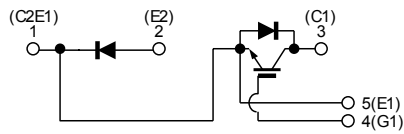
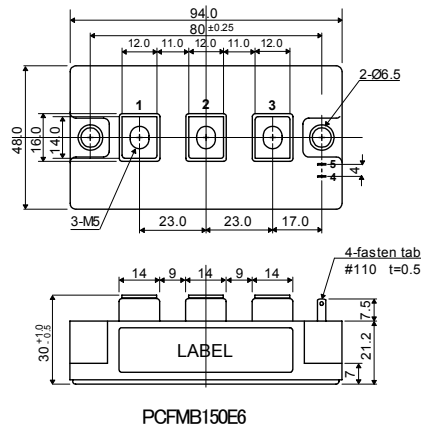


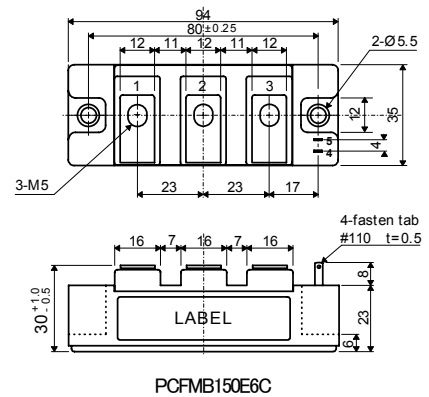
□ 回路図 : CIRCUIT



□ 外形寸法図 : OUTLINE DRAWING



PCFMB150E6



PCFMB150E6C

Dimension: [mm]

□ 最大定格 : MAXIMUM RATINGS (T_C = 25°C)

Item	Symbol	Rated Value	Unit
コレクタ・エミッタ間電圧 Collector-Emitter Voltage	V _{CE}	600	V
ゲート・エミッタ間電圧 Gate-Emitter Voltage	V _{GE}	±20	V
コレクタ電流 Collector Current	DC I _C 1ms I _{CP}	150 300	A
コレクタ損失 Collector Power Dissipation	P _C	560	W
接合温度 Junction Temperature Range	T _j	-40 ~ +150	°C
保存温度 Storage Temperature Range	T _{stg}	-40 ~ +125	°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 Busbar to Main Terminal	PDMB150E6 3 (30.6) 3 (30.6) PDMB150E6C 3 (30.6) 2 (20.4)	N·m (kgf·cm)

□ 電気的特性 : ELECTRICAL CHARACTERISTICS (T_C = 25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
コレクタ遮断電流 Collector-Emitter Cut-Off Current	I _{CE}	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 = 150A, 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 = 150mA	4.0	—	8.0	V
入力容量 Input Capacitance	C _{ies}	V _{CE} = 10V, V _{GE} = 0V, f = 1MHz	—	7,500	—	pF
スイッチング時間 Switching Time	上昇時間 Rise Time ターンオン時間 Turn-on Time 下降時間 Fall Time ターンオフ時間 Turn-off Time	t _r t _{on} t _f t _{off}	V _{CC} = 300V R _L = 2.0Ω R _G = 5.1Ω V _{GE} = ±15V	— — — —	0.15 0.25 0.10 0.35 0.35 0.70	μs

□ 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°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 _r	1 5 0		A	
	1 m s	I _{FM}	3 0 0			

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 = 150A, V _{GE} = 0V	—	1.9	2.4	V
逆 回 復 時 間 Reverse Recovery Time		t _{r r}	I _F = 150A, V _{GE} = -10V di/dt = 300A/μs	—	0.15	0.25	μ s

□ 熱的特性 : THERMAL CHARACTERISTICS

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
熱抵抗 Thermal Impedance	IGBT Diode	R _{th(j-c)} Junction to Case (T _C 測定点チップ直下)	— —	— —	0.22 0.45	°C/W

Fig.1- Output Characteristics (Typical)

