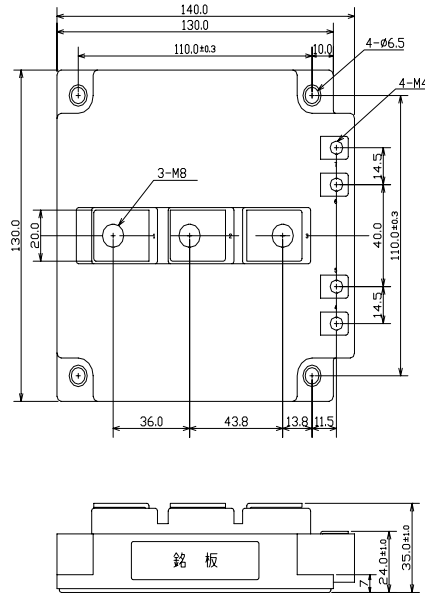
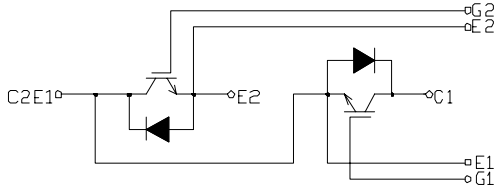


IGBT MODULE Dual 600A 1200V

PD600B12

CIRCUIT

OUTLINE DRAWING



4 - fasten- tab No 110

Dimension(mm)

Approximate Weight : 1,200g

MAXMUM RATINGS (Tc=25°C)

Item	Symbol	PD600B12	Unit		
Collector-Emitter Voltage	V _{CEs}	1200	V		
Gate - Emitter Voltage	V _{GES}	+/- 20	V		
Collector Current	DC	I _C 600	A		
	1 ms	I _{CP} 1200			
Collector Power Dissipation	P _C	2770	W		
Junction Temperature Range	T _j	-40 to +150	°C		
Storage Temperature Range	T _{stg}	-40 to +125	°C		
Isolation Voltage (Terminal to Base AC, 1 min.)	V _{ISO}	2500	V		
Mounting Torque	F _{TOR}	Module Base to Heat sink	N•m		
		Bus Bar to Main Terminals		M4	1.4
				M8	10.5

ELECTRICAL CHARACTERISTICS (Tc=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Emitter Cut-Off Current	I _{CES}	V _{CE} =1200V, V _{GE} =0V	-	-	12	mA
Gate-Emitter Leakage Current	I _{GES}	V _{GE} =+/- 20V, V _{CE} =0V	-	-	1.0	μA
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =600A, V _{GE} =15V	-	1.9	2.4	V
Gate-Emitter Threshold Voltage	V _{GE(th)}	V _{CE} =5V, I _C =600mA	4.0	-	8.0	V
Input Capacitance	C _{ies}	V _{CE} =10V, V _{GE} =0V, f=1MHz	-	50000	-	pF
Switching Time	Rise Time	V _{CC} = 600V R _L = 1 ohm R _G = 1 ohm V _{GE} = +/- 15V	-	0.25	0.45	μs
	Turn-on Time		-	0.40	0.70	
	Fall Time		-	0.25	0.35	
	Turn-off Time		-	0.80	1.10	

FREE WHEELING DIODES RATINGS & CHARACTERISTICS (Tc=25°C)

Item	Symbol	Rated Value	Unit
Forward Current	DC	I _F 600	A
	1 ms	I _{FM} 1200	

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Peak Forward Voltage	V _F	I _F =600A, V _{GE} =0V	-	1.9	2.4	V
Reverse Recovery Time	t _{rr}	I _F =600A, V _{GE} =-10V, di/dt=1200A/μs	-	0.25	0.35	μs

THERMAL CHARACTERISTICS

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Thermal Impedance	IGBT	Junction to Case	-	-	0.044	°C/W
	DIODE		-	-	0.035	

PDMB600B12

Fig.1- Output Characteristics (Typical)

