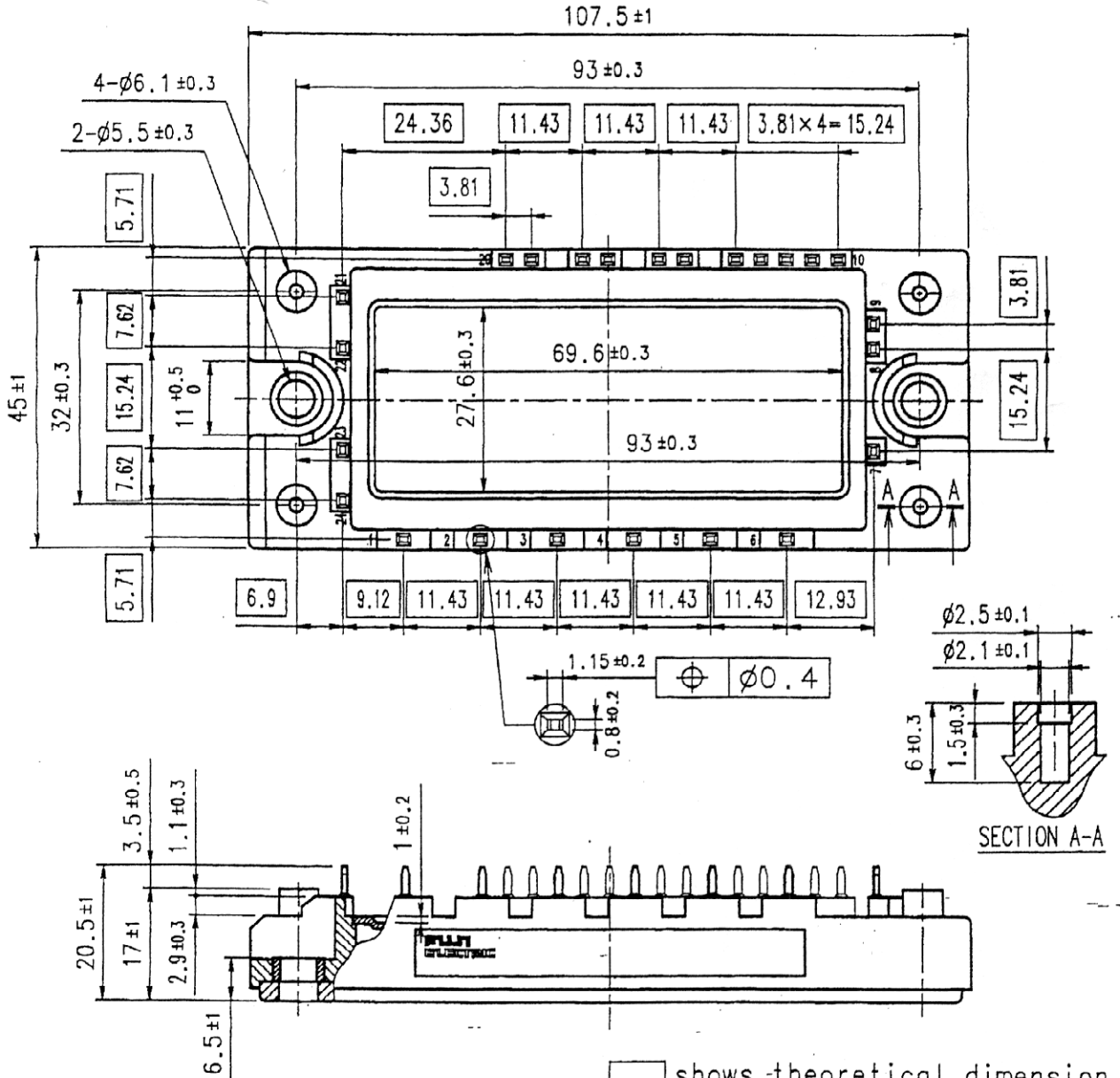


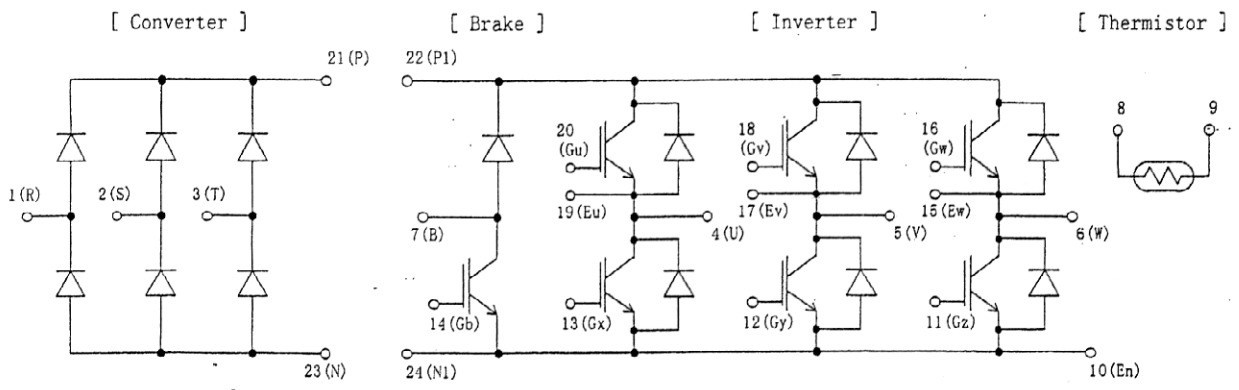
Target Specification of 7 MBR 10 KA 0 6 0