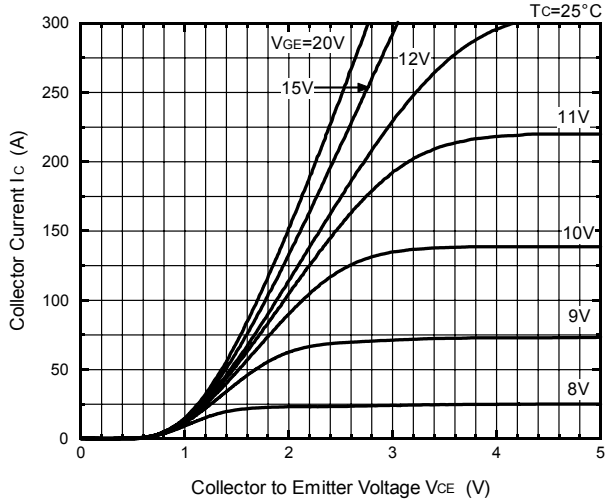


Fig.2- Output Characteristics (Typical)

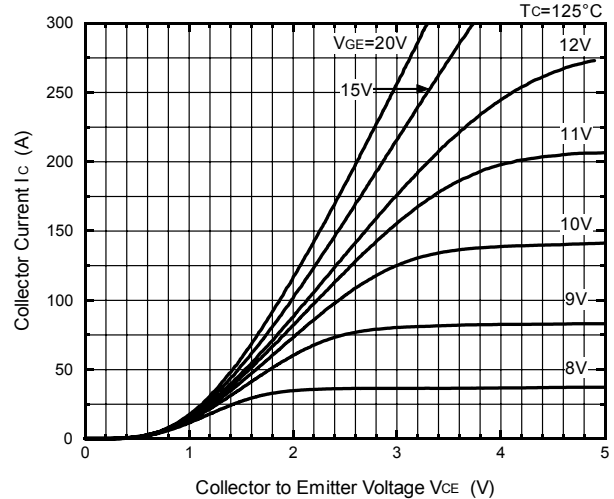


Fig.3- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

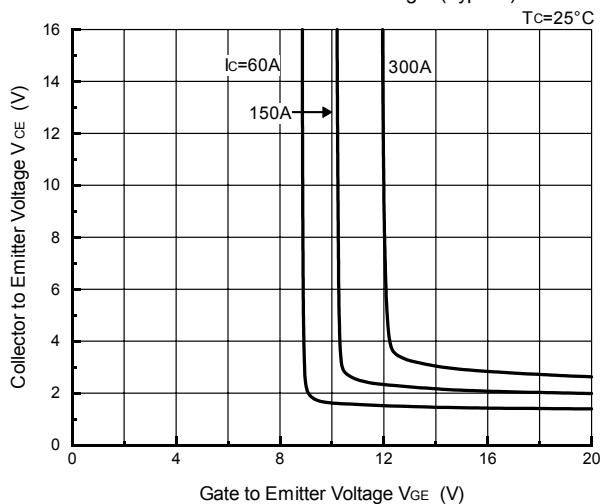


Fig.4- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

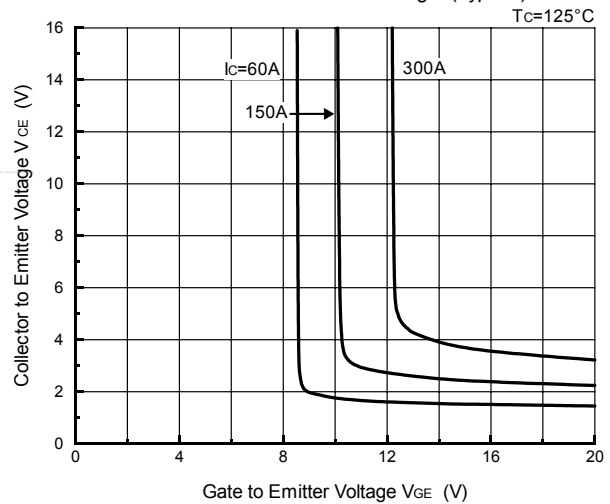


Fig.5- Gate Charge vs. Collector to Emitter Voltage (Typical)

