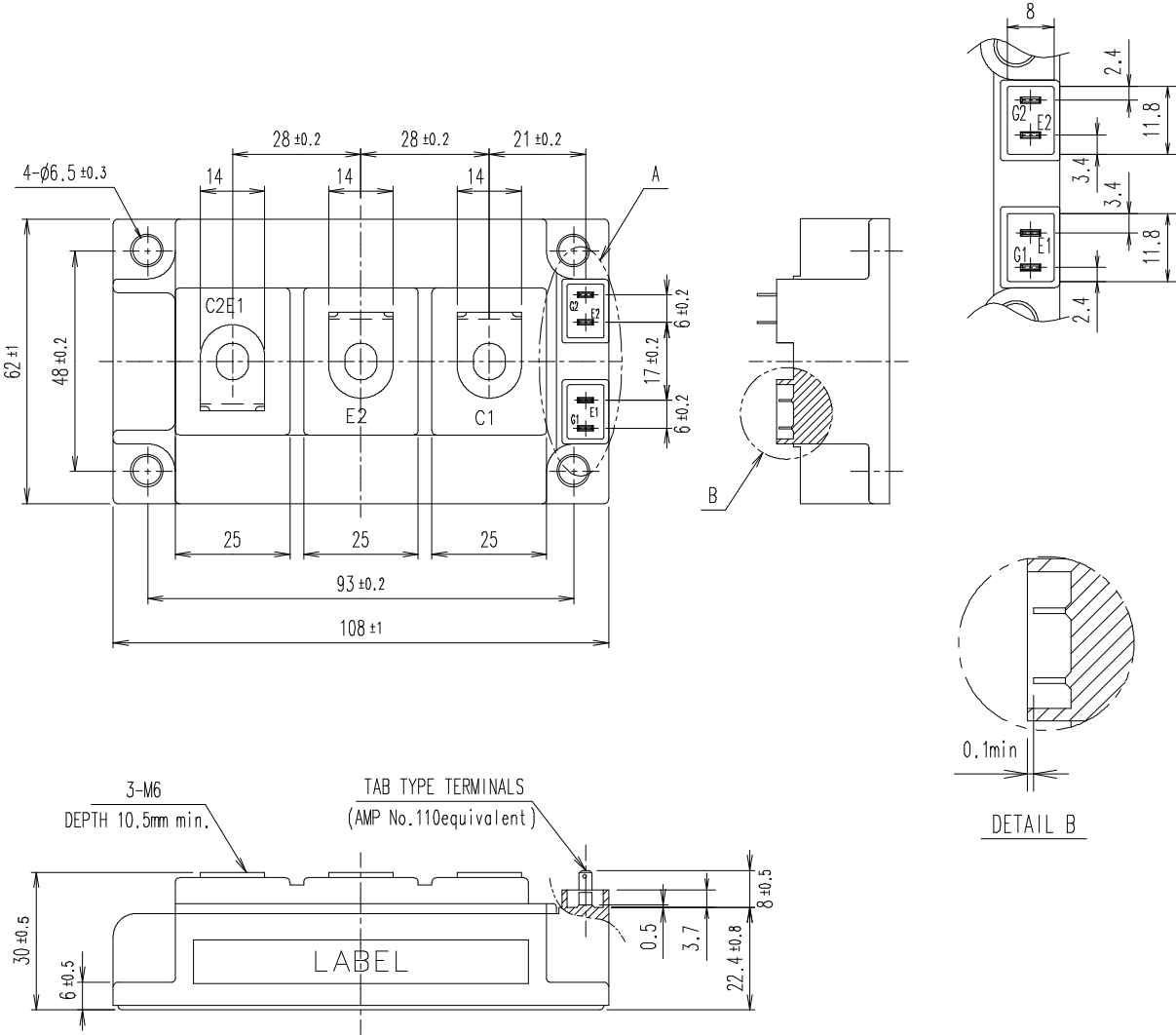
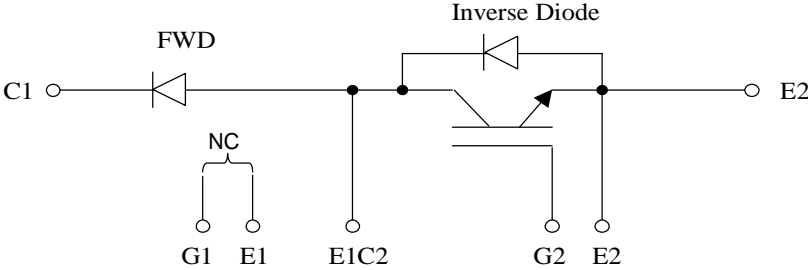


