

6MBI180VX-120-55

IGBT Modules

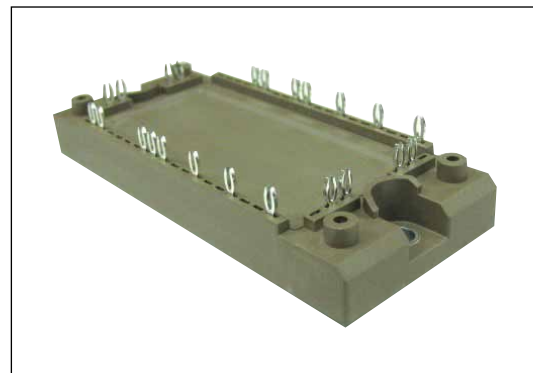
IGBT MODULE (V series) 1200V / 180A / 6 in one package

■ Features

- Compact Package
- P.C.Board Mount
- Low $V_{CE(sat)}$

■ Applications

- Inverter for Motor Drive
- AC and DC Servo Drive Amplifier
- Uninterruptible Power Supply
- Industrial machines, such as welding machines



■ Maximum Ratings and Characteristics

● Absolute Maximum Ratings (at $T_c=25^{\circ}\text{C}$ unless otherwise specified)

Items		Symbols	Conditions		Maximum ratings	Units
Inverter	Collector-Emitter voltage	V _{CES}			1200	V
	Gate-Emitter voltage	V _{GES}			±20	V
	Collector current	I _C	Continuous	T _c =100°C	150	A
		I _{C pulse}	1ms	T _c =80°C	400	
		-I _C			150	
		-I _{C pulse}	1ms	400		
Collector power dissipation	P _C	1 device		1075	W	
Junction temperature		T _J			175	°C
Operating junciton temperature (under switching conditions)		T _{Jop}			150	
Case temperature		T _C			125	
Storage temperature		T _{stg}			-40 ~ +125	
Isolation voltage	Between terminal and copper base (*1) Between thermistor and others (*2)	V _{iso}	AC : 1min.		2500	VAC
Screw torque	Mounting (*3)	-	M5		3.5	N m

Note *1: All terminals should be connected together during the test.

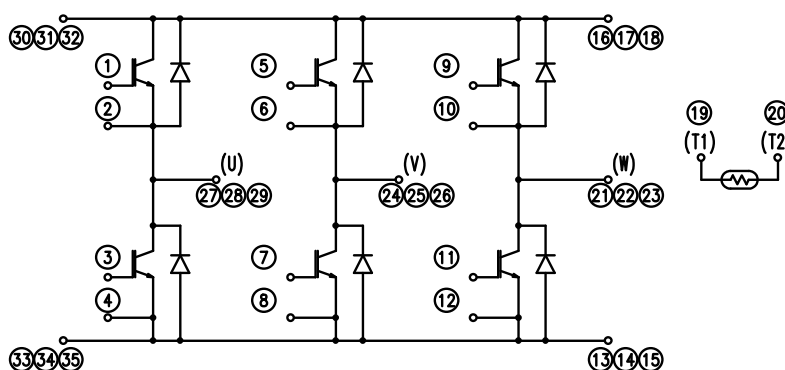
Note *2: Two thermistor terminals should be connected together, other terminals should be connected together and shorted to base plate during the test.

Note *3: Recommendable value : 2.5-3.5 Nm (M5)

● Thermal resistance characteristics

Note *4: This is the value which is defined mounting on the additional cooling fin with thermal compound.

