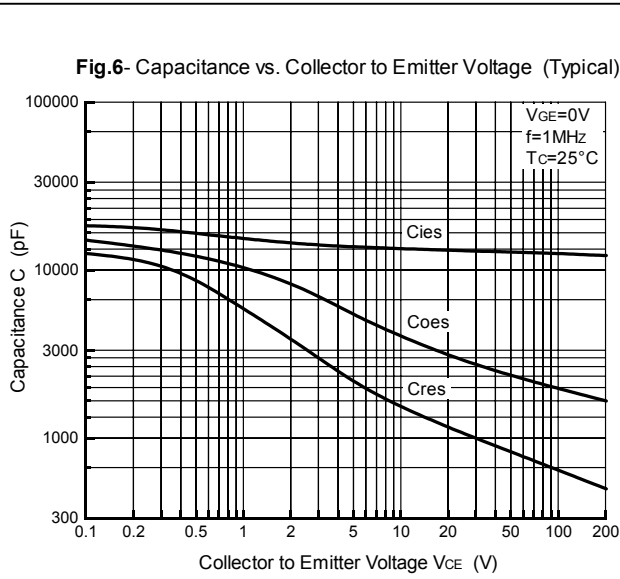
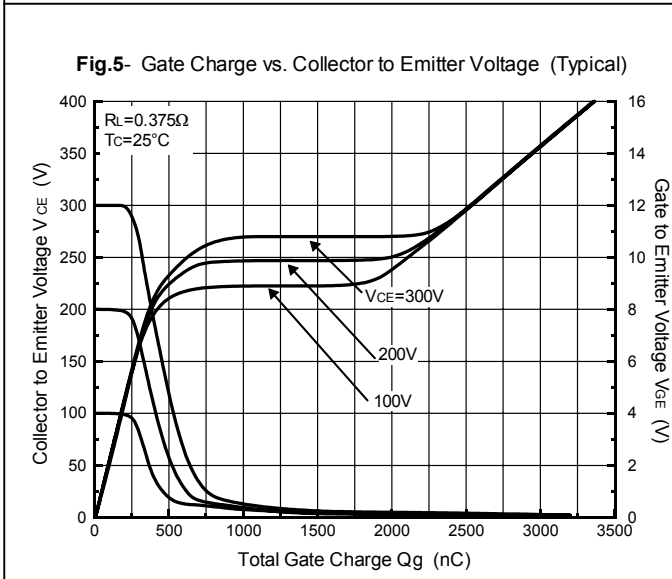
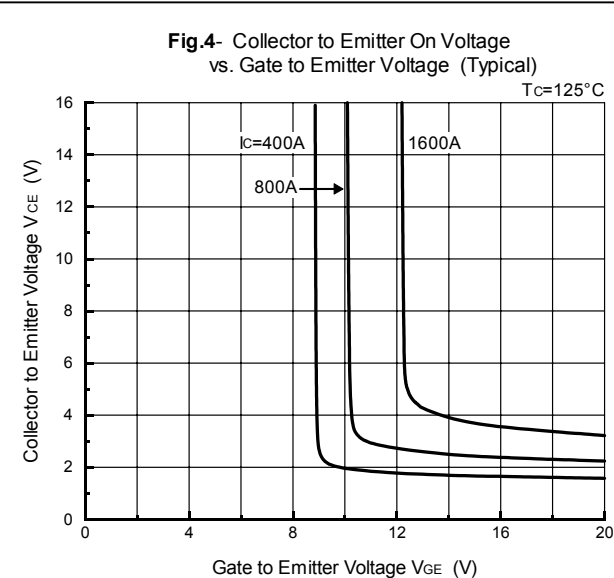
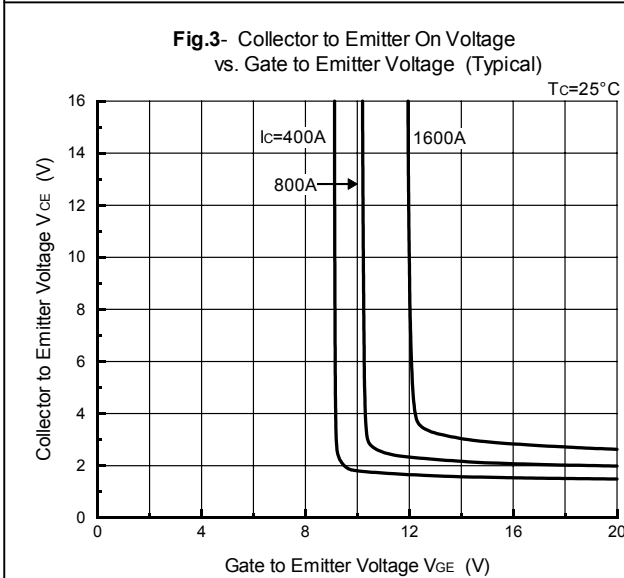
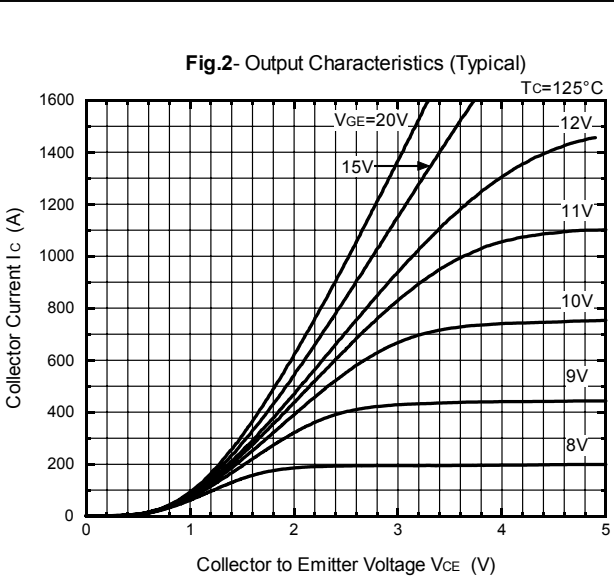
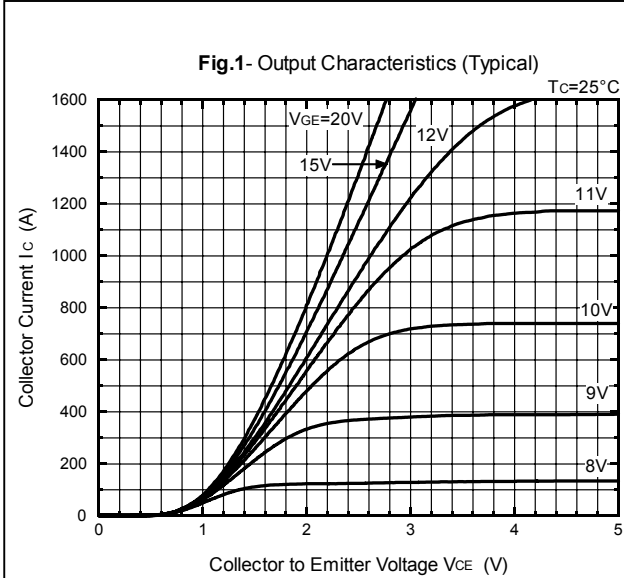
□ フリーホイーリングダイオードの特性 : *FREE WHEELING DIODE RATINGS & CHARACTERISTICS* ($T_c = 25^{\circ}\text{C}$)

