

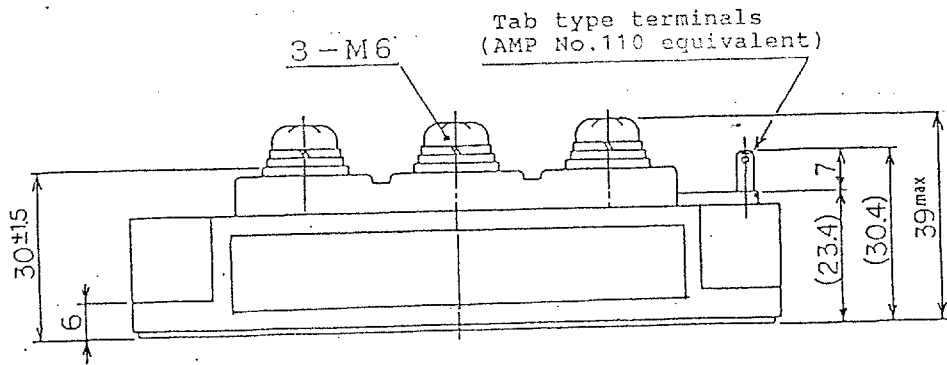
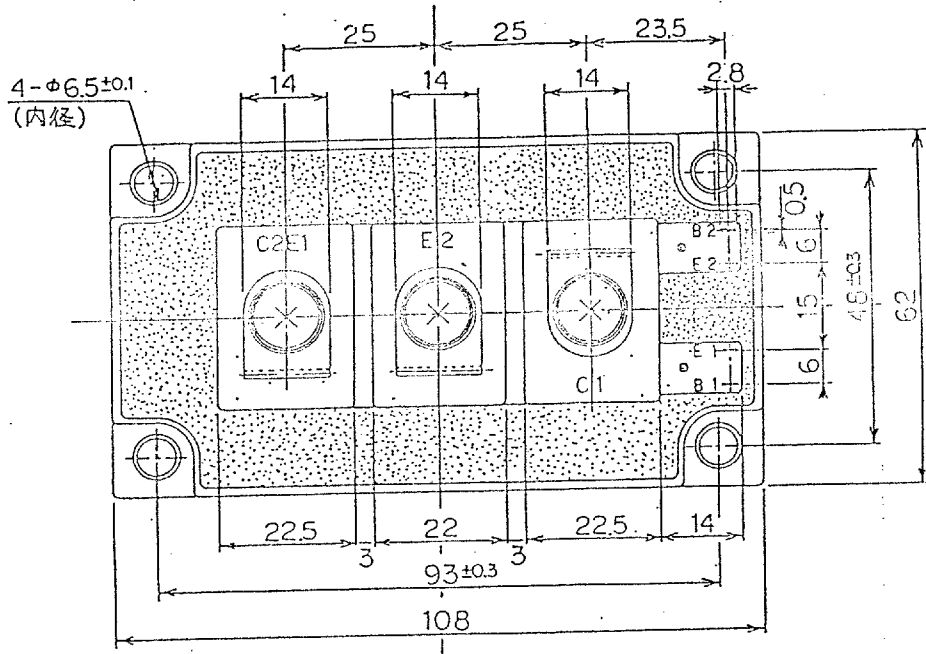
Ratings and characteristics of Fuji IGBT (MBT) Module

查询"2MBI150J120"供应商 MBI150J-120 (TENTATIVE)

1. Outline Drawing

Unit : mm

\* Isolation Voltage : AC 2500 V 1 minute



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a) Revised page 2~4 and added page 2~11 Feb. 4. '93 A. Yamaguchi  
 b) Revised page 3, 7, 8, Apr. 5. '93 A. Yamaguchi, T.M.