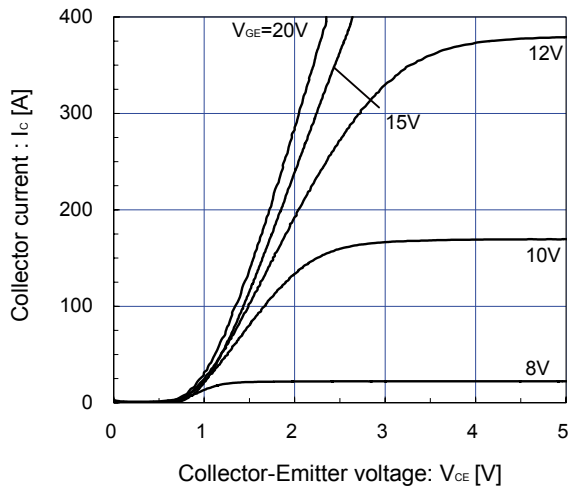
[Thermistor]



■ Characteristics (Representative)

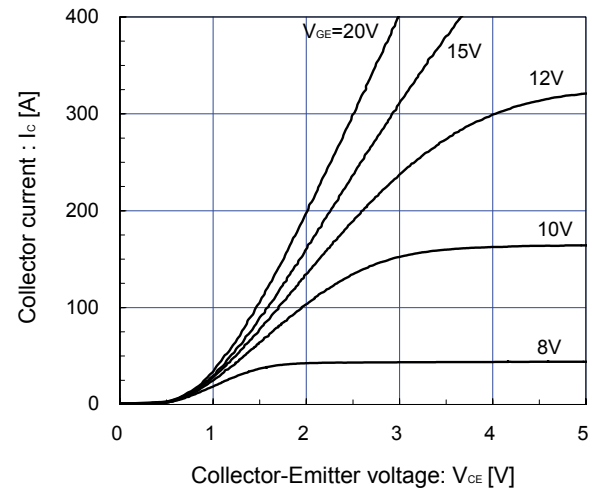
[Inverter]

Collector current vs. Collector-Emittter voltage (typ.)

 $T_J = 25^\circ\text{C}$ / chip

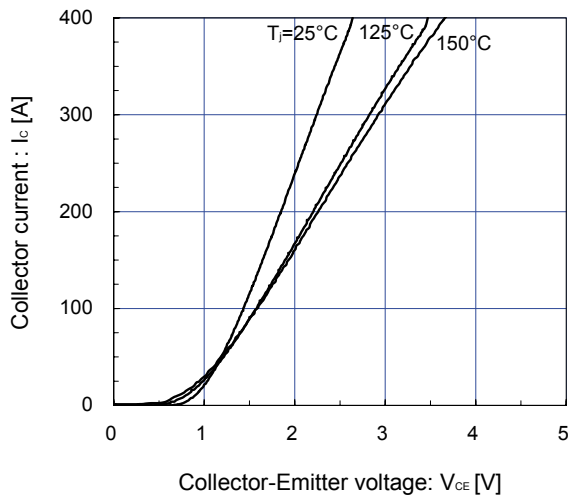
[Inverter]

Collector current vs. Collector-Emittter voltage (typ.)

 $T_J = 150^\circ\text{C}$ / chip

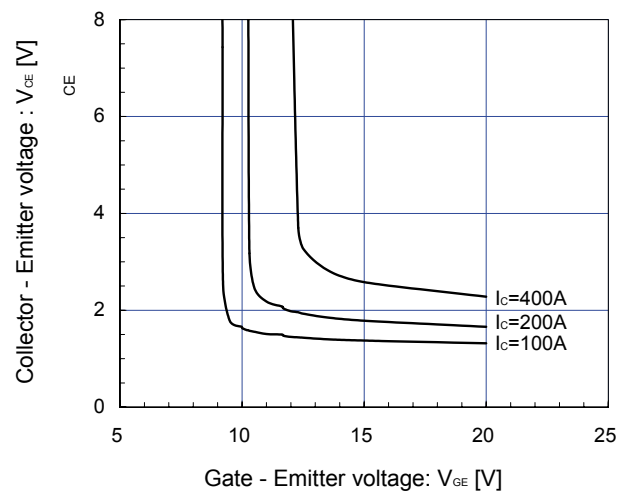
[Inverter]

Collector current vs. Collector-Emittter voltage (typ.)