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	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}	$I_F = 800A, V_{GE} = -10V$ $di/dt = 1600A/\mu s$	—	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)	—	—	0.045	$^{\circ}\text{C}/\text{W}$
	Diode			—	—	0.110	

P D M B 8 0 0 E 6



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

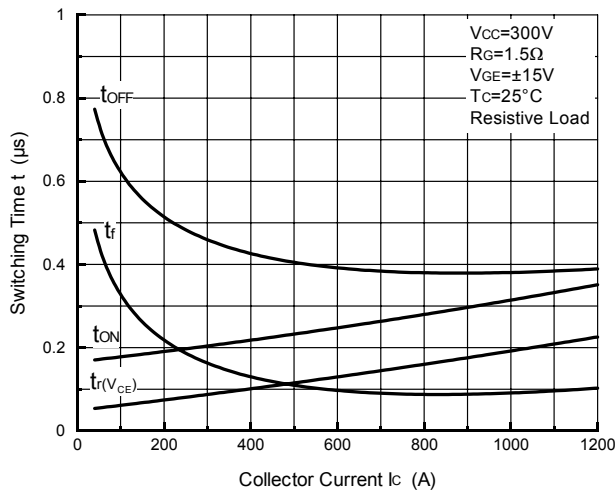


Fig.8- Series Gate Impedance vs. Switching Time (Typical)

