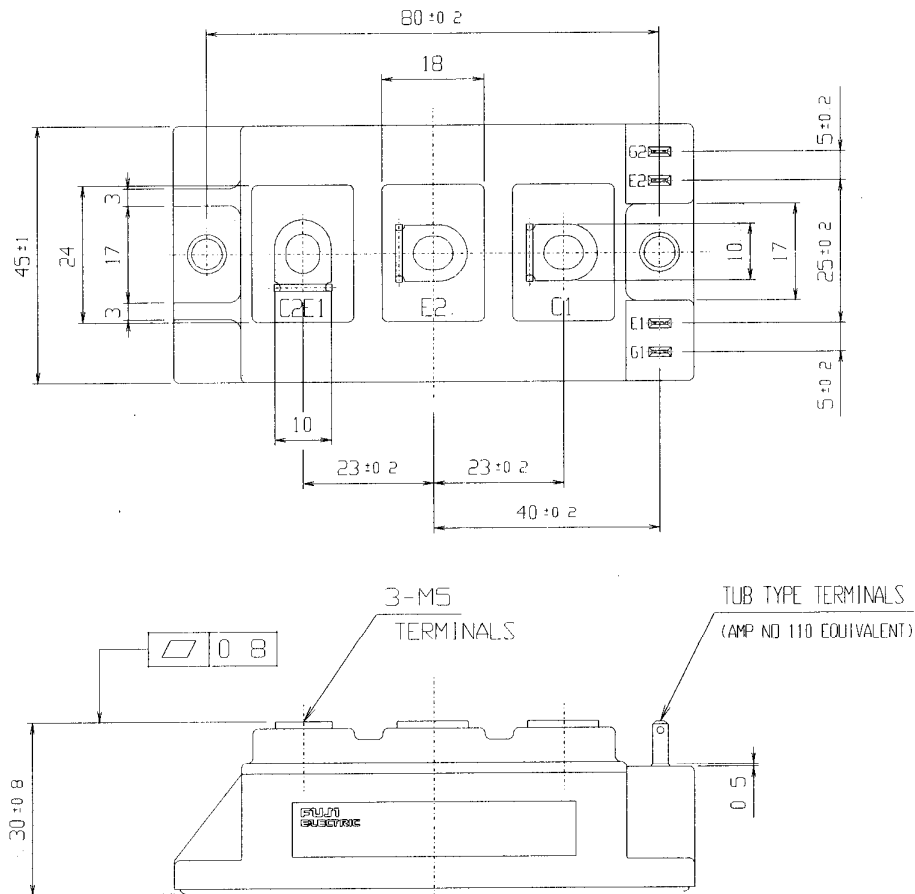


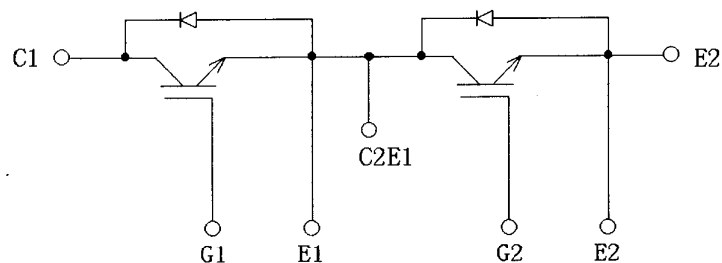
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U-series 2MBI200UB-120 (Target specification)

1. Outline Drawing (Unit : mm)



2. Equivalent circuit



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2. Equivalent circuit

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CHECKED	Mar, -12 -02	N. Mada	
REVISIONS			T. Miyasaka

Fuji Electric Co., Ltd.

DWG. NO.

MT5F12209

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3. Absolute Maximum Ratings (at Tc= 25C unless otherwise specified)

Items	Symbols	Conditions		Maximum Ratings	Units
Collector-Emitter voltage	VCES			1200	V
Gate-Emitter voltage	VGES			+20	V
Collector current	Ic	Continuous	Tc=25C	300	A
			Tc=80C	200	
	Ic pulse	1ms	Tc=25C	600	
			Tc=80C	400	
	-Ic			200	
	-Ic pulse		1ms	400	
Collector Power Dissipation	Pc	1 device		1135	W
Junction temperature	TJ			150	C
Storage temperature	Tstg			-40~ +125	C
Isolation voltage(*1)	Viso	AC : 1min.		2500	V
Screw Torque	Mounting(*2)			3.5	Nm
	Terminals(*2)			3.5	

(*1) All terminals should be connected together when isolation test will be done.

(*2) Recommendable Value : 2.5~3.5 Nm (M5)