 $V_{GE} = 15\text{V}$ / chip

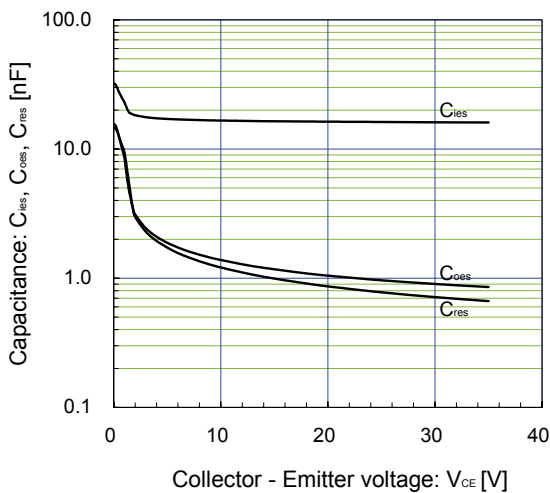
[Inverter]

Collector-Emittter voltage vs. Gate-Emittter voltage (typ.)

 $T_J = 25^\circ\text{C}$ / chip

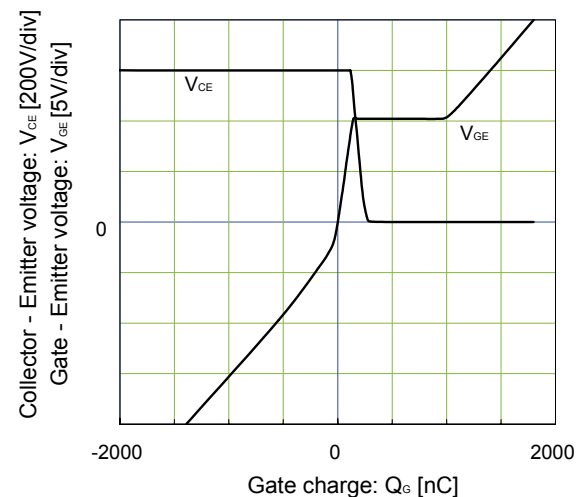
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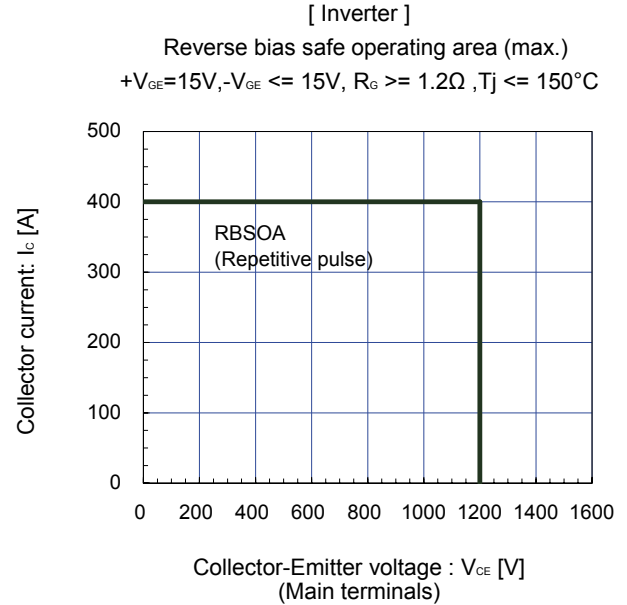
