

IGBT Module-Dual

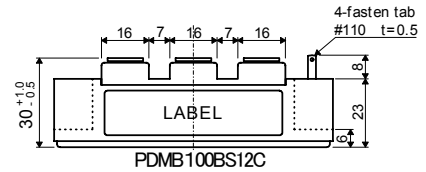
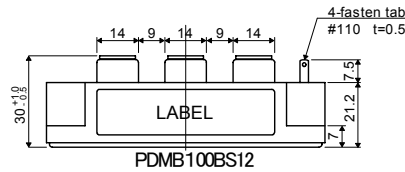
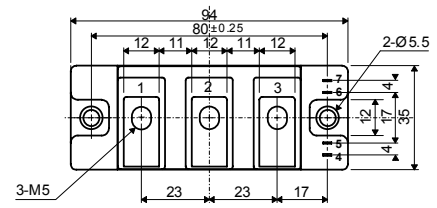
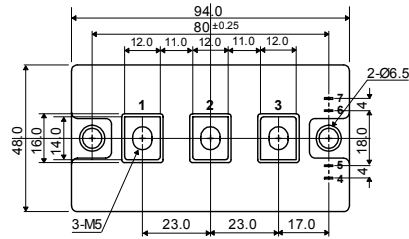
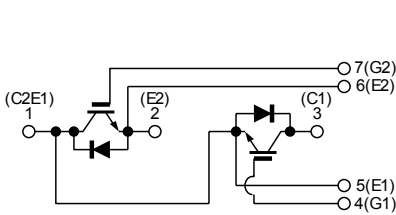
100 A, 1200V

PDMB100BS12

PDMB100BS12C

□ 回路図 : CIRCUIT

□ 外形寸法図 : OUTLINE DRAWING



Dimension: [mm]

□ 最大定格 : MAXIMUM RATINGS (T<sub>c</sub> = 25 °C)

Item	Symbol	Rated Value	Unit	
コレクタ・エミッタ間電圧 Collector-Emittter Voltage	V <sub>CEs</sub>	1, 200	V	
ゲート・エミッタ間電圧 Gate-Emittter Voltage	V <sub>GES</sub>	± 20	V	
コレクタ電流 Collector Current	DC	100	A	
	1ms	200		
コレクタ損失 Collector Power Dissipation	P <sub>c</sub>	600	W	
接合温度 Junction Temperature Range	T <sub>j</sub>	-40 ~ +150	°C	
保存温度 Storage Temperature Range	T <sub>stg</sub>	-40 ~ +125	°C	
絶縁耐圧(Terminal to Base AC, 1 minute) Isolation Voltage	V <sub>iso</sub>	2, 500	V (RMS)	
締め付けトルク Mounting Torque	Module Base to Heatsink Busbar to Main Terminal	PDMB100BS12	3 (30.6) 2 (20.4)	N · m (kgf · cm)
		PDMB100BS12C	2 (20.4) 2 (20.4)	

□ 電気的特性 : ELECTRICAL CHARACTERISTICS (T<sub>c</sub> = 25 °C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
コレクタ遮断電流 Collector-Emittter Cut-Off Current	I <sub>CEs</sub>	V <sub>CE</sub> = 1200V, V <sub>GE</sub> = 0V	-	-	1.0	mA
ゲート漏れ電流 Gate-Emittter Leakage Current	I <sub>GES</sub>	V <sub>GE</sub> = ±20V, V <sub>CE</sub> = 0V	-	-	1.0	µA
コレクタ・エミッタ間飽和電圧 Collector-Emittter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> = 100A, V <sub>GE</sub> = 15V	-	2.3	2.7	V
ゲートしきい値電圧 Gate-Emittter Threshold Voltage	V <sub>GE(th)</sub>	V <sub>CE</sub> = 5V, I <sub>c</sub> = 100mA	4.0	-	8.0	V
入力容量 Input Capacitance	C <sub>ies</sub>	V <sub>CE</sub> = 10V, V <sub>GE</sub> = 0V, f = 1MHz	-	6,300	-	pF
スイッチング時間 Switching Time	上昇時間 Rise Time	V <sub>CC</sub> = 600V R <sub>L</sub> = 6.0Ω R <sub>G</sub> = 15.0Ω V <sub>GE</sub> = ±15V	-	0.25	0.45	µs
	ターンオン時間 Turn-on Time		-	0.40	0.70	
	下降時間 Fall Time		-	0.25	0.35	
	ターンオフ時間 Turn-off Time		-	0.80	1.10	

