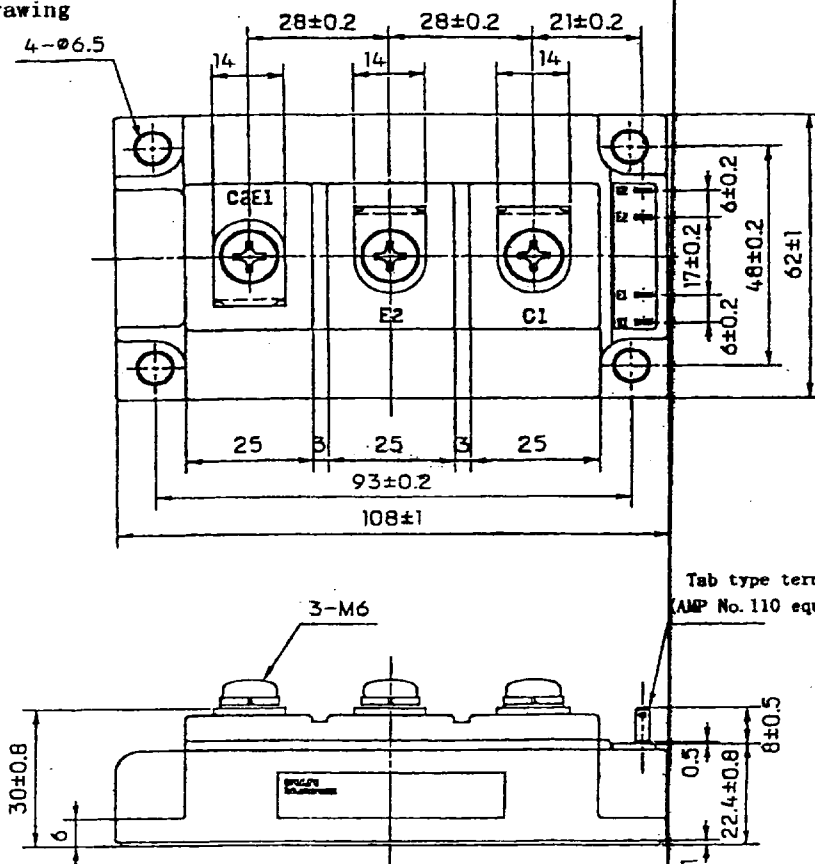


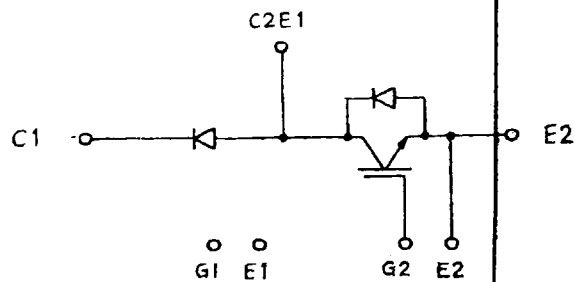
1MB I 150 SH-140 (Tentative target specification)

1. Outline Drawing

Unit : mm 4- $\phi$ 6.5



2. Equivalent circuit



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DRAWN	May-17-00	S. Miyashita	
CHECKED	-	-	

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MA4LE

Fuji Electric Co., Ltd.

DWG. NO.

MT5F10879

1/2

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

Items		Symbols	Ratings	Units
Collector-Emitter voltage		V <sub>CES</sub>	1400	V
Gate-Emitter voltage		V <sub>GES</sub>	±20	V
Collector current	Continuous	I <sub>C</sub> (25°C/80°C)	273/185	A
	1ms	I <sub>C</sub> pulse(25°C/80°C)	545/370	
		-I <sub>C</sub> (25°C/80°C)	175/125	
	1ms	-I <sub>C</sub> pulse(25°C/80°C)	545/370	
Max. power dissipation		P <sub>C</sub>	1050	W
Operating temperature		T <sub>j</sub>	+150	°C
Storage temperature		T <sub>stg</sub>	-40~+125	°C
Isolation voltage		V <sub>is</sub>	AC 2500 (1min.)	V
Screw torque		Mounting #1	3.5	N · m
		Terminals #2	4.5	

Note : \*1 Recommendable value : 2.5~3.5 N · m (M5) or (M6)

\*2 Recommendable value : 3.5~4.5 N · m (M6)

4. Electrical characteristics ( at T<sub>j</sub>=25°C unless otherwise specified )

Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Zero gate voltage Collector current	I <sub>CES</sub>			2.0	V <sub>GE</sub> =0V, V <sub>CE</sub> =1400V	mA
Gate-Emitter leakage current	I <sub>GES</sub>			0.4	V <sub>CE</sub> =0V, V <sub>GE</sub> =±20V	μA
Gate-Emitter threshold voltage	V <sub>GE(th)</sub>	5.5		8.5	V <sub>CE</sub> =20V, I <sub>C</sub> =150mA	V
Collector-Emitter saturation voltage	V <sub>CE(sat)</sub>		2.3	2.7	V <sub>GE</sub> =15V, I <sub>C</sub> =150A	V
Input capacitance	C <sub>ies</sub>		18000		V <sub>GE</sub> =0V	pF
Output capacitance	C <sub>oes</sub>		3750		V <sub>CE</sub> =10V	
Reverse transfer capacitance	C <sub>res</sub>		3300		f=1MHz	
Turn-on time	ton		0.35	1.2	V <sub>CC</sub> =600V	μs
	tr		0.25	0.6	I <sub>C</sub> =150A	
Turn-off time	toff		0.45	1.0	V <sub>GE</sub> =±15V	
	tf		0.08	0.3	R <sub>G</sub> =5.6Ω	
Diode forward on voltage	V <sub>F</sub>		2.5	3.4	I <sub>F</sub> =150A, V <sub>GE</sub> =0V	V
Reverse recovery time	trr			0.35	I <sub>F</sub> =150A	μs

## 5. Thermal resistance characteristics

Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Thermal resistance	R <sub>th(j-c)</sub>		0.1	0.12	IGBT	°C/W
	R <sub>th(j-c)</sub>		0.25	0.3	Diode	
	※		0.025		the base to cooling	
	R <sub>th(c-f)</sub>				fin	

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

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