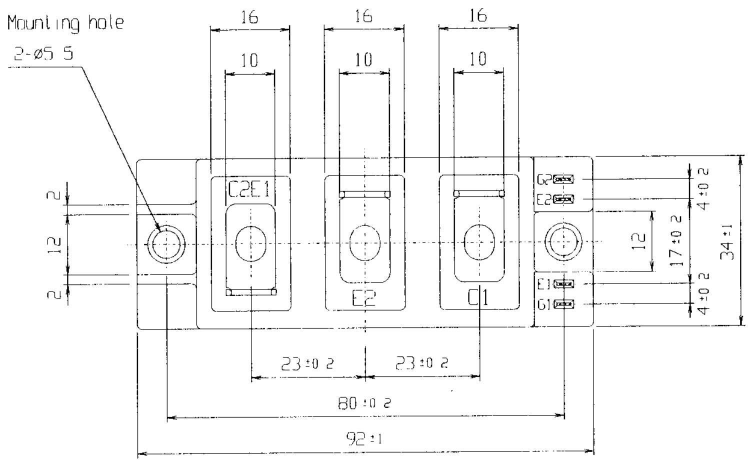
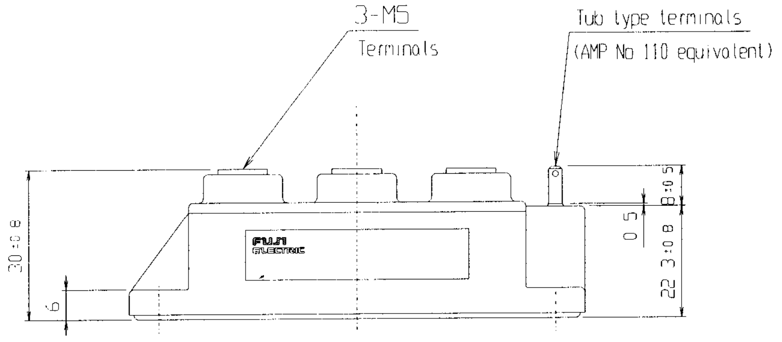
Fuji Hitachi Power Semiconductor Co., Ltd
IGBT Development Dept. Section M12

<TENTATIVE>

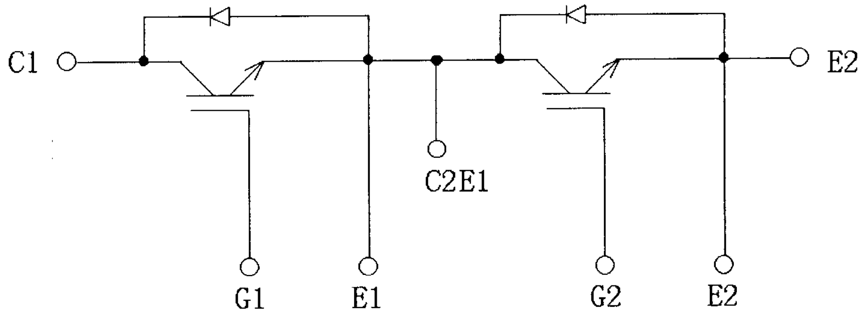
2MBI75UA-120 (Target specification)

1. Outline Drawing (Unit : mm)





2. Equivalent circuit



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Fuji Electric Co.,Ltd.

DWG.NO. MT5F12226

3. Absolute Maximum Ratings (at Tc= 25C 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=25C	100	A
			Tc=80C	75	
	Ic pulse	1ms	Tc=25C	200	
			Tc=80C	150	
	-Ic			75	
	-Ic pulse	1ms		150	
Collector Power Dissipation	Pc	1 device		400	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	Nm
	Terminals(*2)			3.5	

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

(*2) Recommendable Value : 2.5~3.5 Nm (M5)

