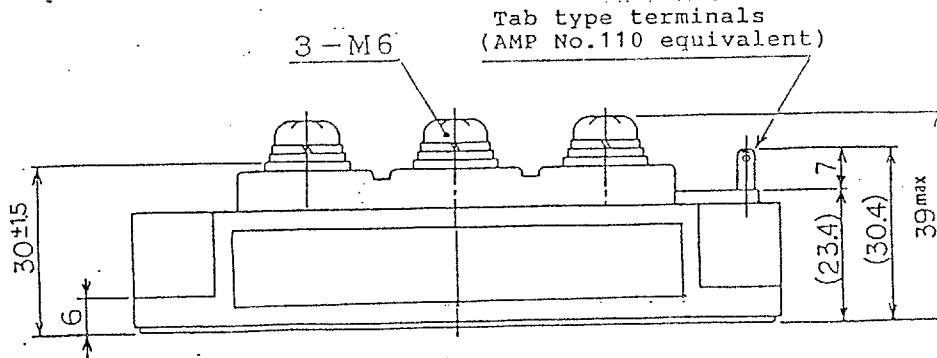
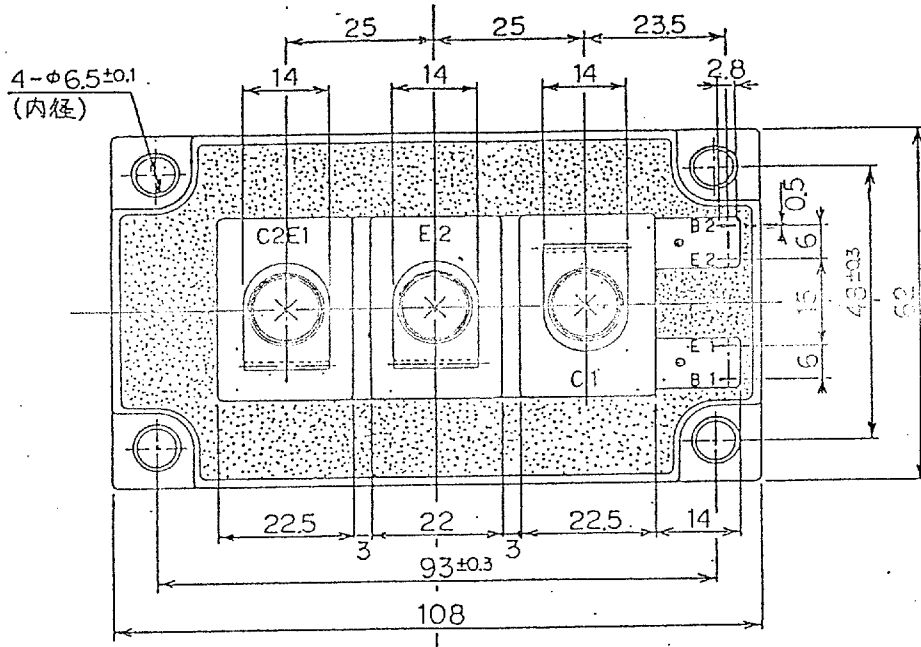


2MBI100J-120 (TENTATIVE)

1. Outline Drawing

Unit : mm

* Isolation Voltage : AC 2500 V 1 minute



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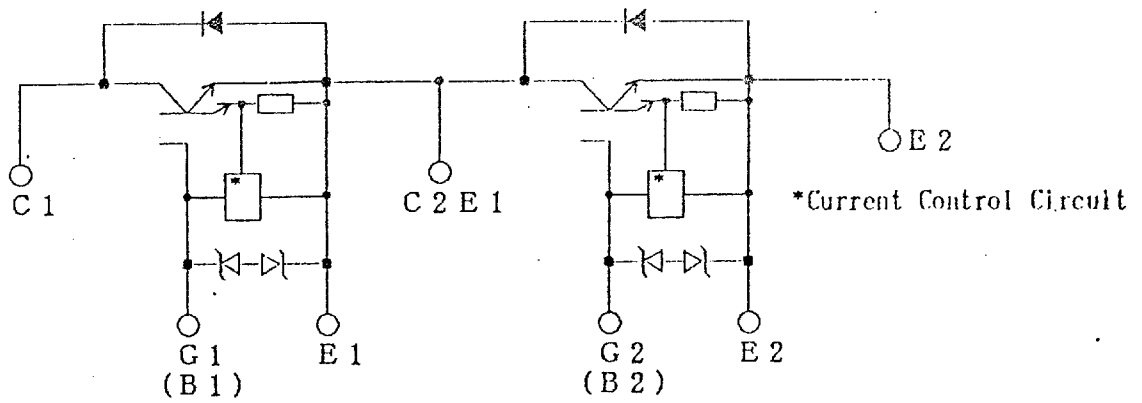
① Revision 1, page 2-4 and added page 4-11, Apr. 5, '93 A. Yamaguchi, Z-1

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DRAWN	Dec-11-92	N. Shibata		DWG. NO.	MT5F5032 1/1
CHECKED	Dec-15-92	T. Miyasaka			
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2. Equivalent Circuit



3. Absolute Maximum Ratings (Tj=25°C)

Items		Symbols	Ratings	Units
Collector-emitter voltage		V_{CES}	1 2 0 0	V
Gate -emitter voltage		V_{GES}	$\pm 2 0$	V
Collector current	Continuous	I_c	1 0 0	A
	1 ms	I_c pulse	2 0 0	
		$- I_c$	1 0 0	
	1 ms	$- I_c$ pulse	2 0 0	
Max.power dissipation		PC	6 4 0	W
Operating temperature		Tj	+ 1 5 0	°C
Storage temperature		Tstg	- 4 0 ~ + 1 2 5	°C
Isolation voltage		Vis	AC 2 5 0 0 (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)
 *2 Recommendable Value : 3.5 ~ 4.5 N · m (M6)

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4. Static electrical characteristics (at Tj=25°C unless otherwise specified)

Items	Symbols	Characteristics			Conditions		Units
		min.	typ.	max.			
Zero gate voltage collector current	I _{CES}			2.0	Tj= 25°C	V _{GE} =0V	mA
					Tj=125°C	V _{CE} =1200V	mA
Gate-emitter leakage current	I _{GES}			30	V _{CE} = 0 V V _{GE} = ±20V		μA
Gate-emitter threshold voltage	V _{GE(LH)}		5.0		V _{CE} =20V I _C = 100mA		V
Collector-emitter saturation voltage	V _{CE(sat)}		2.2		V _{GE} =15V I _C = 100A		V

5. Dynamic ratings (at Tj=25°C unless otherwise specified)

Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Input capacitance	C _{ies}		12000		V _{GE} = 0 V	pF
Output capacitance	C _{oes}		-		V _{CE} =10V	
Reverse transfer capacitance	C _{res}		-		f = 1 MHz	
Turn-on time	t _{on}		0.8		V _{CC} =600V I _C = 100A V _{GE} = ±15V R _G = 9.1Ω	μs
	t _r		0.3			
Turn-off time	t _{off}		1.0			
	t _f		0.2			

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6. Characteristics of reverse diode (at $T_j=25^\circ\text{C}$ unless otherwise specified)

Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Diode forward on-voltage	V _F		2.5		I _F = 100A V _{GE} = 0V	V
Reverse recovery time	t _{rr}			350	I _F = 100A -di/dt = 300A/μs	ns

7. Thermal resistance characteristics

Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Thermal resistance	R _{th(j-c)}			0.195	IGBT(MBT)	°C/W
	R _{th(j-c)}			0.375	Diode	
	※ R _{th(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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