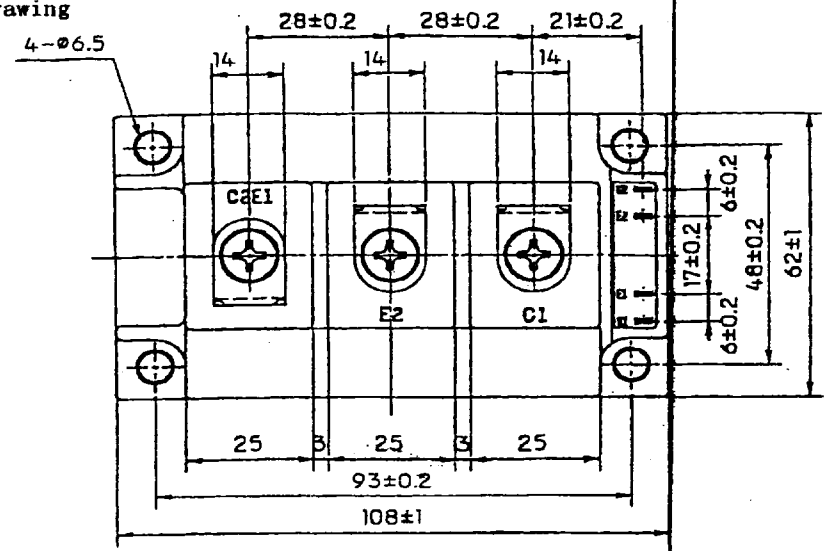
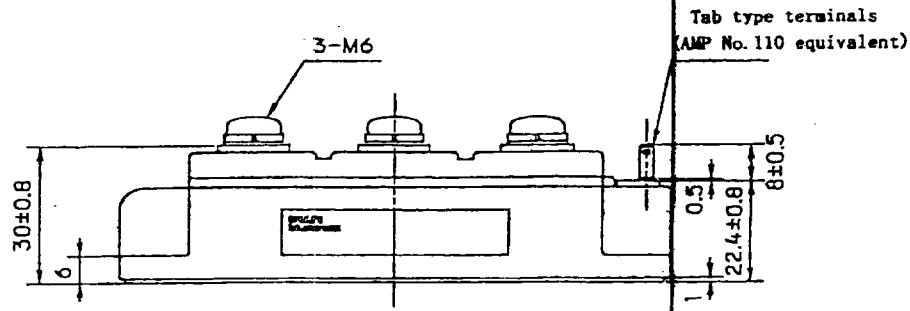
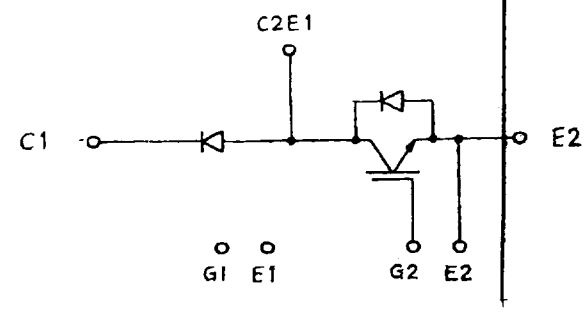
1MBI150SH-140 (Tentative target specification)

1. Outline Drawing
Unit : mm





2. Equivalent circuit



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DRAWN	May-17-'00	S.Miyashita	
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3. Absolute Maximum Ratings (at Tc=25℃ unless otherwise specified)

Items		Symbols	Ratings	Units
Collector-Emitter voltage		VCES	1400	V
Gate-Emitter voltage		VGES	±20	V
Collector current	Continuous	IC(25℃/80℃)	273/185	A
	1ms	IC pulse(25℃/80℃)	545/370	
		-IC(25℃/80℃)	175/125	
	1ms	-IC pulse(25℃/80℃)	545/370	
Max. power dissipation		PC	1050	W
Operating temperature		Tj	+150	℃
Storage temperature		Tstg	-40～+125	℃
Isolation voltage		Vis	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 Tj=25℃ unless otherwise specified)

Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Zero gate voltage Collector current	ICES			2.0	VGE=0V, VCE=1400V	mA
Gate-Emitter leakage current	IGES			0.4	VCE=0V, VGE=±20V	μA
Gate-Emitter threshold voltage	VGE(th)	5.5		8.5	VCE=20V, IC=150mA	V
Collector-Emitter saturation voltage	VCE(sat)		2.3	2.7	VGE=15V, IC=150A	V
Input capacitance	Cies		18000		VGE=0V	pF
Output capacitance	Coes		3750		VCE=10V	
Reverse transfer capacitance	Cres		3300		f=1MHz	
Turn-on time	ton		0.35	1.2	Vcc=600V	μs
	tr		0.25	0.6	IC=150A	
Turn-off time	toff		0.45	1.0	VGE=±15V	
	tf		0.08	0.3	RG=5.6Ω	
Diode forward on voltage	VF		2.5	3.4	IF=150A, VGE=0V	V
Reverse recovery time	trr			0.35	IF=150A	μs

5. Thermal resistance characteristics

Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Thermal resistance	Rth(j-c)		0.1	0.12	IGBT	℃/W
	Rth(j-c)		0.25	0.3	Diode	
	※ Rth(c-f)		0.025		the base to cooling fin	

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

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