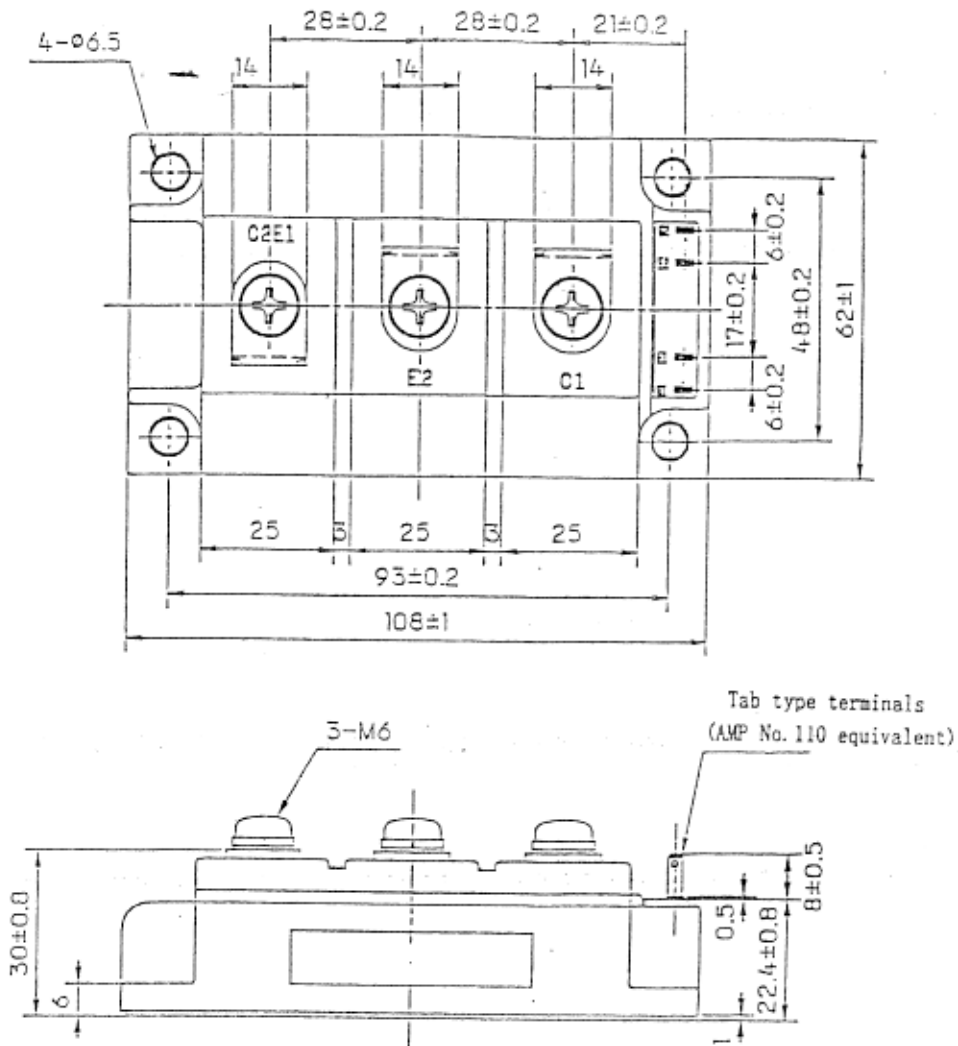
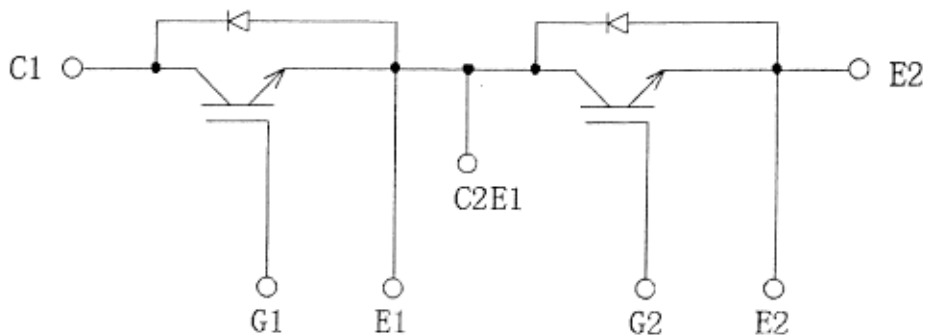


2MBI100S-120 (Target Specification)

1. Outline Drawing ( Unit : mm )



2. Equivalent circuit



This material and the information herein is the property of Fuji Electric Co., Ltd. They shall be neither reproduced, copied, lent, or disclosed in any way whatsoever for the use of any third party nor used for the manufacturing purposes without the express written consent of Fuji Electric Co., Ltd.

