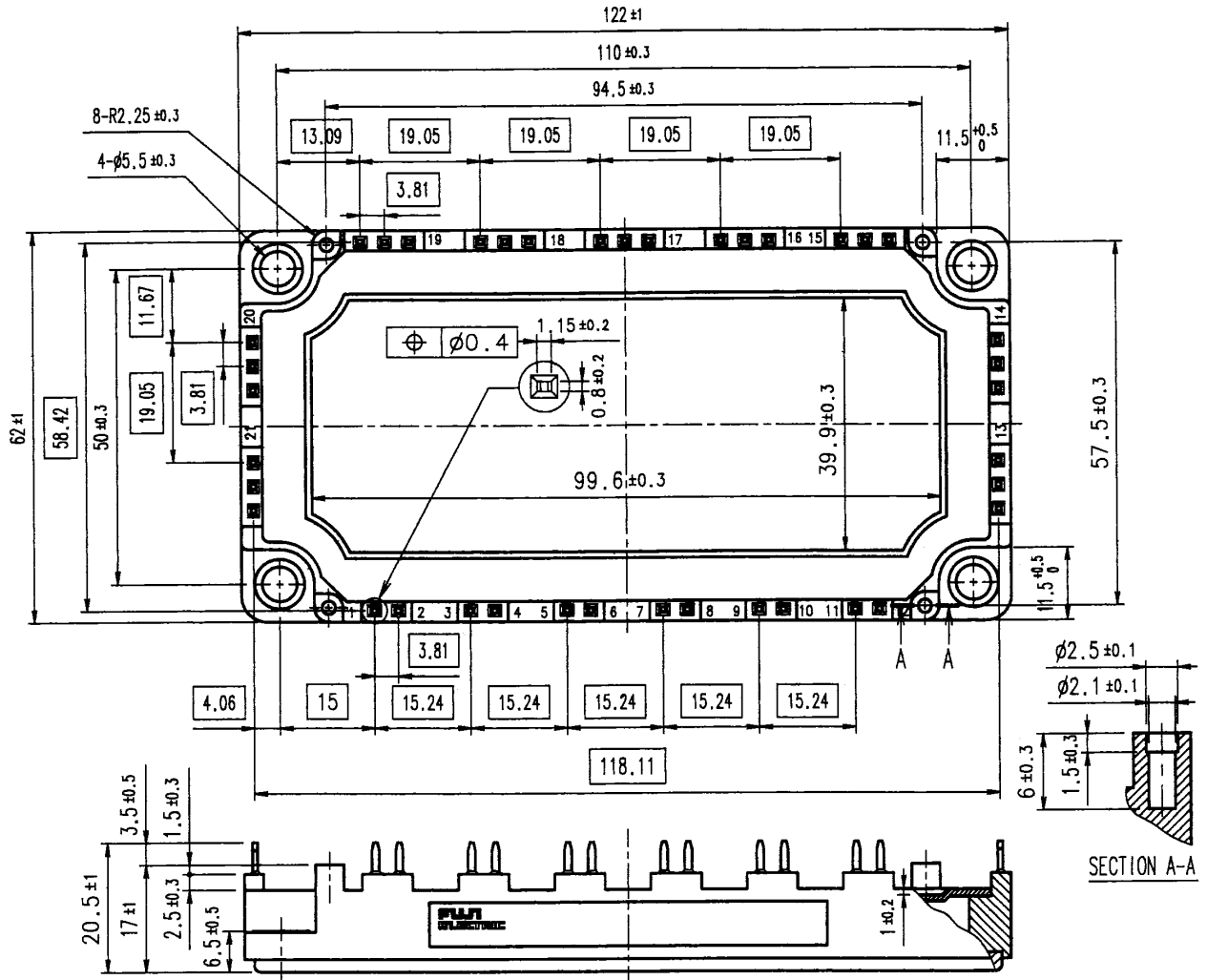


<TENTATIVE>

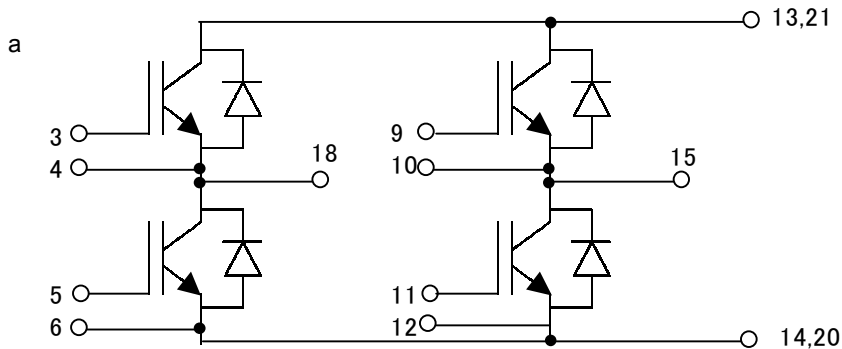
4MBI150T-060 (Target specification)

1. Outline Drawing (Unit : mm)



□ shows theoretical dimension.

2. Equivalent circuit



a) Changed the equivalent circuit Oct-24-'02 S.O. T.M

REVISIONS

	DATE	NAME	APPROVED
DRAWN	Sep.-26-'02	S.Ogawa	
CHECKED	Sep.-26-'02	S.Miyashita	T.Miyasaka

Fuji Electric Co.,Ltd.

DWGNO.

MT5F 12671

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

Items	Symbols	Conditions	Maximum Ratings	Units
Collector-Emitter voltage	VCES	Ic=1mA	600	V
Gate-Emitter voltage	VGES		±20	V
Collector current	Ic	Duty=100 %	150	A
	Ic pulse	1ms	300	
	IF	Duty=75 %	150	
	IF pulse	1ms	300	
Collector Power Dissipation	Pc	1 device	430	W
Junction temperature	Tj		150	°C
Storage temperature	Tstg		-40~ +125	°C
Isolation voltage ^(*1)	Viso	AC : 1min.	2500	V
Screw Torque	Mounting ^(*2)		3.5	N.m

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

(*2) Recommendable Value : Mounting 2.5~3.5 N.m (M5)

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

Items	Symbols	Conditions	Characteristics			Units	
			min.	typ.	Max.		
Zero gate voltage Collector current	ICES	VGE = 0 V, VCE = 600 V	-	-	1.0	mA	
