

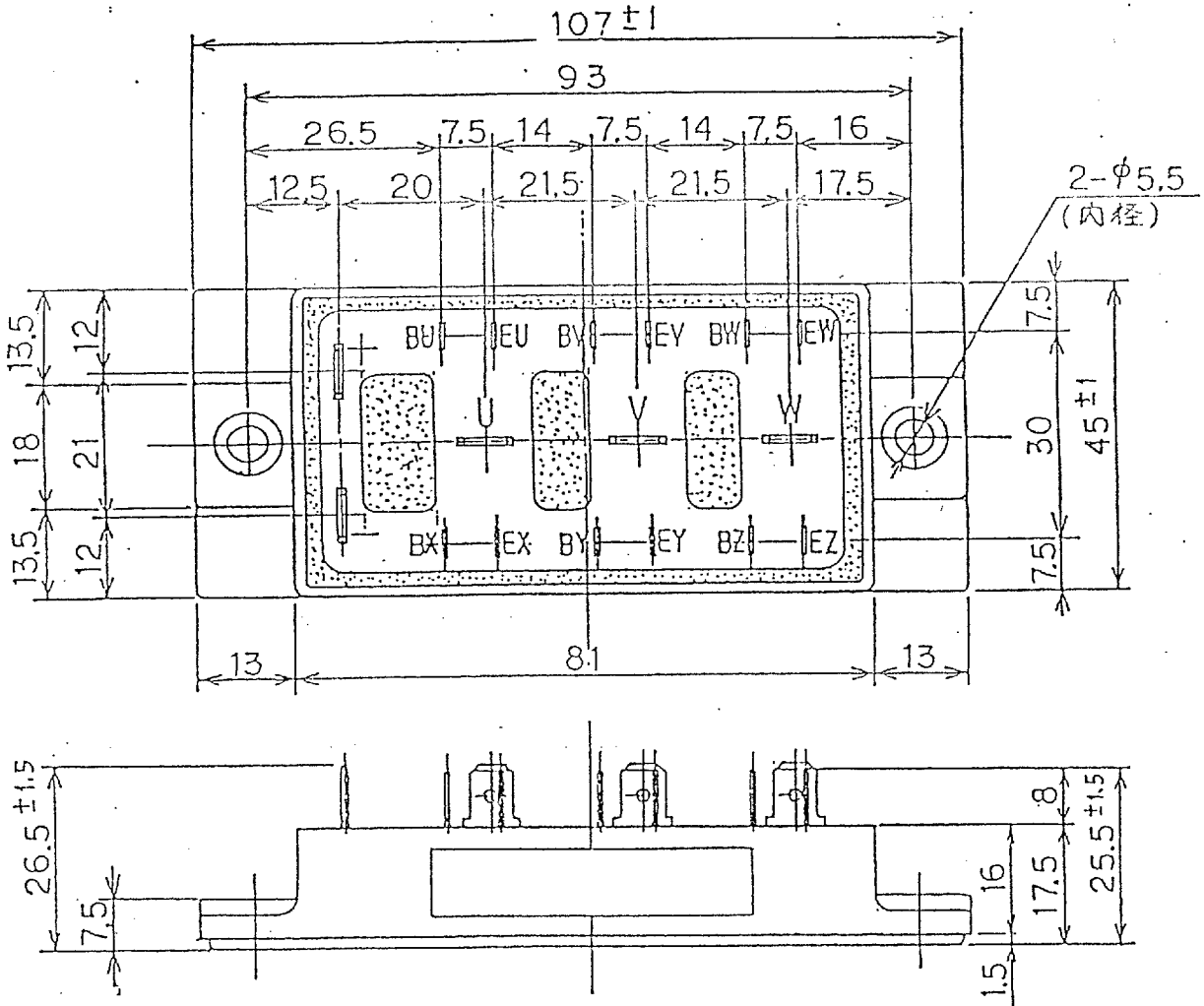
6MBI25J-120 (TENTATIVE)

1. Outline Drawing

Unit : mm

* Isolation Voltage : AC 2500 V 1 minute

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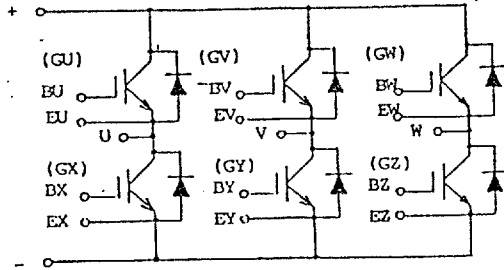


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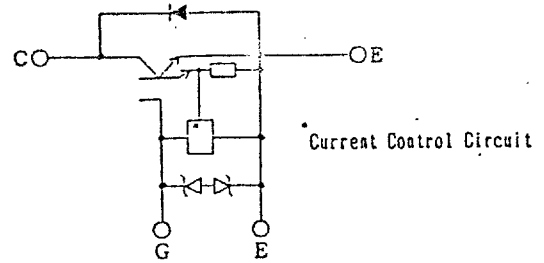
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2. Equivalent Circuit



3. Equivalent Circuit



4. 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}	± 2.0	V
Collector current	Continuous	I_c	2 5	A
	1 ms	I_c pulse	5 0	
		$-I_c$	2 5	
	1 ms	$-I_c$ pulse	5 0	
Max.power dissipation		PC	1 6 0	W
Operating temperature		Tj	+ 1 5 0	°C
Storage temperature		Tstg	-40 ~ +125	°C
Isolation voltage		Vis	AC 2500 (1 min)	V
Screw Torque		Mounting * 1	3. 5	N · m

Note : *1 Recommendable Value : 2.5 ~ 3.5 N · m (M5)

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

Items	Symbols	Characteristics			Conditions		Units
		min.	typ.	max.			
Zero gate voltage collector current	I_{CES}			1.0	$T_j = 25^\circ\text{C}$	$V_{GE} = 0\text{V}$	mA
					$T_j = 125^\circ\text{C}$	$V_{CE} = 1200\text{V}$	mA
Gate-emitter leakage current	I_{GES}			15	$V_{CE} = 0\text{V}$	$V_{GE} = \pm 20\text{V}$	μA
Gate-emitter threshold voltage	$V_{GE(th)}$		5.0		$V_{CE} = 20\text{V}$	$I_C = 25\text{mA}$	V
Collector-emitter saturation voltage	$V_{CE(sat)}$		2.2		$V_{GE} = 15\text{V}$	$I_C = 25\text{A}$	V

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

Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Input capacitance	C_{ies}		3000		$V_{GE} = 0\text{V}$	pF
Output capacitance	C_{oes}		—		$V_{CE} = 10\text{V}$	
Reverse transfer capacitance	C_{res}		—		$f = 1\text{MHz}$	
Turn-on time	t_{on}		0.65		$V_{CC} = 600\text{V}$ $I_C = 25\text{A}$ $V_{GE} = \pm 15\text{V}$ $R_G = 50\Omega$	μs
	t_r		0.30			
Turn-off time	t_{off}		0.90			
	t_f		0.20			

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

Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Diode forward on-voltage	V _F		2.5		I _F = 25A V _{GE} = 0V	V
Reverse recovery time	t _{rr}			350	I _F = 25A -di/dt = 75A/μs	ns

8. Thermal resistance characteristics

Items	Symbols	Characteristics			Conditions	Units
		min.	typ.	max.		
Thermal resistance	R _{th(j-c)}			0.781	IGBT	°C/W
	R _{th(j-c)}			1.870	Diode	
	※ R _{th(c-f)}		0.05		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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