□ フリーホイールダイオードの特性 : FREE WHEELING DIODE RATINGS & CHARACTERISTICS (T<sub>c</sub> = 25 °C)

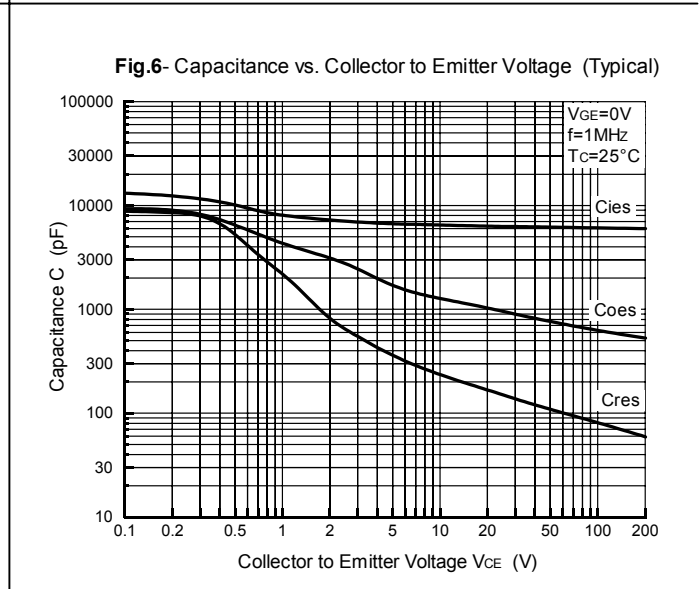
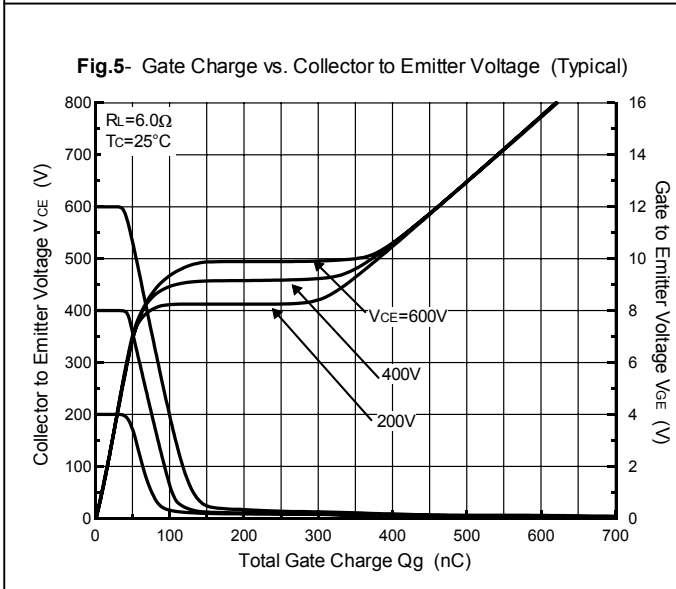
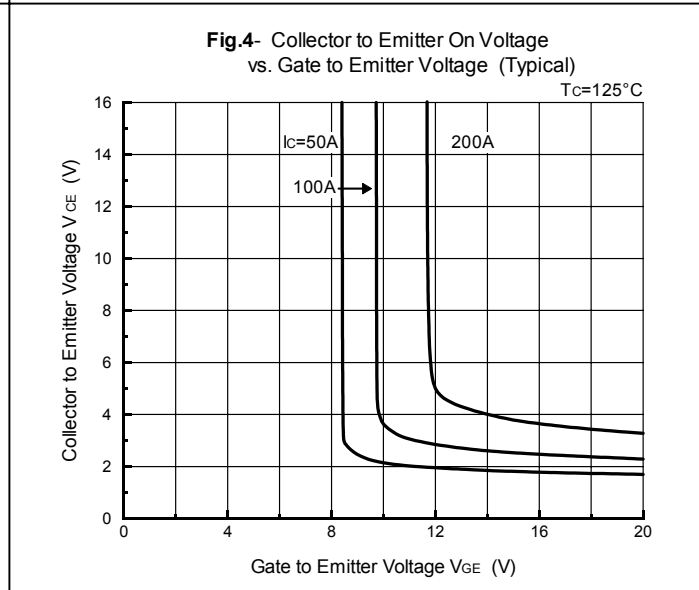