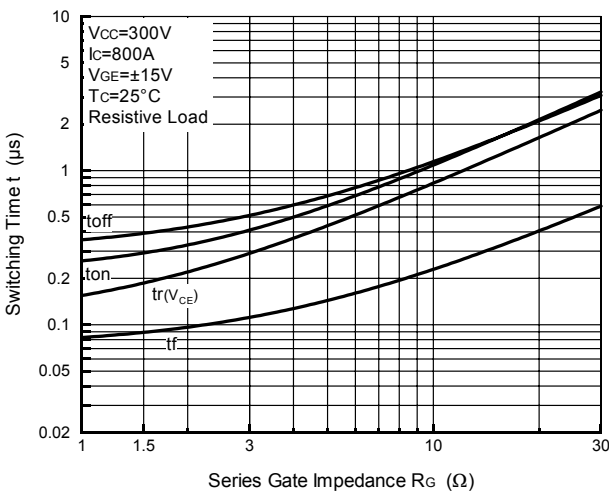


Fig.9- Collector Current vs. Switching Time

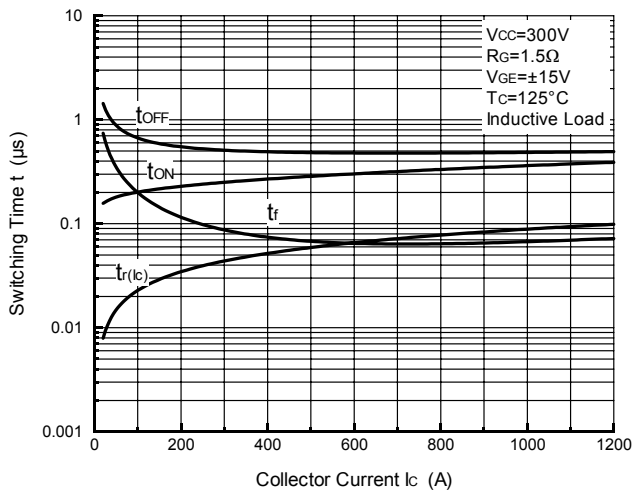


Fig.10- Series Gate Impedance vs. Switching Time

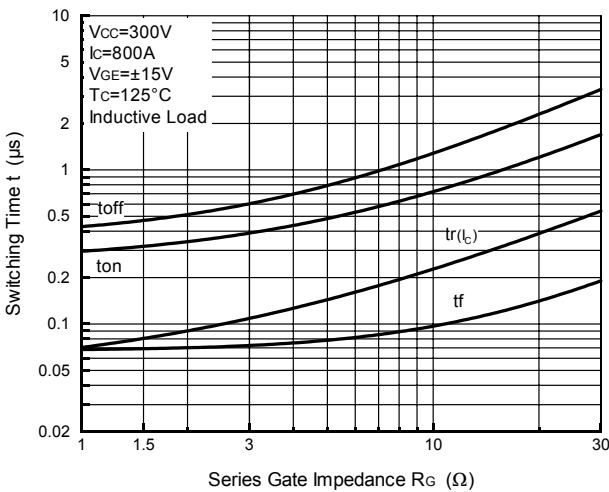


Fig.11- Collector Current vs. Switching Loss

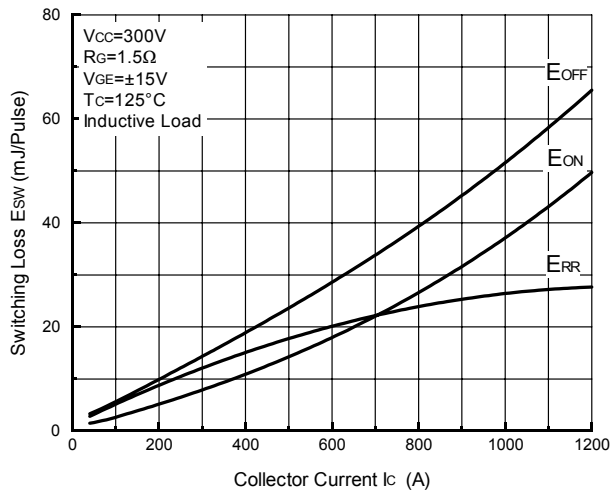
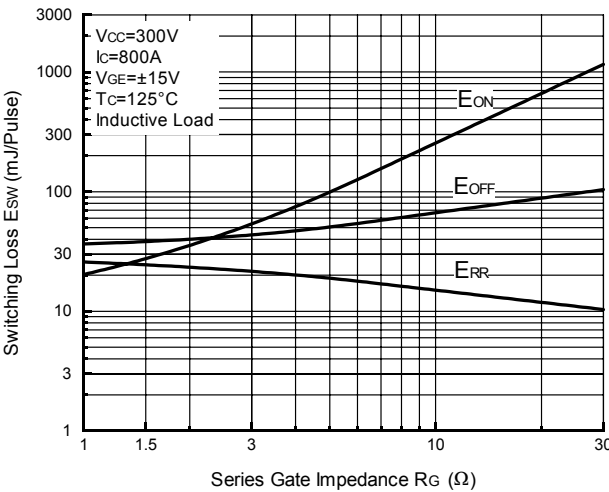