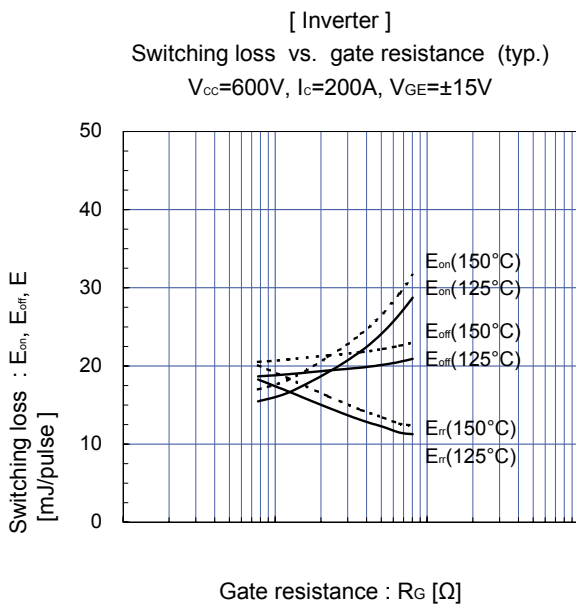
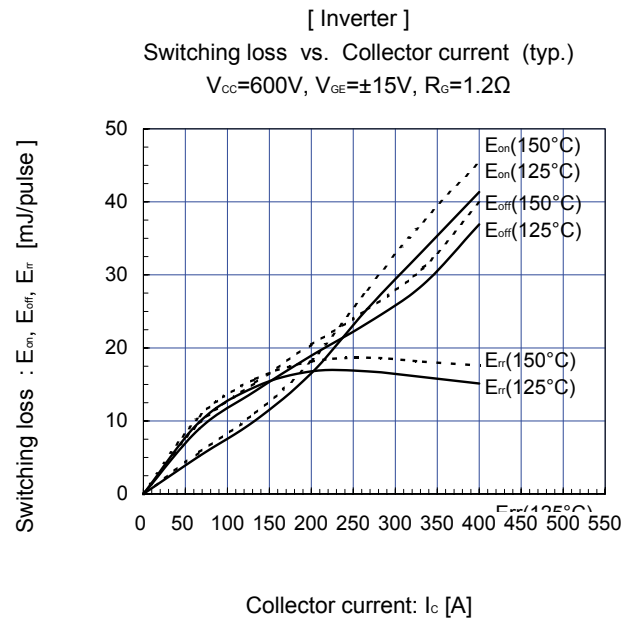
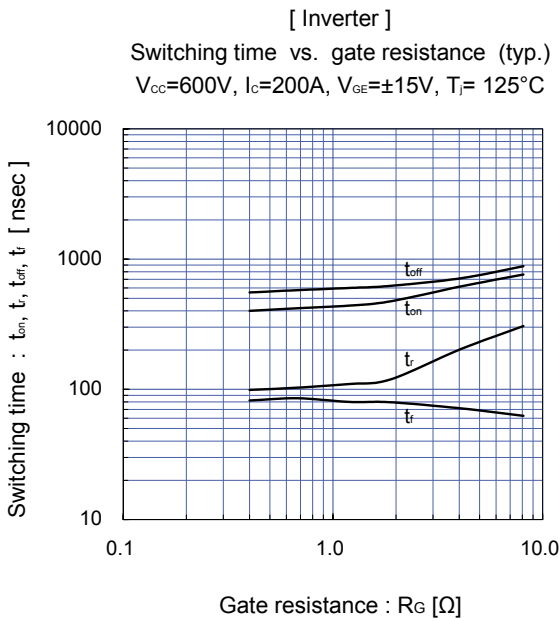
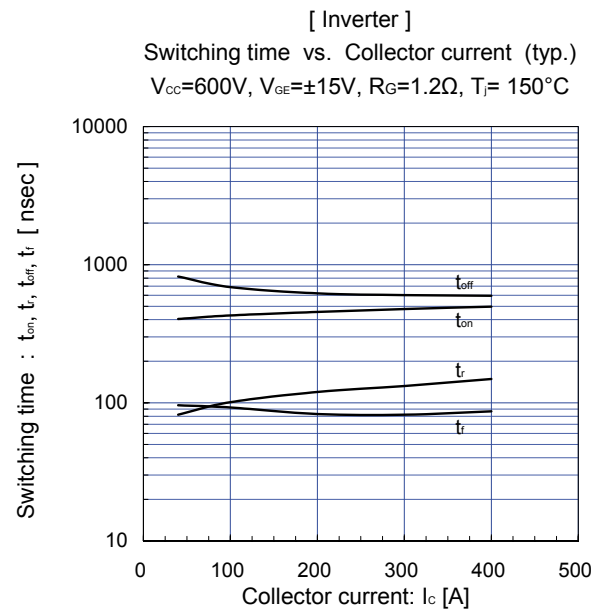
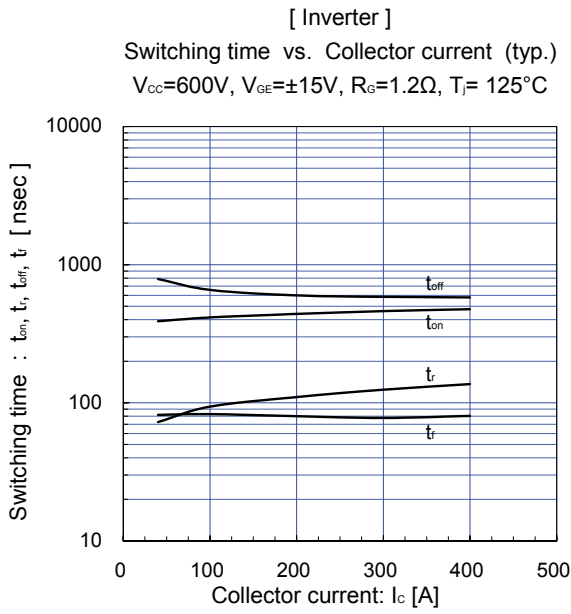
Capacitance vs. Collector-Emittter voltage (typ.)

