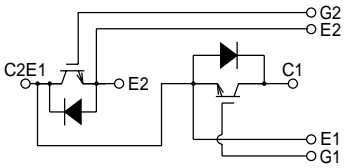


IGBT

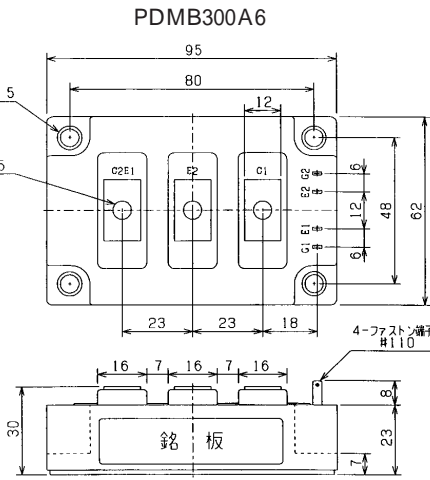
300 A 600 V

PDMB300A6
PDMB300A6C

回路図 CIRCUIT



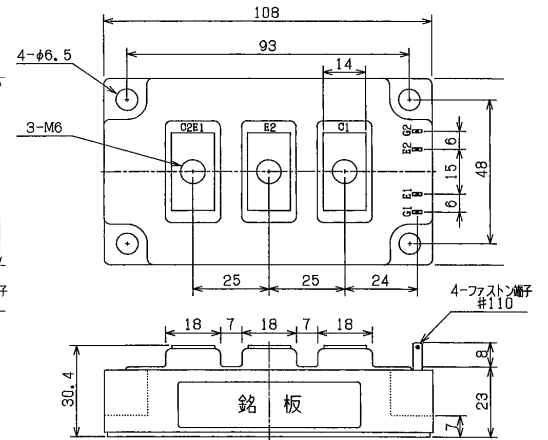
外形寸法図 OUTLINE DRAWING



質量: 430g (標準値)

(単位 Dimension : mm)

PDMB300A6C



質量: 450g (標準値)

最大定格 Maximum Ratings (Tc = 25)

項目 Item	記号 Symbol	定格値 Rated Value	単位 Unit
コレクタ・エミッタ間電圧 Collector-Emmitter Voltage	V _{CEs}	600	V
ゲート・エミッタ間電圧 Gate-Emmitter Voltage	V _{GES}	± 20	V
コレクタ電流 Collector Current	DC	I _c	A
	1ms	I _{cP}	
コレクタ損失 Collector Power Dissipation	P _c	1040	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 端子 - ベース間, AC 1 分間) Isolation Voltage (Terminal to Base, AC 1 min.)	V _{iso}	2500	V (RMS)
締付トルク Mounting Torque	ベース取付部 Module Base to Heatsink	PDMB300A6 2 (20.4)	PDMB300A6C 3 (30.6)
	端子部 Busbar to Terminal		

電気的特性 Electrical Characteristics (Tc = 25)

項目 Characteristic	記号 Symbol	条件 Test Conditions	最小 Min.	標準 Typ.	最大 Max.	単位 Unit
コレクタ遮断電流 Collector-Emmitter Cut-Off Current	I _{CEs}	V _{CE} = 600V, V _{GE} = 0V			3.0	mA
ゲート漏れ電流 Gate-Emmitter Leakage Current	I _{GES}	V _{GE} = ± 20V, V _{CE} = 0V			500	nA
コレクタ・エミッタ間飽和電圧 Collector-Emmitter 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-Emmitter 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		30000		pF
スイッチング時間 Switching Time	上昇時間 Rise Time	V _{CC} = 300V R _L = 1.0 R _e = 2.0 V _{GE} = ± 15V		0.2	0.4	μs
	ターン・オン時間 Turn-On Time			0.4	0.75	
	下降時間 Fall Time			0.2	0.35	
	ターン・オフ時間 Turn-Off Time			0.6	0.8	

フリーホイーリングダイオードの特性 Free Wheeling Diode Ratings & Characteristics (Tc = 25)

項目 Item		記号 Symbol	定格値 Rated Value	単位 Unit
順電流 Forward Current	DC	I _F	300	A
	1ms	I _{FM}	600	

項目 Characteristic	記号 Symbol	条件 Test Conditions	最小 Min.	標準 Typ.	最大 Max.	単位 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 = 300A/μs		0.15	0.25	μs