1. Outline Drawing (Unit : mm)



□ shows theoretical dimension.

2. Equivalent circuit



	DATE	NAME	APPROVED	Fuji Electric Co.,Ltd.
	Mar-4-99	T. Satoru		DWG.No. MT6M 2677 1/3
CHECKED				
REVISIONS			T. Miyasaka	

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.

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

Items		Symbols	Conditions	Maximum Ratings	Units
Inverter	Collector-Emitter voltage	VCES		600	V
	Gate-Emitter voltage	VGES		±20	V
	Collector current	Ic	Continuous	10	A
		Icp	1ms	20	A
		-Ic		10	A
Collector Power Dissipation	Pc	1 device	40	W	
Brake	Collector-Emitter voltage	VCES		600	V
	Gate-Emitter voltage	VGES		±20	V
	Collector current	Ic	Continuous	10	A
		Icp	1ms	20	A
	Collector Power Dissipation	Pc	1 device	40	W
Repetitive peak reverse Voltage(Diode)	VRRM		600	V	
Converter	Repetitive peak reverse Voltage	VRRM		800	V
	Average Output Current	Io	50Hz/60Hz sine wave	10	A
	Surge Current (Non-Repetitive)	IFSM	Tj=150°C, 10ms	70	A
	I ² t (Non-Repetitive)	I ² t	half sine wave	25	A ² s
Junction temperature		Tj		150	°C
Storage temperature		Tstg		-40~ +125	°C
Isolation voltage	between terminal and copper base ^{(*)1}	Viso	AC : 1min.	2500	V
	between thermistor and others ^{(*)2}			2500	V
Mounting Screw Torque ^{(*)3}				3.5	N · m

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

(*)2 Terminal 8 and 9 should be connected together. Terminal 1 to 7 and 10 to 24 should be connected together and shorted to copper base.

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

Note :

- This specification is only for technical considerations, and not for contract.
- This specification is subject to be changed without notices.

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

Items	Symbols	Conditions	Characteristics			Units		
			min.	typ.	Max.			
Inverter	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 = 10 mA	6.0		9.0	V	
	Collector-Emitter saturation voltage	VCE(sat)	VGE = 15 V, chip Ic = 10 A terminal		2.3		3.0	V
					2.5			
	Input capacitance	Cies	VGE = 0 V, VCE = 10 V f = 1 MHz		660			pF
	Turn-on time	ton	Vcc= 300 V Ic = 10 A		0.7	1.2		μs
					0.2	0.6		
	Turn-off time	toff	VGE = ±15 V RG = 220 Ω		0.6	1.0		
				0.2	0.35			
Forward on voltage	VF	IF = 10 A	chip	1.8		2.6	V	
			terminal	2.0				
Reverse recovery time	trr	IF = 10 A			300		ns	
Brake	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	
	Collector-Emitter saturation voltage	VCE(sat)	VGE = 15 V, chip Ic = 10 A terminal		2.3		3.0	V
					2.5			
	Turn-on time	ton	Vcc= 300 V Ic = 10 A		0.7	1.2		μs
					0.2	0.6		
Turn-off time	toff	VGE = ±15 V RG = 220 Ω		0.6	1.0			
				0.2	0.35			
Reverse current	IRRM	VR = 600 V			1.0		mA	
Forward on voltage	VFM	IF = 10 A	chip	1.1		1.5	V	
			terminal	1.2				
Reverse current	IRRM	VR = 800 V			1.0		mA	
Resistance	R	T = 25°C		5000			Ω	
		T = 100°C	465	495	520			
B value	B	T = 25/50°C	3305	3375	3450		K	

5. Thermal resistance characteristics

Items	Symbols	Conditions	Characteristics			Units
			min.	typ.	Max.	
Thermal resistance (1 device)	Rth(j-c)	Inverter IGBT			3.13	°C/W
		Inverter FWD			5.10	
		Brake IGBT			3.13	
		Converter Diode			2.00	
Contact Thermal resistance	Rth(c-f)	with Thermal Compound (※)		0.05		°C/W

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

Fuji Electric Co.,Ltd.

DWG.NO.

MT 6 M 2 6 7 7

3 / 3

H04-004-03