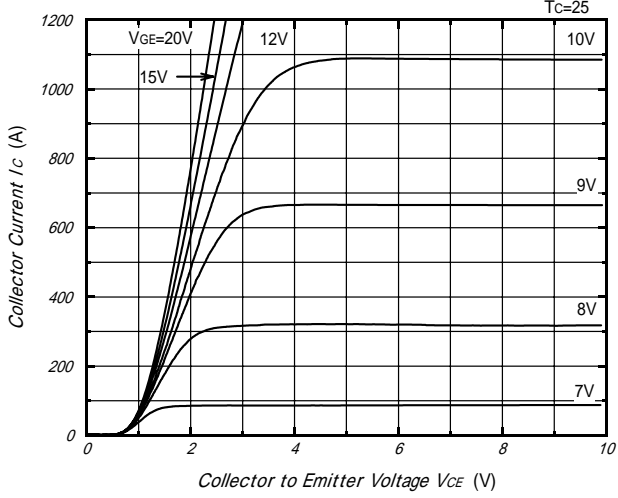


Fig.2- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

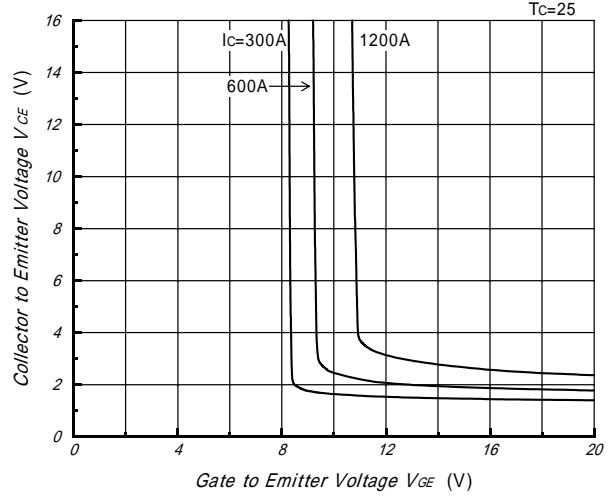


Fig.3- Collector to Emitter On Voltage vs. Gate to Emitter Voltage (Typical)

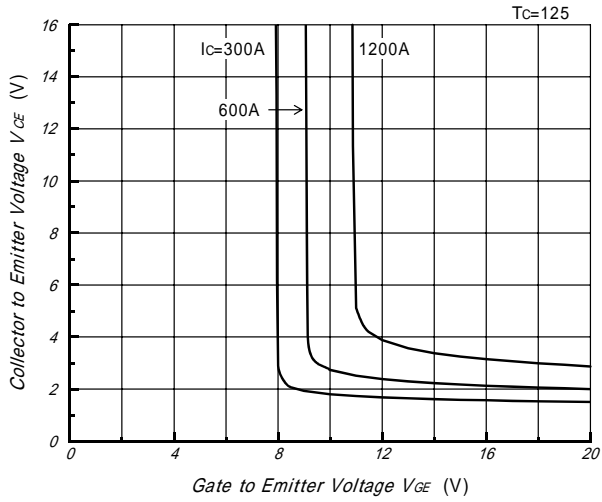


Fig.4- Gate Charge vs. Collector to Emitter Voltage (Typical)

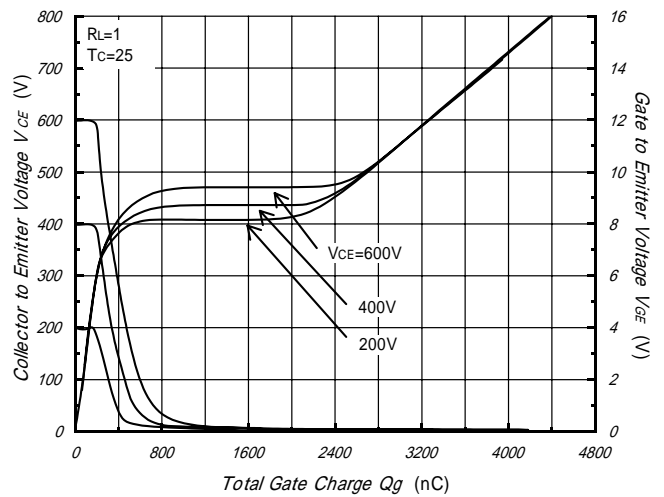


Fig.5- Capacitance vs. Collector to Emitter Voltage (Typical)

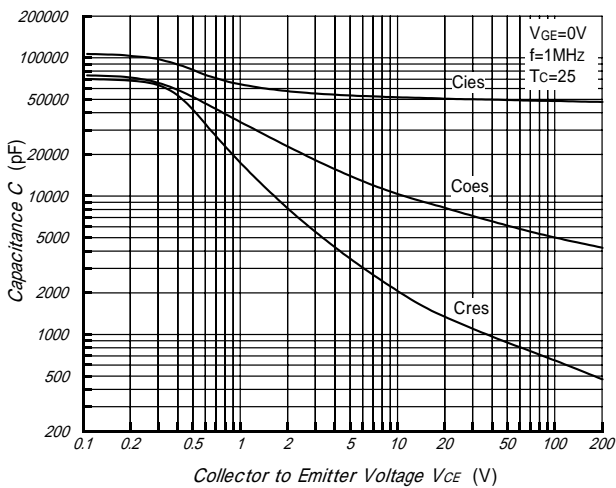
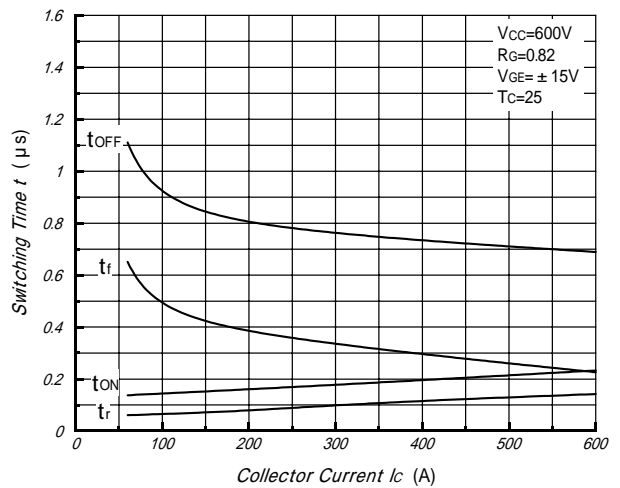