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

Items	Symbols	Conditions		Characteristics min.	typ.	Max.	Units
Zero gate voltage Collector current	ICES	VGE = 0 V, VCE = 1200 V		-	-	1.0	mA
Gate-Emitter leakage current	IGES	VCE = 0 V, VGE = +-20 V		-	-	0.2	uA
Gate-Emitter threshold voltage	VGE(th)	VCE = 20 V, Ic = 75 mA		TBD	7.0	TBD	V
Collector-Emitter saturation voltage	VCE(sat) (Terminal)	VGE = 15 V Ic = 75 A	Tj = 25 C	-	1.95	TBD	V
			Tj = 125 C	-	2.2	-	
	VCE(sat) (Chip)		Tj = 25 C	-	1.75	-	
			Tj = 125 C	-	2.0	-	
Input capacitance	Cies	VGE = 0 V VCE = 10 V f = 1 MHz		-	TBD	-	pF
Output capacitance	Coes			-	TBD	-	
Reverse transfer capacitance	Cres			-	TBD	-	
Turn-on time	ton	Vcc = 600 V Ic = 75 A VGE = +-15 V RG = 9.1 Ω		-	TBD	1.2	us
	tr			-	TBD	0.6	
	tr(i)			-	TBD	-	
Turn-off time	toff			-	TBD	1.0	
	tf			-	TBD	0.3	
Forward on voltage	VF (Terminal)	IF = 75 A	Tj = 25 C	-	2.0	TBD	V
			Tj = 125 C	-	2.0	-	
	VF (Chip)		Tj = 25 C	-	1.8	-	
			Tj = 125 C	-	1.8	-	
Reverse recovery time	trr	IF = 75 A		-	-	0.35	us

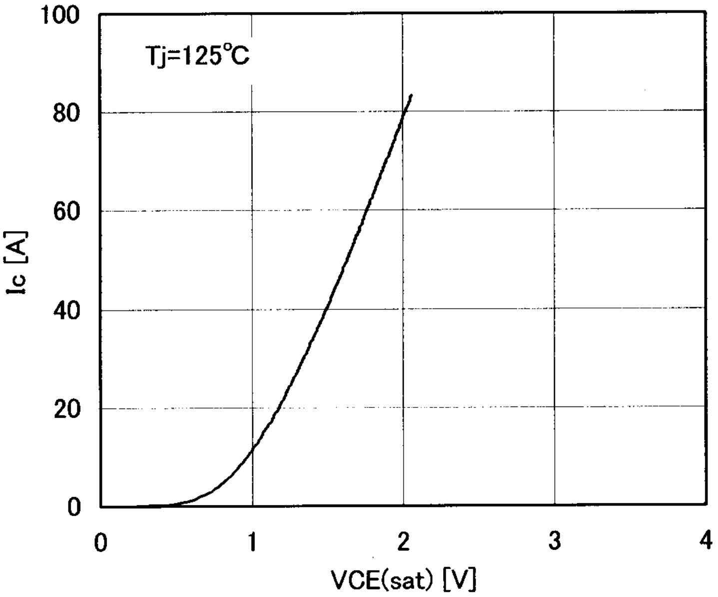
5. Thermal resistance characteristics

Items	Symbols	Conditions	Characteristics min.	typ.	Max.	Units
Thermal resistance (1 device)	Rth(j-c)	IGBT			0.31	C/W
		FWD			0.47	
Contact Thermal resistance	Rth(c-f)	with Thermal Compound (*)		0.05		

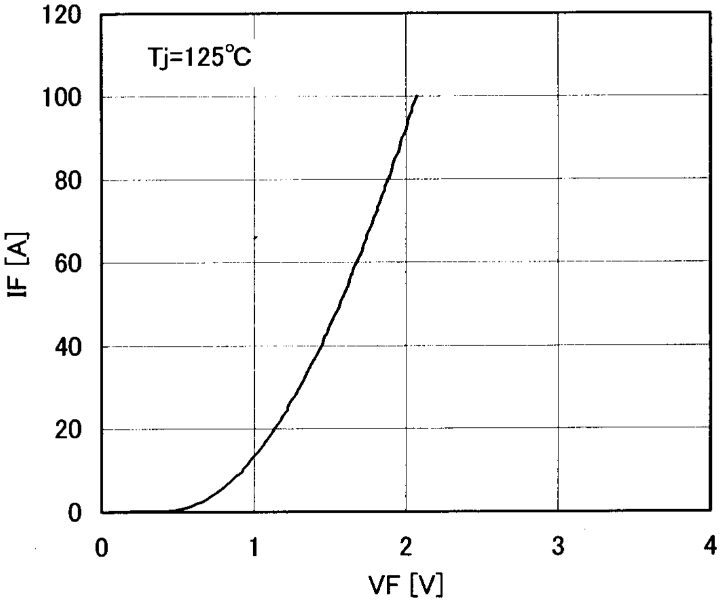
* This is the value which is defined mounting on the additional cooling fin with thermal compound.

