查询CM600HN-5F供应商 捷多邦，专业PCB打样工厂，24小时加急出货

APPLICATION NOTE

MITSUBISHI (IGBT MODULE)

TENTATIVE

Pre.	M. Kouza	Rev		
Apr.	Y. Yu Mon 7. '96			

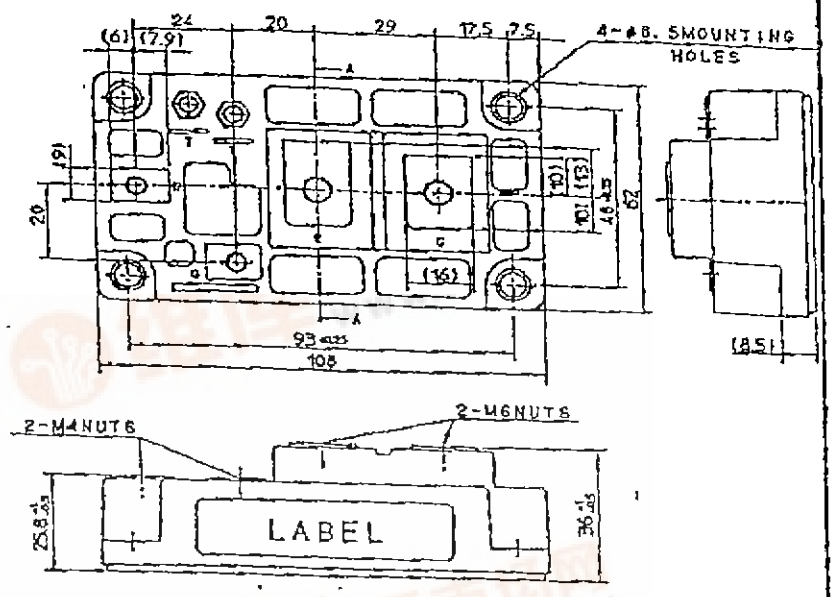
CM600HN-5F

HIGH POWER SWITCHING USE

CM600HN-5F

- I_C 600A
- V_{CES} 250V
- Insulated Type
- 1 -element in a pack

Dimensions in mm



Note:The characteristics curves are shown seperately in the Application note No. CMH-

APPLICATION
DC chopper
Inverters for battery power source

ABSOLUTE MAXIMUM RATINGS (Tj = 25 °C)

Symbol	Item	Conditions	Ratings	Unit
V_{CES}	Collector-emitter voltage	G－E Short	250	V
V_{GES}	Gate-emitter voltage	C－E Short	±20	V
I_C	Collector curren	Tc= 25 °C	600	A
I_{CM}		Pulse ②	1200	
I_E①	Emitter current	Tc= 25 °C	600	A
I_{EM}①		Pulse ②	1200	
Pc ③	Maximum collector dissipation	Tc= 25 °C	1780	W
Tj	Junction temperature		－40～+150	°C
Tstg	Storage temperature		－40～+125	°C
Viso	Isolation voltage	Main terminal to base plate,AC 1 min.	2500	V
—	Mounting torque	Main Terminal M 6	1.96 ～ 2.94	N・m
			20 ～ 30	kg・cm
		Mounting M 6	1.96 ～ 2.94	N・m
			20 ～ 30	kg・cm
		G(E) Terminal M 4	0.98 ～ 1.47	N・m
			10 ～ 15	kg・cm
—	Weight	Typical value	400	g

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ELECTRICAL CHARACTERISTICS (T_j = 25 °C)

Symbol	Item	Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector cutoff current	$V_{CE}=V_{CES}$, V_{GE}= 0V	—	—	1	mA
$V_{GE(th)}$	Gate-emitter threshold voltage	I_C=60 mA, V_{CE}= 10V	3.0	4.0	5.0	V
I_{GES}	Gate leakage voltage	$V_{GE}=V_{CES}$, V_{CE}= 0V	—	—	0.5	μA
$V_{CE(sat)}$	Collector to emitter saturation voltage	Tj= 25 °C, I_C =600A, V_{GE}= 10V	—	1.2	1.7	V
		Tj= 150 °C, V_{GE}= 10V	—	1.10	—	
Cies	Input capacitannce	V_{CE}= 10V, V_{GE}= 0V	—	—	165	nF
Coes	Output capacitance		—	—	7.5	
Cres	Reverse transfer capacitance		—	—	5.6	
Q_G	Total gate charge	V_{CC}=100V, Ic= 600A, V_{GE}= 10V	—	2200	—	nC
td(on)	Turn-on delay time	V_{CC}=100V, Ic= 600A, $V_{GE1}=V_{GE2}$=10V, R_G=4.2Ω, Resistive load switching operation	—	—	1000	ns
tr	Turn-on rise time		—	—	4000	
td(off)	Turn-off delay time		—	—	1000	
tf	Turn-off fall time		—	—	500	
V_{EC} ①	Emitter-collector volatge	I_E= 600 A, V_{GE}= 0V	—	—	2.0	V
trr ①	Reverse recovery time	I_E= 600 A, die/dt=-1200 A/μs	—	—	300	ns
Qrr ①	Reverse recovery charge		—	9.5	—	μC
Rth(j-c)Q	Thermal resistance	IGBT part	—	—	0.07	°C/W
Rth(j-c)R		FWDi part	—	—	0.11	
Rth(c-f)	Contact thermal resistance	Case to fin Conductive grease applied	—	—	0.04	

① IE, VEC, trr, Qrr & die/dt represent characteristics of the anti-parallel, emitter to collector free-wheel diode (FWDi).

② Pulse width and repetition rate should be such that the device junction temp. (Tj) dose not exceed Tjmax rating.

③ Junction temperature (Tj) should not increase beyond 150°C.

④ Pulse width and repetition rate should be such as to cause neglible temperature rise.