Fig.6- Collector Current vs. Switching Time (Typical)



PDMB600B12

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

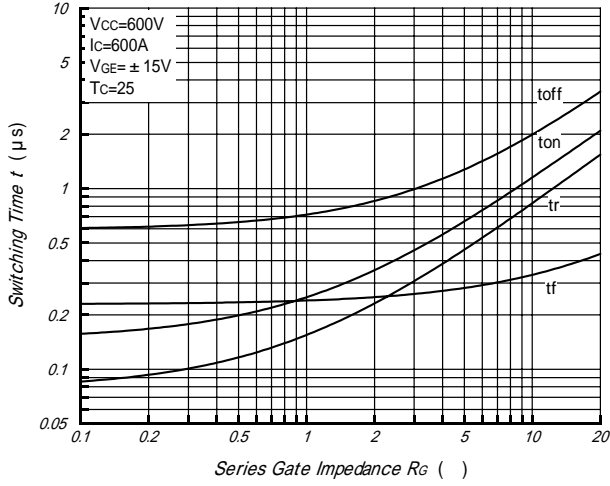


Fig.8- Forward Characteristics of Free Wheeling Diode (Typical)

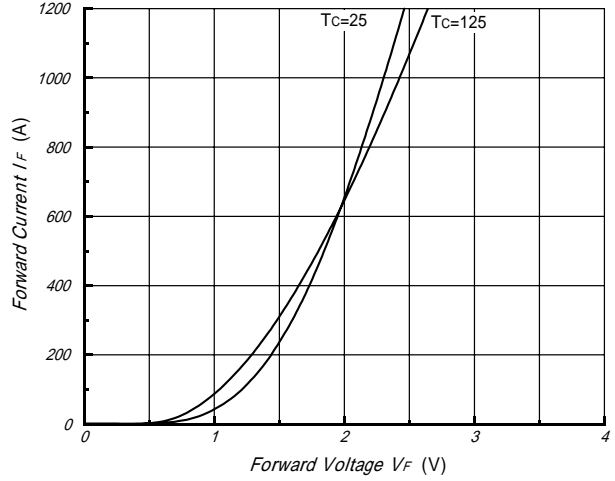


Fig.9- Reverse Recovery Characteristics (Typical)

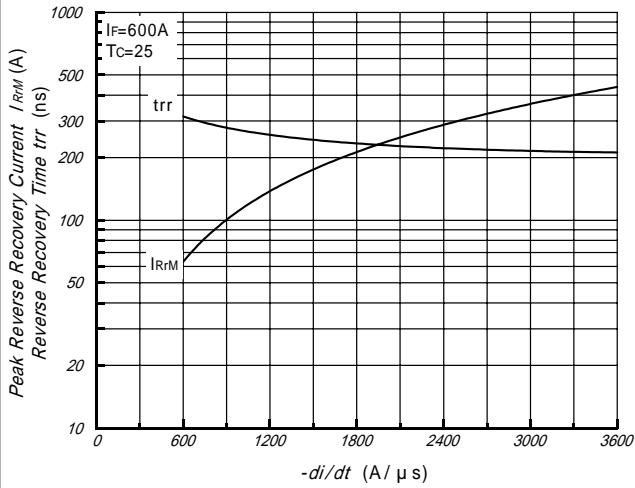


Fig.10- Reverse Bias Safe Operating Area (Typical)

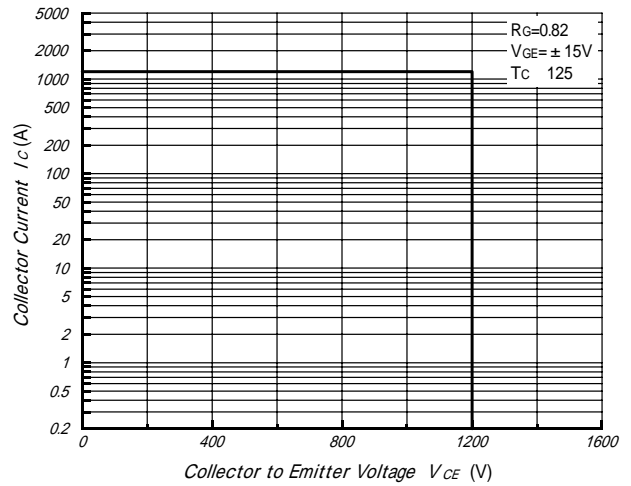


Fig.11- Transient Thermal Impedance