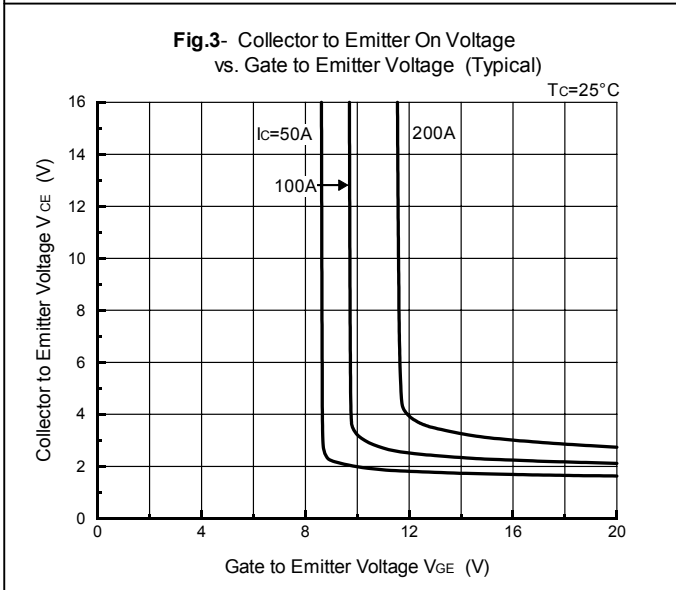
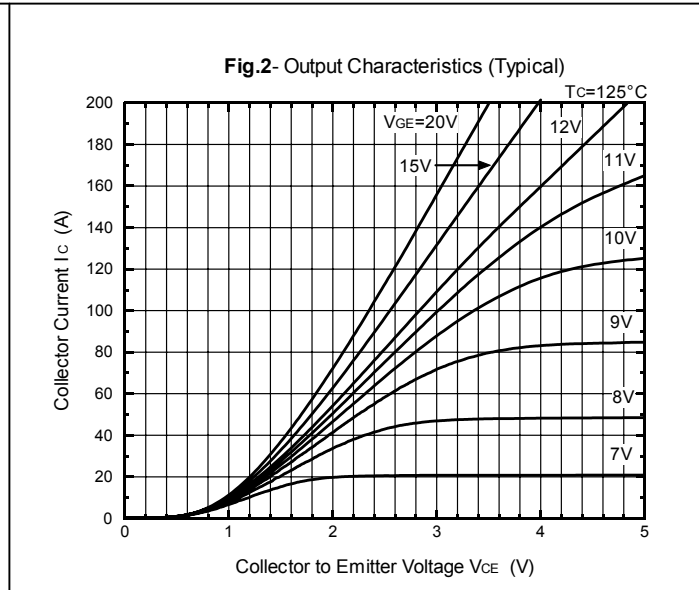
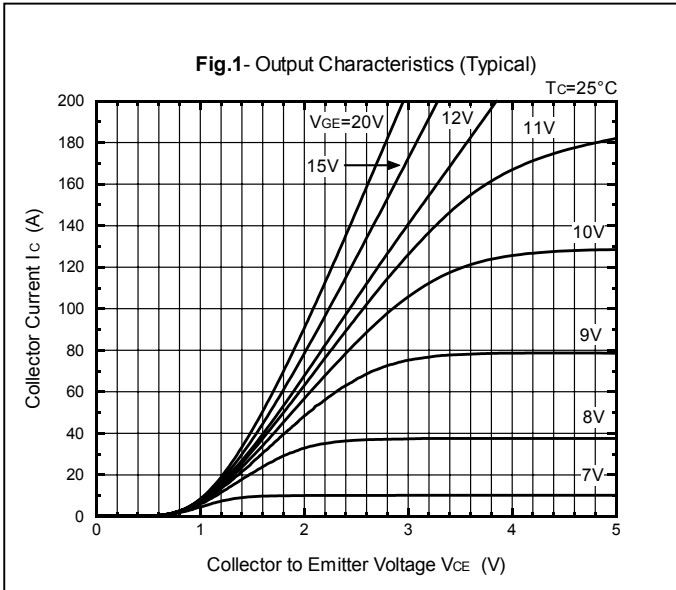
Item	Symbol	Rated Value	Unit
順電流 Forward Current	DC	100	A
	1ms	200	