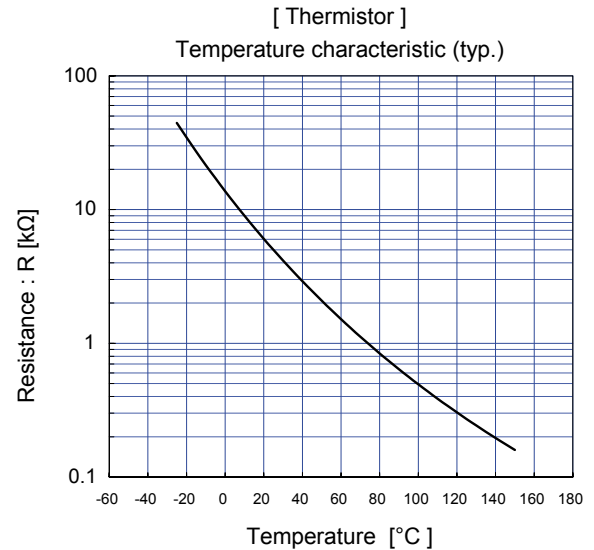
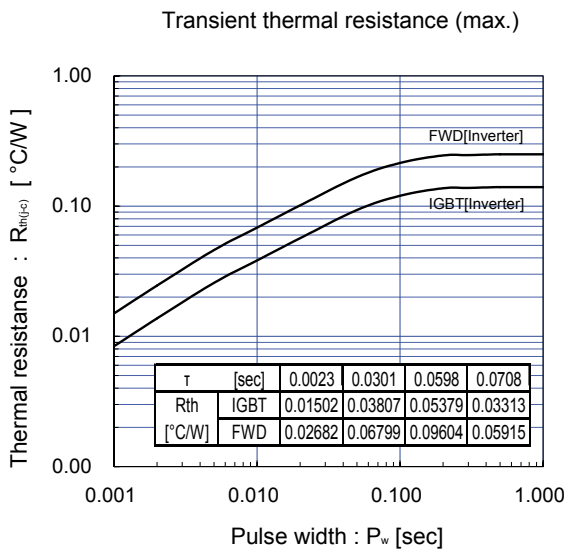
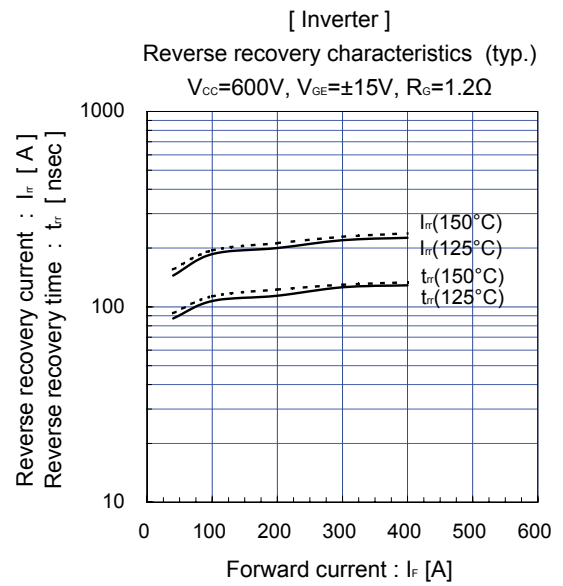
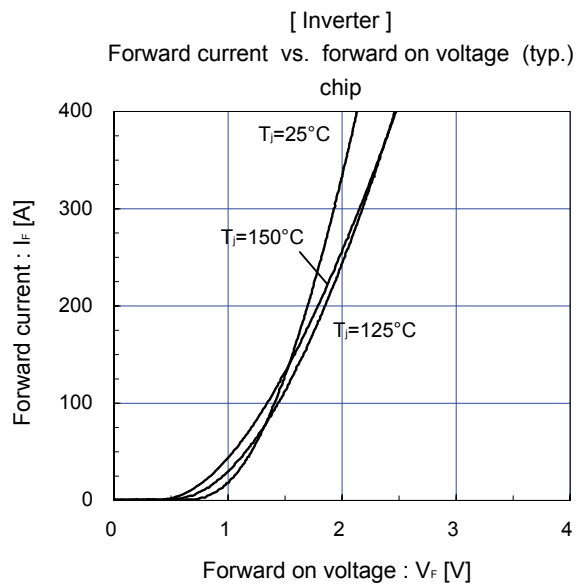
 $V_{GE} = 0\text{V}, f = 1\text{MHz}, T_J = 25^\circ\text{C}$ 