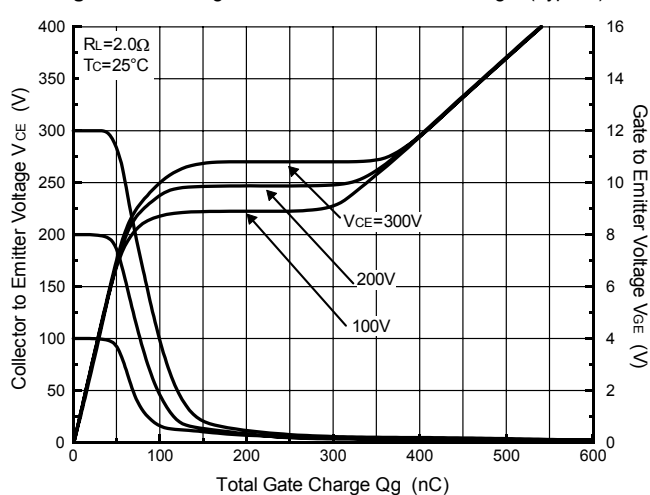


Fig.6- Capacitance vs. Collector to Emitter Voltage (Typical)

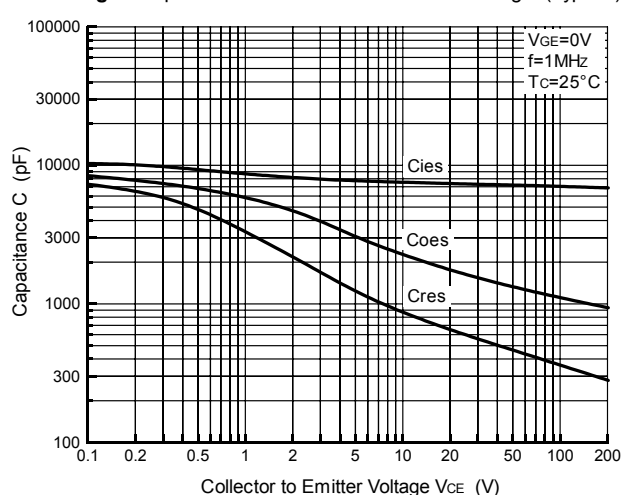


Fig.7- Collector Current vs. Switching Time (Typical)

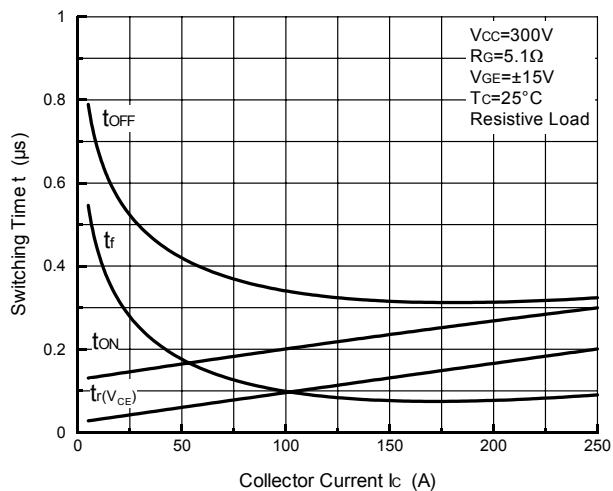


Fig.8- Series Gate Impedance vs. Switching Time (Typical)

