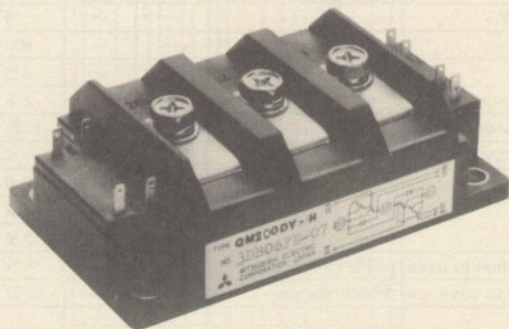


QM200DY-H

HIGH POWER SWITCHING USE INSULATED TYPE

Datasheet provided by
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QM200DY-H

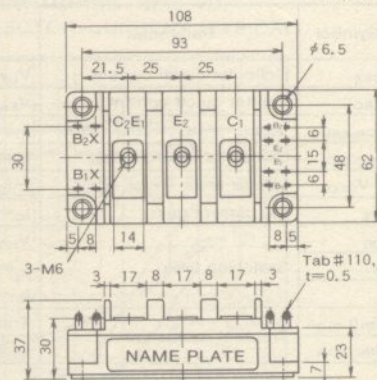


- I_C Collector current 200A
- V_{CEX} Collector-emitter voltage 600V
- h_{FE} DC current gain 75
- Insulated type

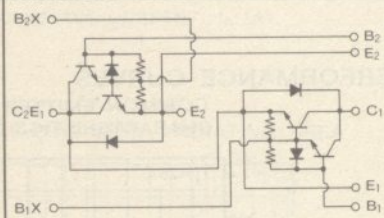
APPLICATION

AC motor controllers, DC motor controllers, UPS, CVCF,
SMPS, NC equipment, Welders, Inverters

OUTLINE DRAWING Dimensions in mm



CIRCUIT DIAGRAM



ABSOLUTE MAXIMUM RATINGS ($T_J=25^{\circ}\text{C}$)

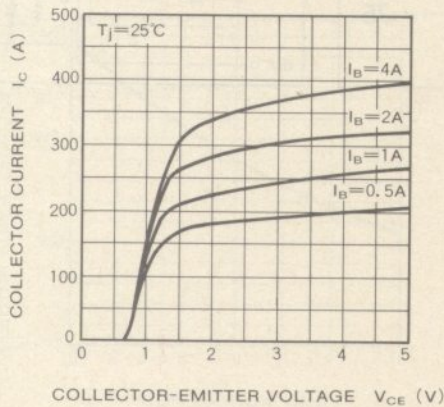
Symbol	Parameter	Conditions	Ratings	Unit
$V_{CEX(SUS)}$	Collector-emitter voltage	$I_C=1A, V_{EB}=2V$	600	V
V_{CEX}	Collector-emitter voltage	$V_{EB}=2V$	600	V
V_{CBO}	Collector-base voltage	Emitter open	600	V
V_{EBO}	Emitter-base voltage	Collector open	7	V
I_C	Collector current	DC	200	A
$-I_C$	Reverse collector current (forward diode current)	DC	200	A
P_C	Collector dissipation	$T_C=25^{\circ}C$	1040	W
I_B	Base current	DC	12	A
$-I_{CSM}$	Reverse surge current (forward diode current)	Peak value of one cycle of 60Hz (half wave)	2000	A
T_J	Junction temperature		$-40\sim+150$	$^{\circ}C$
T_{stg}	Storage temperature		$-40\sim+125$	$^{\circ}C$
V_{isol}	Isolation voltage	AC for 1 minute	2500	V
—	Mounting torque	Main terminals and mounting screw	20~30	kg·cm
—	Weight	Typical value	470	g

ELECTRICAL CHARACTERISTICS ($T_J=25^\circ\text{C}$)

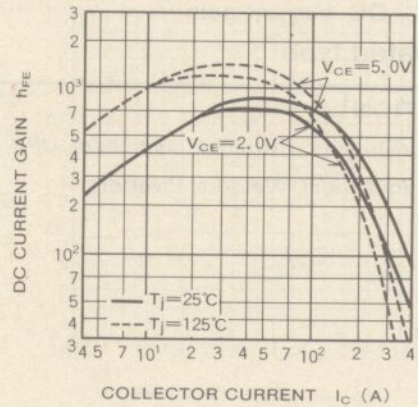
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
I_{CEX}	Collector cutoff current	$V_{CE}=V_{CEX}, V_{EB}=2V$	—	—	4	mA
I_{EBO}	Emitter cutoff current	$V_{EB}=7V$	—	—	800	mA
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=200A, I_B=2.6A$	—	—	2.0	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=200A, I_B=2.6A$	—	—	2.5	V
$-V_{CEO}$	Collector-emitter reverse voltage	$-I_C=200A$ (diode forward voltage drop)	—	—	1.75	V
h_{FE}	DC current gain	$I_C=200A, V_{CE}=2V/5V$	75/100	—	—	—
t_{on}	Switching time	$V_{CC}=300V$	—	—	2.0	μs
t_s		$I_C=200A$	—	—	12	μs
t_f		$I_{B1}=-I_{B2}=4A$	—	—	3.0	μs
$R_{th(j-c)Q}$	Thermal resistance	Transistor part, junction to case, per a half module	—	—	0.12	$^\circ\text{C/W}$
$R_{th(j-c)R}$		Diode part, junction to case, per a half module	—	—	0.33	$^\circ\text{C/W}$
$R_{th(c-f)}$	Contact thermal resistance (case to fin)	Conductive grease applied, per a half module	—	—	0.075	$^\circ\text{C/W}$