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

U-series 1200V/75A VCE vs. Ic (Chip)



U-series 1200V/75A VF vs. IF (Chip)



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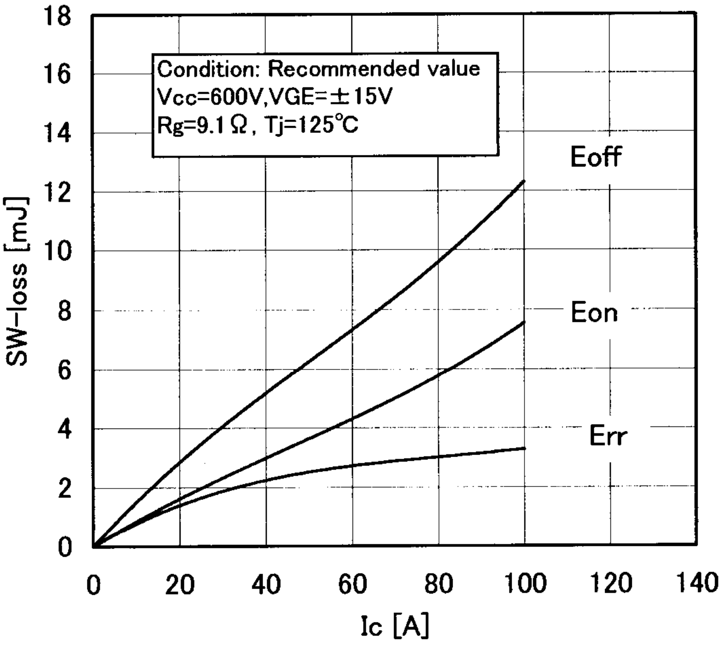
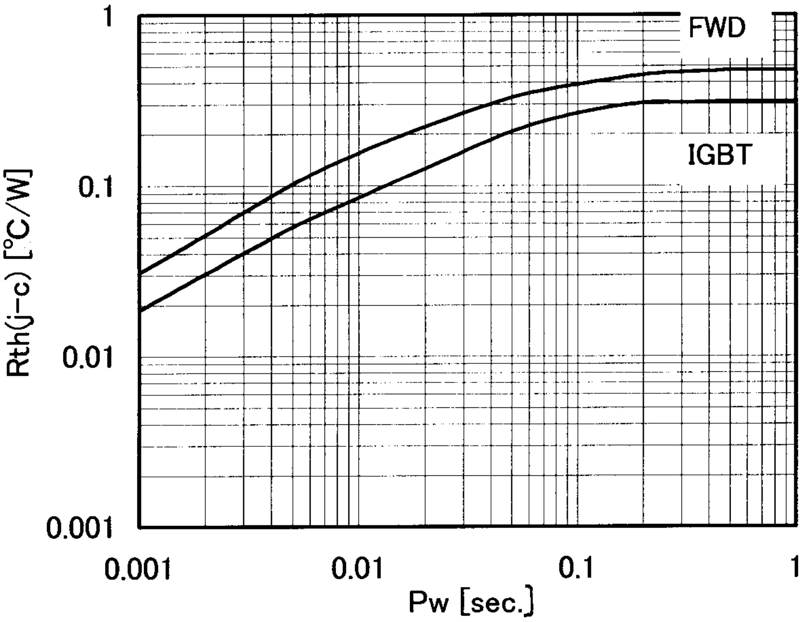
U-series 1200V/75A SW-loss vs. Ic



U-series 1200V/75A Rth(j-c)



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