REVISIONS	DATE	NAME	APPROVED	Fuji Electric Co., Ltd.	DWG. NO.	MT5F 10077	1/3
	DRAWN	Feb. - 08 - '00	T. Kobayashi				
	CHECKED	Feb. - 8 - '00	S. M. Hata				
			T. Kobayashi				

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

Items	Symbols	Conditions	Maximum Ratings	Units
Collector-Emitter voltage	V <sub>CEs</sub>		1200	V
Gate-Emitter voltage	V <sub>GES</sub>		±20	V
Collector current	I <sub>c</sub>	Continuous	100	A
	I <sub>c</sub> pulse	1ms	200	
	-I <sub>c</sub>		100	
	-I <sub>c</sub> pulse	1ms	200	
Collector Power Dissipation	P <sub>c</sub>	1 device	690	W
Junction temperature	T <sub>j</sub>		150	°C
Storage temperature	T <sub>stg</sub>		-40~+125	°C
Isolation voltage <sup>(*)</sup>	V <sub>iso</sub>	AC : 1min.	2500	V
Screw Torque	Mounting <sup>(*)</sup>		3.5	N·m
	Terminals <sup>(*)</sup>		3.5	

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

(\*)2 Recommendable Value : 2.5~3.5 N·m (M5)

4. Electrical characteristics ( at  $T_j = 25^\circ\text{C}$  unless otherwise specified)

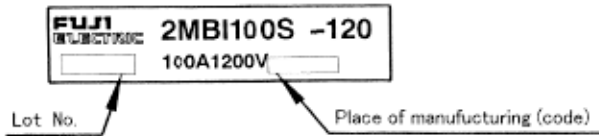
Items	Symbols	Conditions	Characteristics			Units
			min.	typ.	Max.	
Zero gate voltage Collector current	ICES	V <sub>GE</sub> = 0 V, V <sub>CE</sub> = 1200 V			2.0	mA
Gate-Emitter leakage current	IGES	V <sub>CE</sub> = 0 V, V <sub>GE</sub> = ±20 V			0.4	μA
Gate-Emitter threshold voltage	V <sub>GE(th)</sub>	V <sub>CE</sub> = 20 V, I <sub>c</sub> = 100 mA	5.5	7.2	8.5	V
Collector-Emitter saturation voltage	V <sub>CE(sat)</sub>	V <sub>GE</sub> = 15 V		2.2	2.5	V
		I <sub>c</sub> = 100 A	T <sub>j</sub> = 25 °C			
Input capacitance	C <sub>ies</sub>	V <sub>GE</sub> = 0 V		12000		pF
		V <sub>CE</sub> = 10 V		2500		
Output capacitance	C <sub>oes</sub>	f = 1 MHz		2200		pF
Reverse transfer capacitance	C <sub>res</sub>					
Turn-on time	t <sub>on</sub>	V <sub>cc</sub> = 600 V		0.35	1.2	μs
	t <sub>r</sub>	I <sub>c</sub> = 100 A		0.25	0.6	
	t <sub>r(t)</sub>	V <sub>GE</sub> = ±15 V		0.1		
Turn-off time	t <sub>off</sub>	R <sub>G</sub> = 9.1 Ω		0.45	1.0	μs
	t <sub>f</sub>			0.08	0.3	
Forward on voltage	V <sub>F</sub>	I <sub>F</sub> = 100 A	T <sub>j</sub> = 25 °C	2.4	3.3	V
			T <sub>j</sub> = 125 °C	2.0		
Reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> = 100 A			0.35	μs

5. Thermal resistance characteristics

Items	Symbols	Conditions	Characteristics			Units
			min.	typ.	Max.	
Thermal resistance (1 device)	R <sub>th(j-c)</sub>	IGBT			0.180	°C/W
		FWD			0.430	
Contact Thermal resistance	R <sub>th(c-f)</sub>	with Thermal Compound <sup>(*)</sup>		0.025		

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

6. Indication on module (モジュール表示)



7. Applicable category (適用範囲)

This specification is applied to IGBT Module named 2MBI100S-120 .  
 本納入仕様書は IGBTモジュール 2MBI100S-120 に適用する。

8. Storage and transportation notes (保管・運搬上の注意事項)

- The module should be stored at a standard temperature of 5 to 35°C and humidity of 45 to 75% .  
 常温・常湿保存が望ましい。(5~35°C, 45~75%)
- Store modules in a place with few temperature changes in order to avoid condensation on the module surface.  
 急激な温度変化のなきこと。(モジュール表面が結露しないこと)
- Avoid exposure to corrosive gases and dust.  
 腐蝕性ガスの発生場所, 塵埃の多い場所は避けること。
- Avoid excessive external force on the module.  
 製品に荷重がかからないように 十分注意すること。
- Store modules with unprocessed terminals.  
 モジュールの端子は未加工の状態での保管すること。
- Do not drop or otherwise shock the modules when transporting.  
 製品の運搬時に衝撃を与えたり、落下させたりしないこと。

9. Definitions of switching time (スイッチング時間の定義)