熱的特性 Thermal Characteristics

項目 Characteristic	記号 Symbol	条件 Test Conditions	最小 Min.	標準 Typ.	最大 Max.	単位 Unit
熱抵抗 Thermal Impedance	IGBT	接合部 - ケース間 Junction to Case			0.12	/W
	Diode				0.24	

定格・特性曲線

Fig. 1 Output Characteristics (Typical)

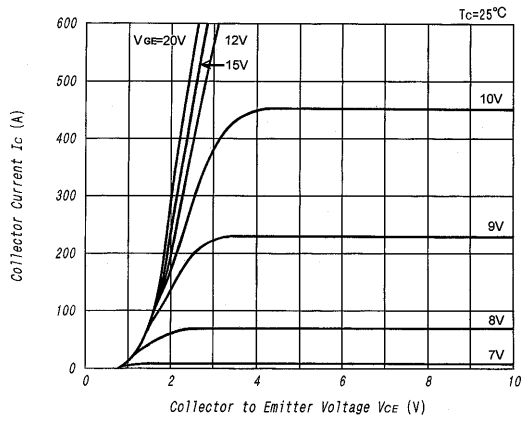


Fig. 2 Collector to Emitter on Voltage vs. Gate to Emitter Voltage (Typical)

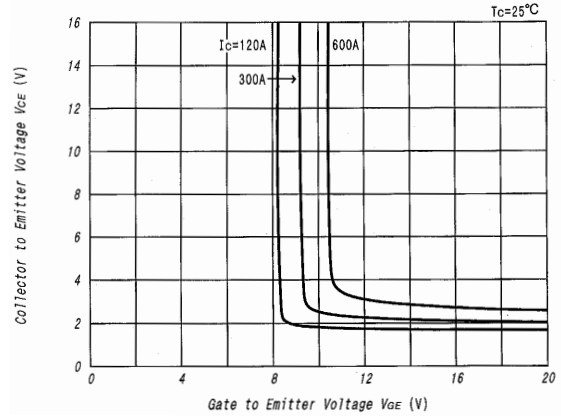


Fig. 3 Collector to Emitter on Voltage vs. Gate to Emitter Voltage (Typical)

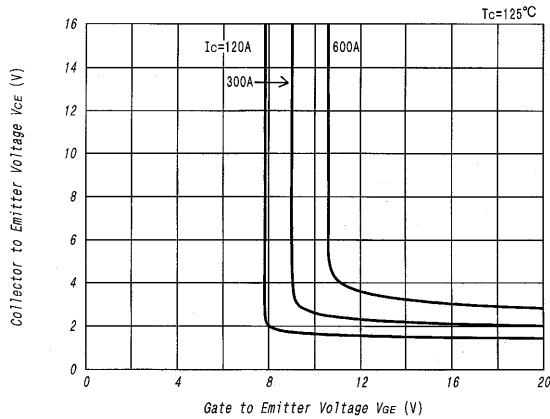


Fig. 4 Gate Charge vs. Collector to Emitter Voltage (Typical)

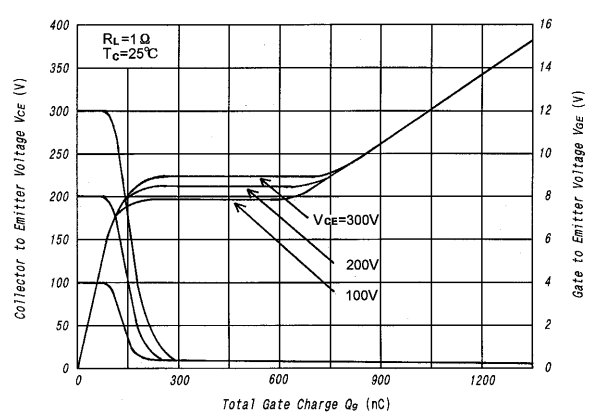


Fig. 5 Capacitance vs. Collector to Emitter Voltage (Typical)

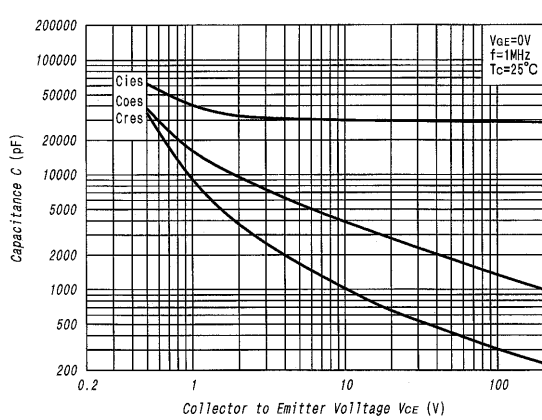


Fig. 6 Collector Current vs. Switching Time (Typical)