4. Electrical characteristics (at TJ= 25C unless otherwise specified)

Items	Symbols	Conditions	Characteristics			Units	
			min.	typ.	Max.		
Zero gate voltage Collector current	ICES	VGE = 0 V, VCE = 1200 V	-	-	2.0	mA	
Gate-Emitter leakage current	IGES	VCE = 0 V, VGE = +20 V	-	-	0.4	uA	
Gate-Emitter threshold voltage	VGE(th)	VCE = 20 V, Ic = 200 mA	TBD	7.0	TBD	V	
Collector-Emitter saturation voltage	VCE(sat) (Terminal)	VGE = 15 V Ic = 200 A	TJ = 25 C	-	1.95	TBD	V
			TJ = 125 C	-	2.2	-	
	VCE(sat) (Chip)		TJ = 25 C	-	1.75	-	
			TJ = 125 C	-	2.0	-	
Input capacitance	Cies	VGE = 0 V	-	TBD	-	pF	
Output capacitance	Coes	VCE = 10 V	-	TBD	-		
Reverse transfer capacitance	Cres	f = 1 MHz	-	TBD	-		
Turn-on time	ton	Vcc = 600 V	-	TBD	1.2	us	
	tr	Ic = 200 A	-	TBD	0.6		
	tr(i)	VGE = +15 V	-	TBD	-		
Turn-off time	toff	RG = 2.4 Ω	-	TBD	1.0		
	tf		-	TBD	0.3		
Forward on voltage	VF (Terminal)	IF = 200 A	TJ = 25 C	-	2.0	TBD	V
			TJ = 125 C	-	2.0	-	
	VF (Chip)		TJ = 25 C	-	1.8	-	
			TJ = 125 C	-	1.8	-	
Reverse recovery time	trr	IF = 200 A	-	-	0.35	us	

5. Thermal resistance characteristics

Items	Symbols	Conditions	Characteristics			Units
			min.	typ.	Max.	
Thermal resistance (1 device)	Rth(j-c)	IGBT	-	-	0.11	C/W
		FWD	-	-	0.20	
Contact Thermal resistance	Rth(c-f)	with Thermal Compound (*)	-	0.025	-	

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

Note :

This specification is only for technical considerations, and not for contract.
This specification is subject to be changed without notices.

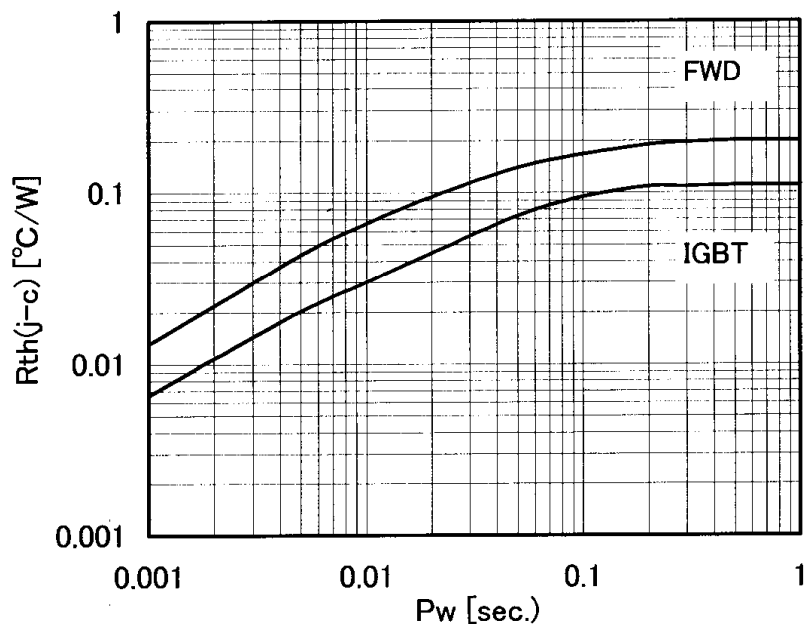
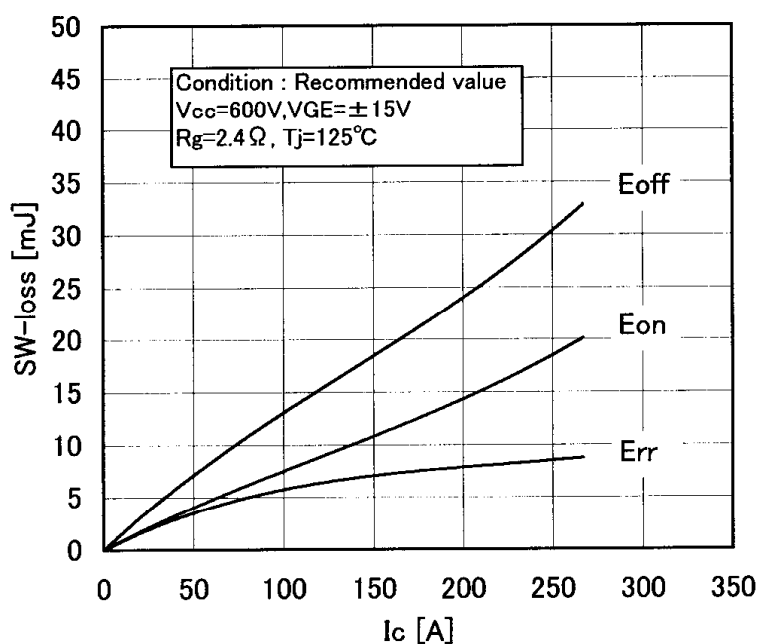
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Graph showing the relationship between collector current I_c [A] and $V_{CE(sat)}$ [V] for $T_j = 125^\circ\text{C}$. The curve indicates that I_c increases rapidly as $V_{CE(sat)}$ increases, reaching approximately 220 A at 2 V.

Graph showing the relationship between Forward Voltage (V_F [V]) and Forward Current (I_F [A]) for a diode at $T_j = 125^\circ\text{C}$. The current increases sharply as the forward voltage increases, reaching approximately 270A at $V_F \approx 2.1$ V.

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