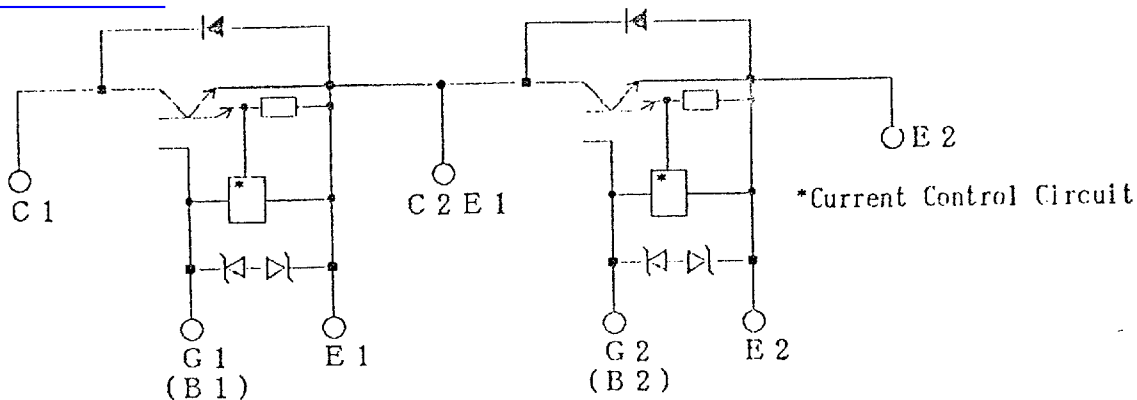
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## 2. Equivalent Circuit

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## 3. Absolute Maximum Ratings (Tj=25°C)

Items	Symbols	Ratings	Units
Collector-emitter voltage	$V_{CES}$	1200	V
Gate-emitter voltage	$V_{GES}$	$\pm 20$	V
Collector current	Continuous	$I_c$	150
	1 ms	$I_c$ pulse	300
		$-I_c$	150
	1 ms	$-I_c$ pulse	300
Max. power dissipation	PC	960	W
Operating temperature	Tj	150	°C
Storage temperature	Tstg	-40 ~ +125	°C
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)  
 \*2 Recommendable Value : 3.5 ~ 4.5 N·m (M6)

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4. Static electrical characteristics ( at  $T_j=25^\circ\text{C}$  unless otherwise specified )

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Items

Items	Symbols	Characteristics			Conditions		Units
		min.	typ.	max.			
Zero gate voltage collector current	$I_{CES}$			2.0	$T_j = 25^\circ\text{C}$	$V_{GE} = 0\text{V}$	$\text{mA}$
					$T_j = 125^\circ\text{C}$	$V_{CE} = 1200\text{V}$	$\text{mA}$
Gate-emitter leakage current	$I_{GES}$			30	$V_{CE} = 0\text{V}$	$V_{GE} = \pm 20\text{V}$	$\mu\text{A}$
Gate-emitter threshold voltage	$V_{GE(LH)}$		5.0		$V_{CE} = 20\text{V}$	$I_C = 150\text{mA}$	$\text{V}$
Collector-emitter saturation voltage	$V_{CE(SAT)}$		2.2		$V_{GE} = 15\text{V}$	$I_C = 150\text{A}$	$\text{V}$

5. Dynamic ratings ( at  $T_j=25^\circ\text{C}$  unless otherwise specified )

Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Input capacitance	$C_{ies}$		18000		$V_{GE} = 0\text{V}$	$\text{pF}$
Output capacitance	$C_{oes}$		--		$V_{CE} = 10\text{V}$	
Reverse transfer capacitance	$C_{res}$		--		$f = 1\text{MHz}$	
Turn-on time	$t_{on}$		0.85		$V_{CC} = 600\text{V}$ $I_C = 150\text{A}$ $V_{GE} = \pm 15\text{V}$ $R_G = 5.6\Omega$	$\mu\text{s}$
	$t_r$		0.30			
Turn-off time	$t_{off}$		1.05			
	$t_f$		0.20			

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6. Characteristics of reverse diode ( at Tj=25°C unless otherwise specified )

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Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Diode forward on-voltage	V <sub>F</sub>		2.5		I <sub>F</sub> = 150A V <sub>GE</sub> = 0V	V
Reverse recovery time	t <sub>rr</sub>			350	I <sub>F</sub> = 150A -di/dt = 450A/μs	ns

7. Thermal resistance characteristics

Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Thermal resistance	R <sub>th(j-c)</sub>			0.130	IGBT(HBT)	°C/W
	R <sub>th(j-c)</sub>			0.250	Diode	
	※ R <sub>th(c-f)</sub>		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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