**Target Specification for 1MBI200U4H-120L-50 (Chopper Module)**

**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
Aug - 19 -'08	S.Ogawa	S.Igarashi

Fuji Electric Device Technology Co.,Ltd.	
DWG. NO.	MT5F20674 1 / 3

3. Absolute Maximum Ratings ( at Tc= 25 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=25	300	A
			Tc=80	200	
	Icp	1ms	Tc=25	600	
			Tc=80	400	
	-Ic	Continuous		100	
-Ic pluse	1ms		200		
Collector Power Dissipation	Pc	1 device	1040	W	
Reverse voltage for FWD	VR		1200	V	
Forward current for FWD	IF	Continuous	300	A	
	IF pulse	1ms	600		
Junction temperature	Tj		150		
Storage temperature	Tstg		-40 ~ +125		
Isolation voltage	between terminal and copper base *1	Viso	AC : 1min.	2500	VAC
Screw Torque	Mounting *2		3.5	N·m	
	Terminals *2		4.5		

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

(\*2) Recommendable Value : Mounting 2.5~3.5 Nm (M5 or M6)  
Terminals 3.5~4.5 Nm (M6)

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 Device Technology Co.,Ltd.	Dwg. NO. MT5F20674 2 / 3
	DRAWN				
	CHECKED				

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.

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

Items	Symbols	Conditions	Characteristics			Units		
			min.	typ.	max.			
IGBT + Inverse Diode	Zero gate voltage Collector current	ICES	VGE = 0V VCE = 1200V	-	-	2.0	mA	
	Gate-Emitter leakage current	IGES	VCE = 0V VGE=±20V	-	-	400	nA	
	Gate-Emitter threshold voltage	VGE(th)	VCE = 20V Ic = 200mA	4.5	6.5	8.5	V	
	Collector-Emitter saturation voltage	VCE(sat) (terminal)	VGE=15V	Tj= 25	-	2.10	2.25	V
				Tj=125	-	2.30	-	
		VCE(sat) (chip)	Ic = 200A	Tj= 25	-	1.90	2.05	
				Tj=125	-	2.10	-	
	Input capacitance	Cies	VCE=10V,VGE=0V,f=1MHz	-	22	-	nF	
	Turn-on time	ton	Vcc = 600V	-	0.32	1.20	μs	
		tr	Ic = 200A	-	0.10	0.60		
tr (i)		VGE=±15V	-	0.03	-			
Turn-off time	toff	Rg = 3 Ω	-	0.41	1.00	μs		
	tf		-	0.07	0.3			
Forward on voltage	VF (terminal)	VGE=0V	Tj= 25	-	1.80	2.00	V	
			Tj=125	-	1.90	-		
	VF (chip)	IF = 100A	Tj= 25	-	1.65	1.80		
			Tj=125	-	1.75	-		
FWD	Reverse Current	IR	VCE = 1200V	-	-	3.0	mA	
	Forward on voltage	VF (terminal)	IF = 300A	Tj= 25	-	1.85	2.00	V
				Tj=125	-	1.95	-	
		VF (chip)		Tj= 25	-	1.65	1.80	
				Tj=125	-	1.75	-	
Reverse recovery time	trr	IF = 300A	-	-	0.35	μs		
Lead resistance, terminal-chip *	R lead		-	0.53	-	m		

(\*) Biggest internal terminal resistance among arm.

5. Thermal resistance characteristics

Items	Symbols	Conditions	Characteristics			Units
			min.	typ.	max.	
Thermal resistance(1 device)	Rth(j-c)	IGBT	-	-	0.12	/W
		Inverse Diode	-	-	0.40	
		FWD	-	-	0.14	
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.

Notice : This is a target specification which is subject to change without any notice until the final specification issue.

	DATE	NAME	APPROVED	Fuji Electric Device Technology Co.,Ltd.
DRAWN				
CHECKED				
REVISIONS				DWG. NO. MT5F20674 3 / 3