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
順電圧 Peak Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 100A, V <sub>GE</sub> = 0V	-	2.2	2.6	V
逆回復時間 Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 100A, V <sub>GE</sub> = -10V di/dt = 200A/µs	-	0.2	0.3	µs

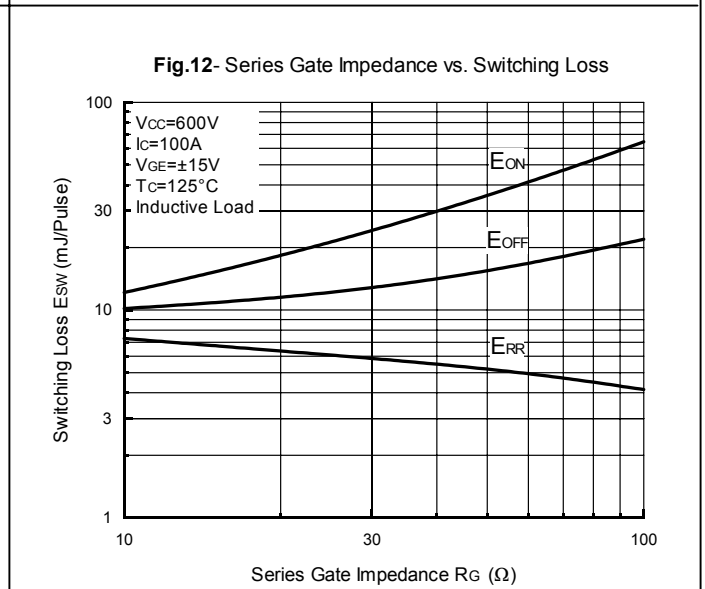
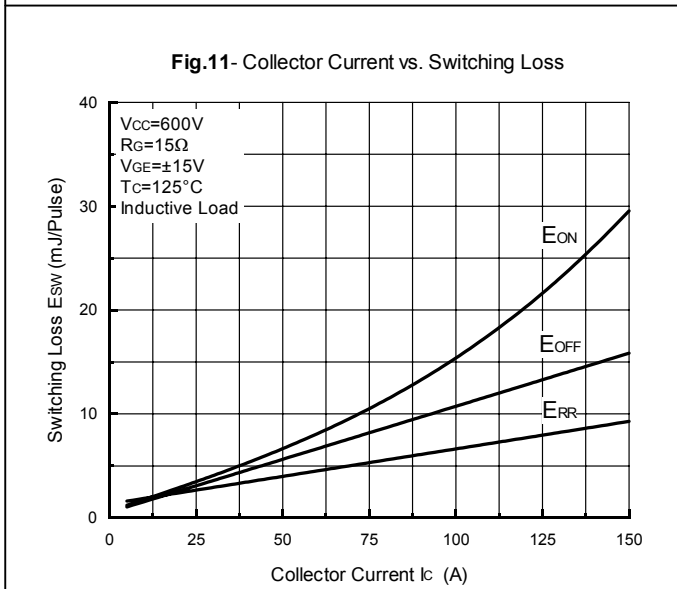
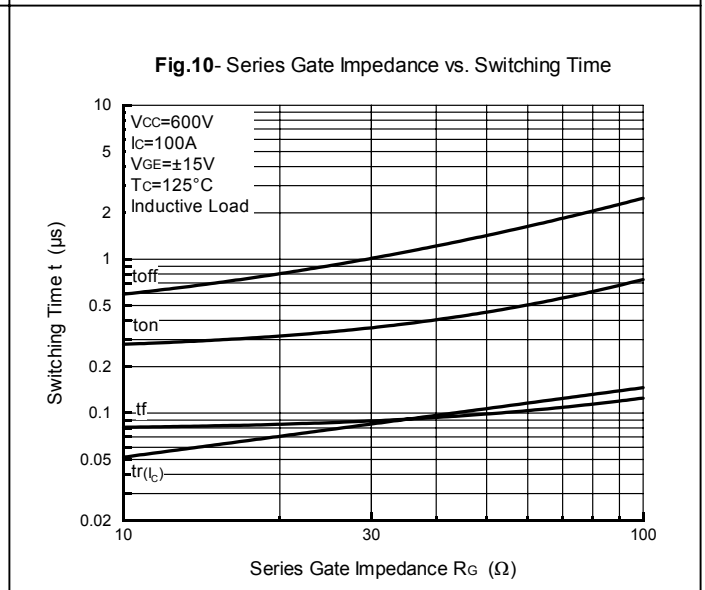
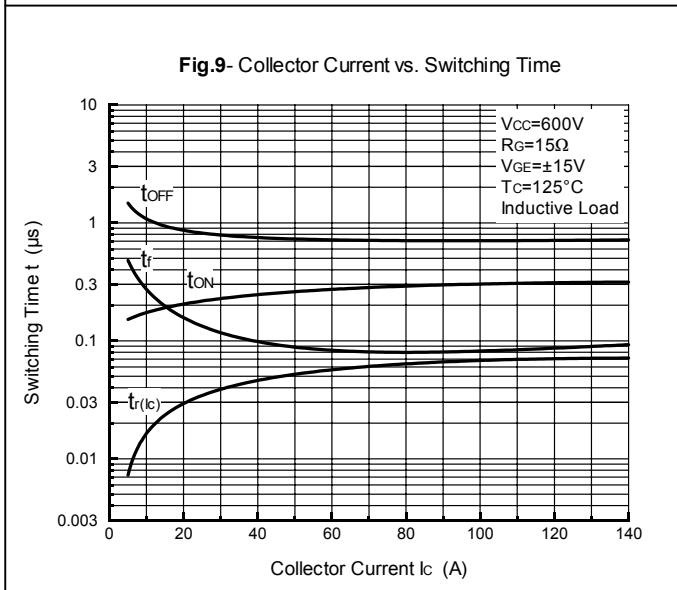
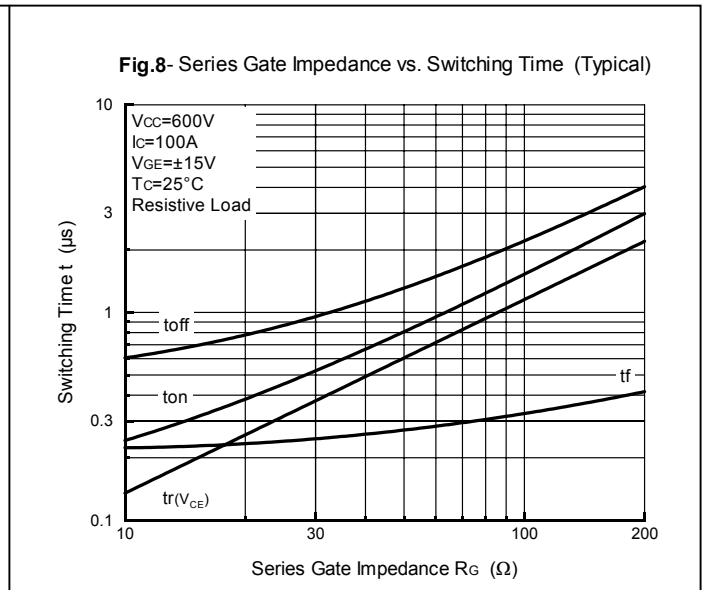
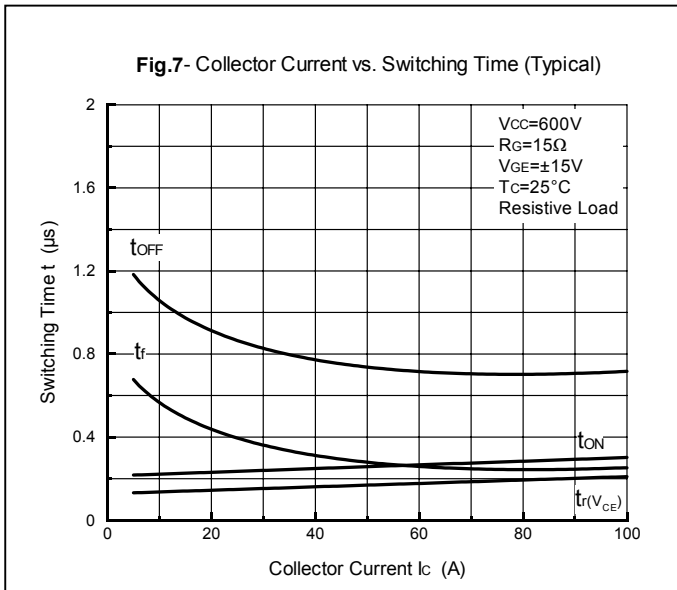
□ 熱的特性 : THERMAL CHARACTERISTICS