Gate-Emitter leakage current	IGES	VCE = 0 V, VGE = ±20 V	-	-	200	nA	
Gate-Emitter threshold voltage	VGE(th)	VCE = 20 V, Ic = 150 mA	6.2	6.7	7.7	V	
Collector-Emitter saturation voltage	VCE(sat) ^(*2)	VGE = 15 V Ic = 150 A	Tj = 25°C	-	1.8	2.1	V
			Tj = 125°C	-	2.1	-	
Input capacitance	Cies	VGE = 0 V	-	11500	-	pF	
Output capacitance	Coes	VCE = 10 V	-	2050	-		
Reverse transfer capacitance	Cres	f = 1 MHz	-	1700	-		
Turn-on time	ton	Vcc = 300 V	-	0.4	1.2	μs	
	tr	Ic = 150 A	-	0.2	0.6		
	tr(i)	VGE = ±15 V	-	0.1	-		
Turn-off time	toff	RG = 24 Ω	-	0.55	1.2	μs	
	tf		-	0.05	0.45		
Forward on voltage	VF ^(*2)	IF = 150 A	Tj = 25°C	-	1.8	2.2	V
			Tj = 125°C	-	1.7	-	
Reverse recovery time	trr	IF = 150 A	-	-	0.35	μs	

3) This is the value which defines C-E voltage of chip without terminal resistance inside package.

5. Thermal resistance characteristics

Items	Symbols	Conditions	Characteristics			Units
			min.	typ.	Max.	
Thermal resistance (1 device)	Rth(j-c)	IGBT	-	-	0.29	°C/W
		FWD	-	-	0.64	
Contact Thermal resistance	Rth(c-f)	With thermal compound *	-	0.05	-	

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

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