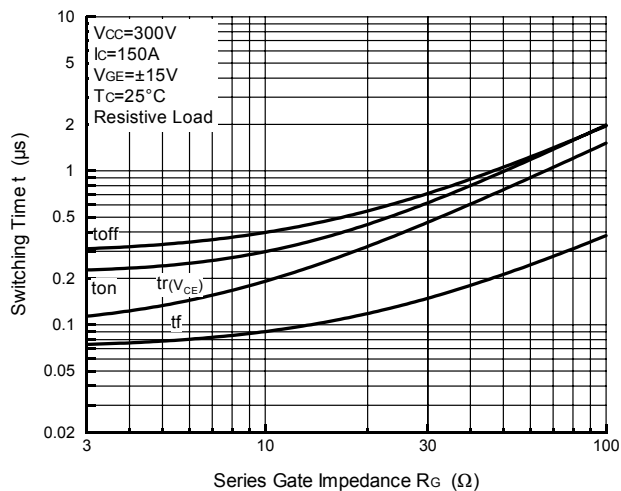


Fig.9- Collector Current vs. Switching Time

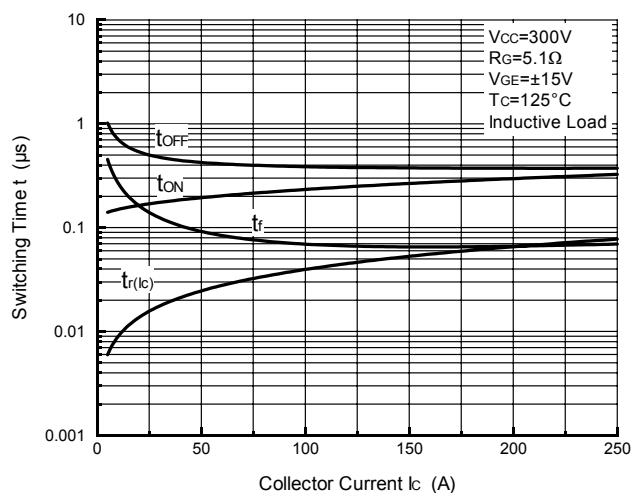


Fig.10- Series Gate Impedance vs. Switching Time

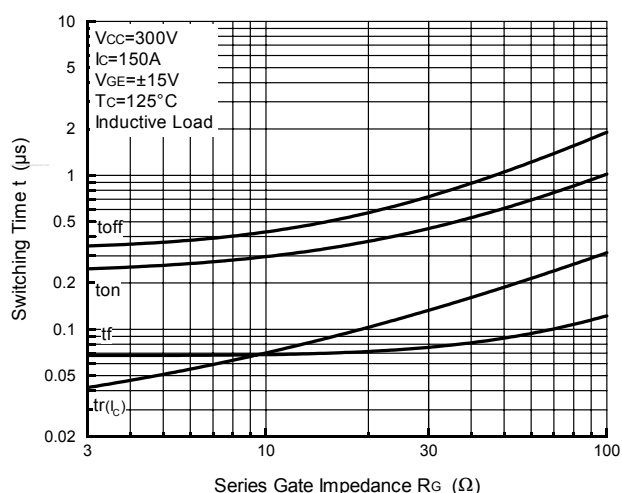


Fig.11- Collector Current vs. Switching Loss

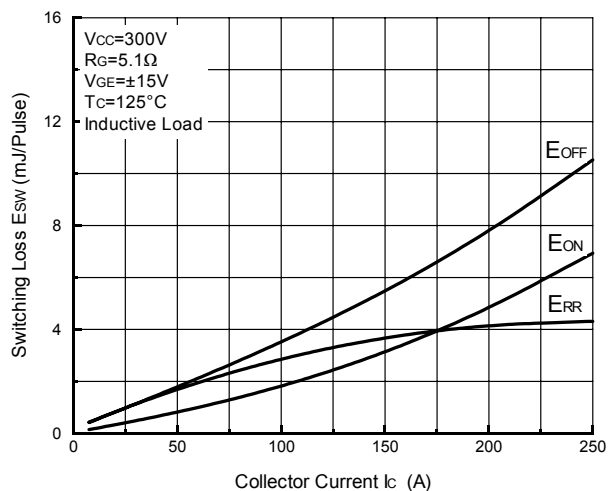


Fig.12- Series Gate Impedance vs. Switching Loss