Fig.12- Series Gate Impedance vs. Switching Loss



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

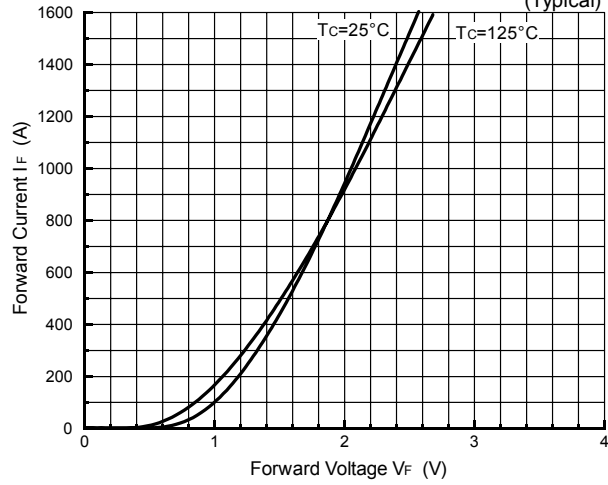


Fig.14- Reverse Recovery Characteristics (Typical)

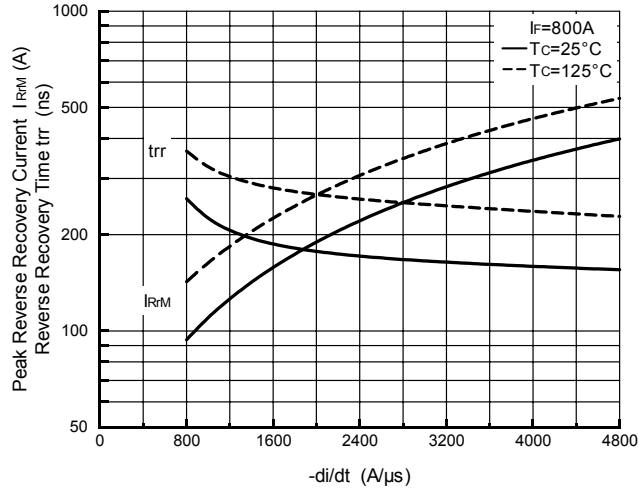


Fig.15- Reverse Bias Safe Operating Area

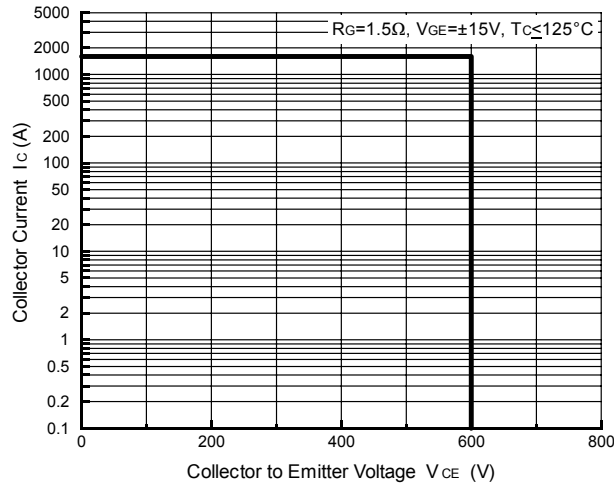


Fig.16- Transient Thermal Impedance