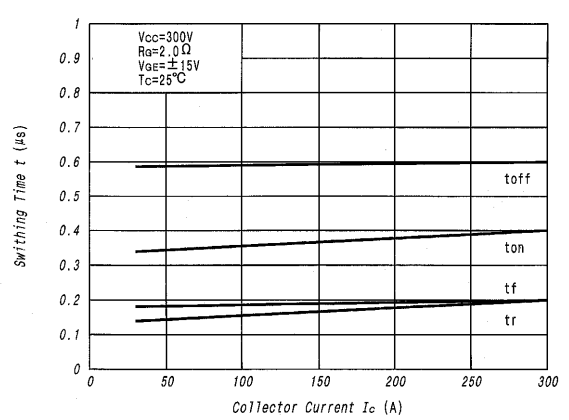


Fig. 7 Series Gate Impedance vs. Switching Time (Typical)

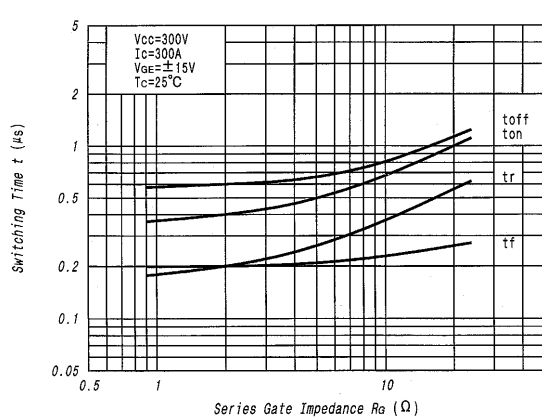


Fig. 8 Forward Characteristics of Free Wheeling Diode (Typical)

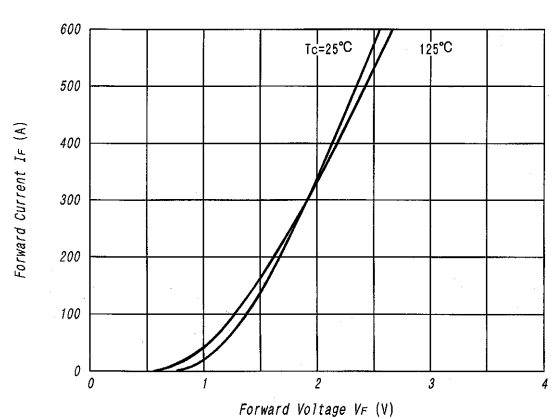


Fig. 9 Reverse Recovery Capacitance (Typical)

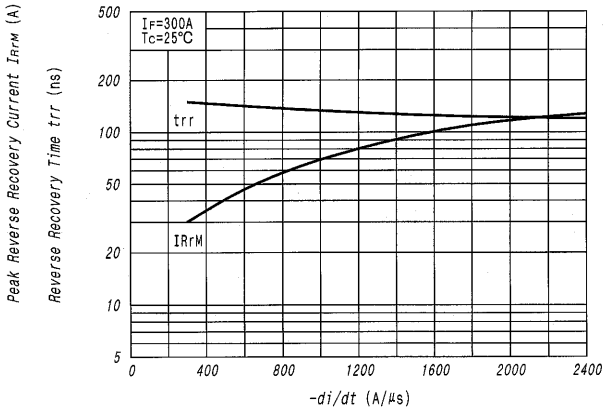


Fig. 10 Reverse Bias Safe Operating Area

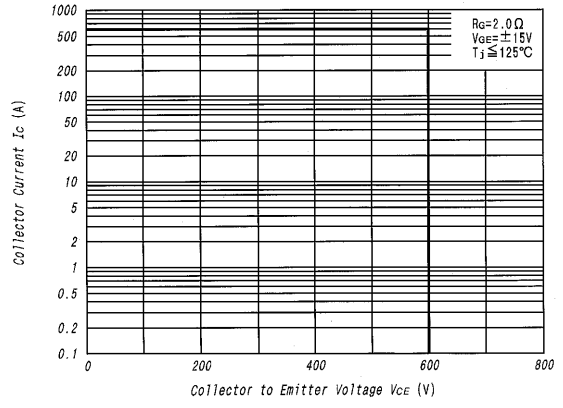


Fig. 11 Transient Thermal Impedance