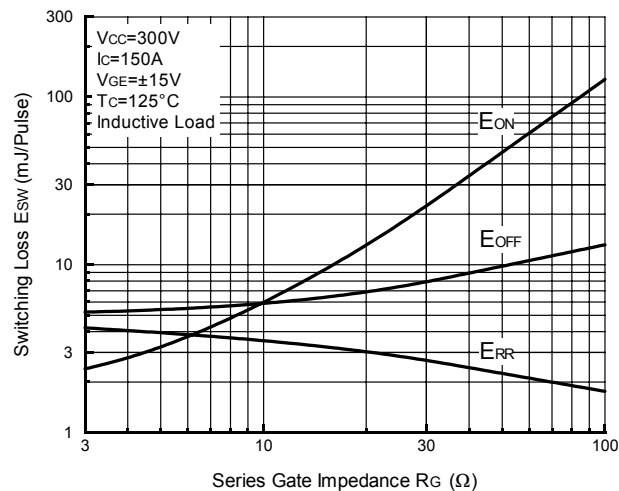


Fig.13- Forward Characteristics of Free Wheeling Diode (Typical)

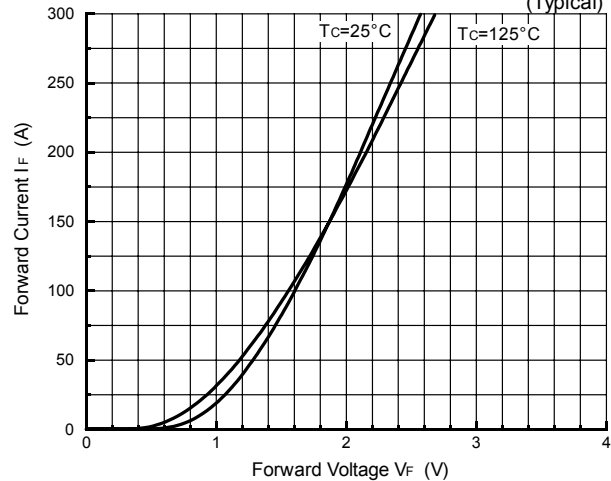


Fig.14- Reverse Recovery Characteristics (Typical)

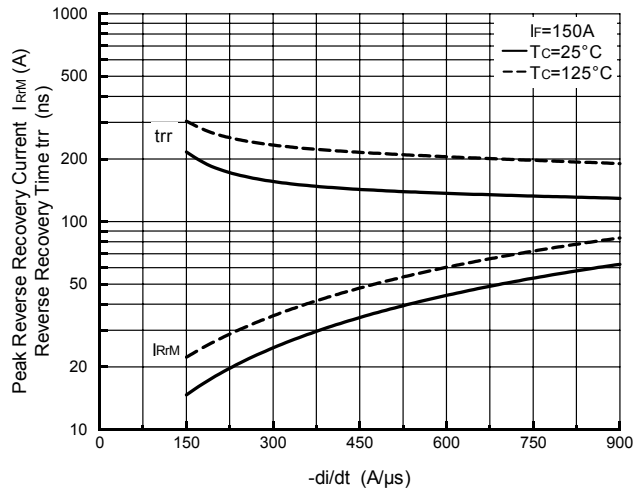


Fig.15- Reverse Bias Safe Operating Area

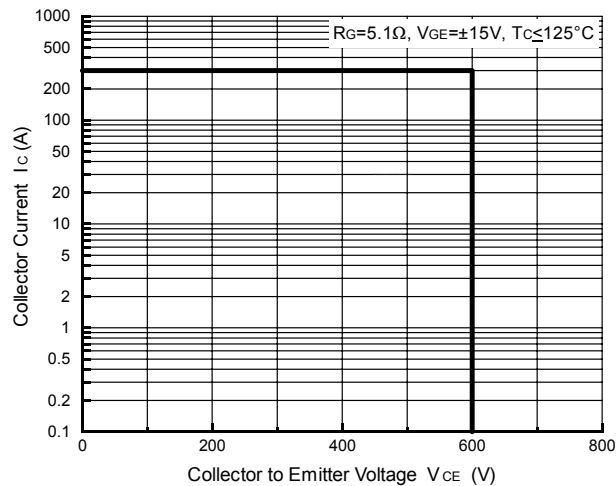


Fig.16- Transient Thermal Impedance