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
熱抵抗 Thermal Impedance	IGBT	Junction to Case (T <sub>c</sub> 測定点チップ直下)	-	-	0.208	°C/W
	Diode		-	-	0.428	

PDMB100BS12  
PDMB100BS12C

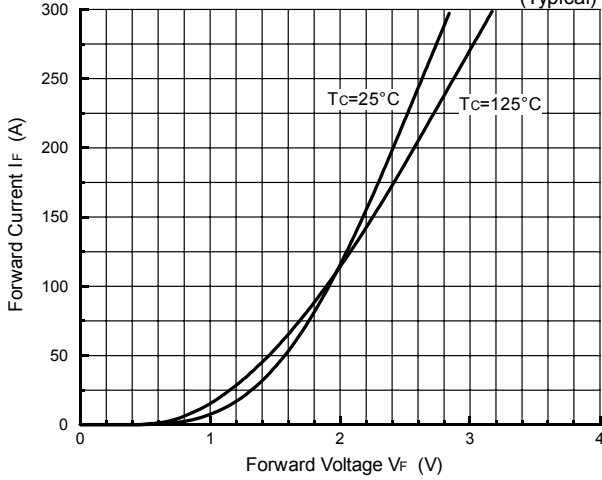


PDMB100BS12  
PDMB100BS12C

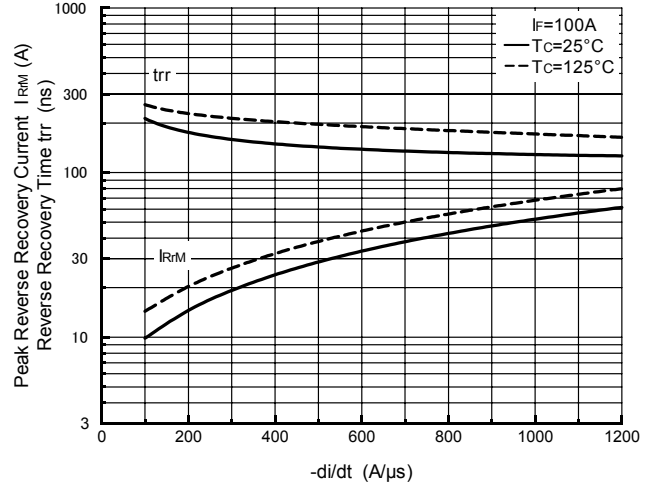


PDMB100BS12  
PDMB100BS12C

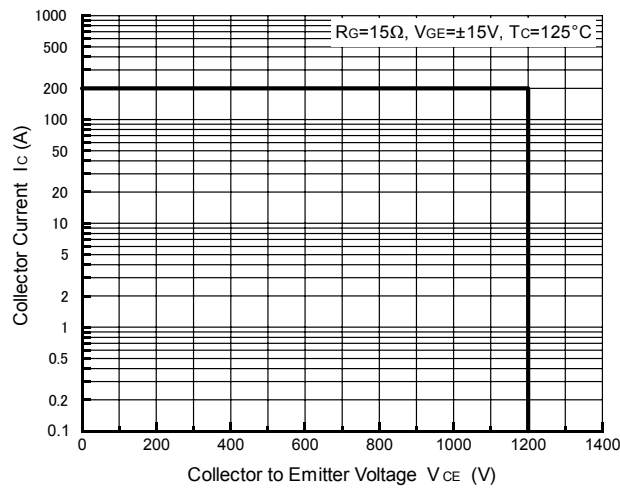
**Fig.13- Forward Characteristics of Free Wheeling Diode (Typical)**



**Fig.14- Reverse Recovery Characteristics (Typical)**



**Fig.15- Reverse Bias Safe Operating Area**



**Fig.16- Transient Thermal Impedance**