[Inverter]

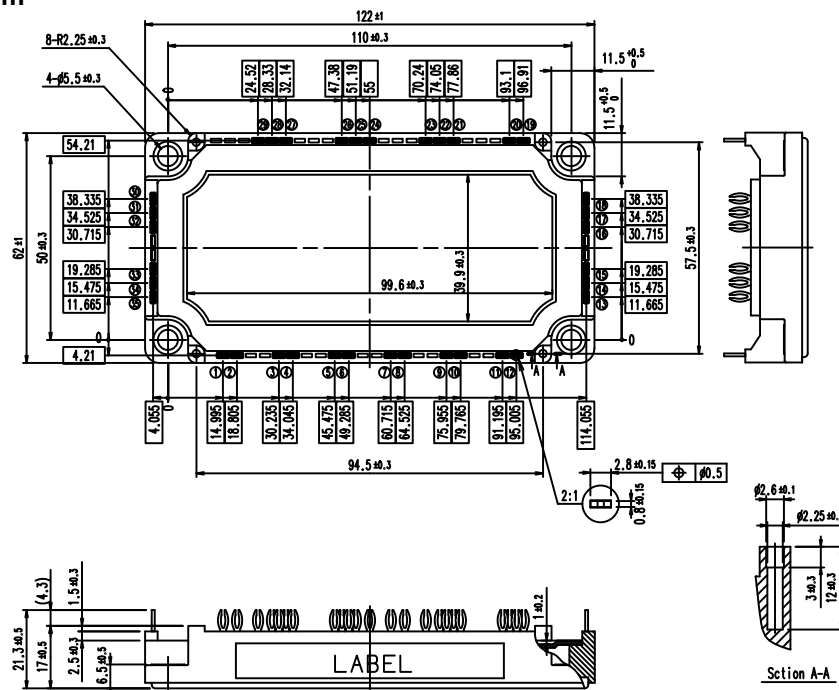
Dynamic gate charge (typ.)

 $V_{CC} = 600\text{V}, I_C = 200\text{A}, T_J = 25^\circ\text{C}$ 





Outline Drawings, mm



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