PERFORMANCE CURVES

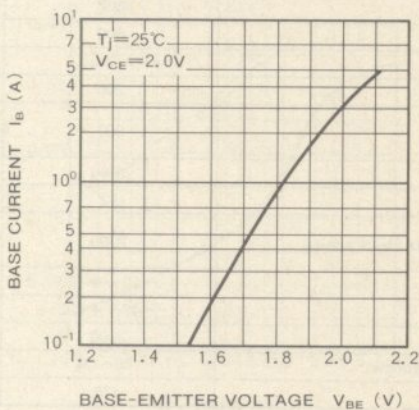
COMMON EMITTER OUTPUT CHARACTERISTICS (TYPICAL)



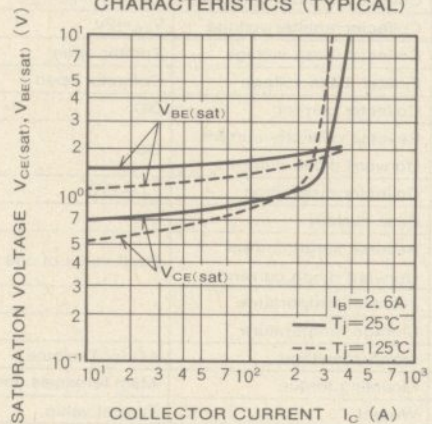
DC CURRENT GAIN VS. COLLECTOR CURRENT (TYPICAL)



COMMON EMITTER INPUT CHARACTERISTICS (TYPICAL)



SATURATION VOLTAGE CHARACTERISTICS (TYPICAL)

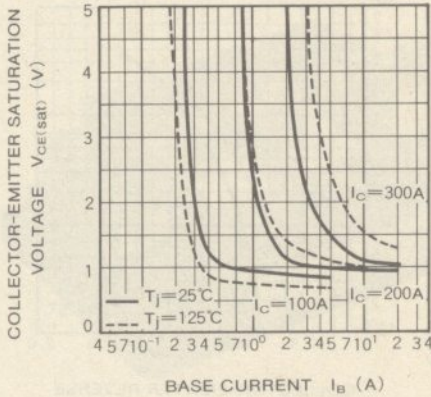


MITSUBISHI TRANSISTOR MODULES

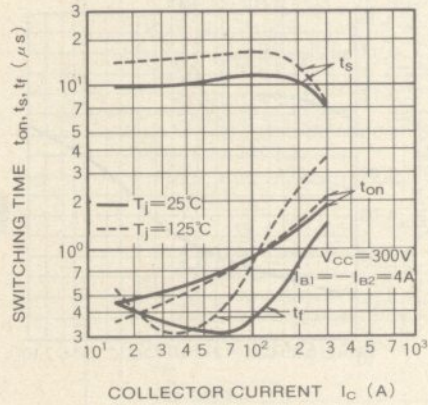
QM200DY-H

**HIGH POWER SWITCHING USE
INSULATED TYPE**

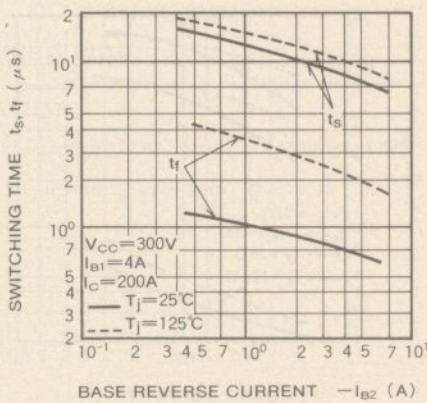
**COLLECTOR-EMITTER SATURATION
VOLTAGE (TYPICAL)**



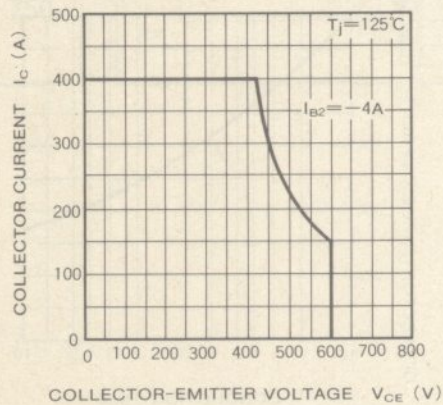
**SWITCHING TIME VS.
COLLECTOR CURRENT (TYPICAL)**



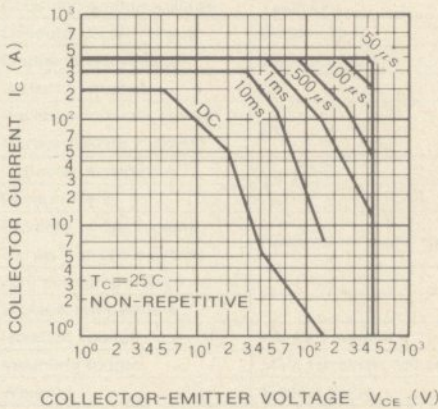
**SWITCHING TIME VS.
BASE CURRENT (TYPICAL)**



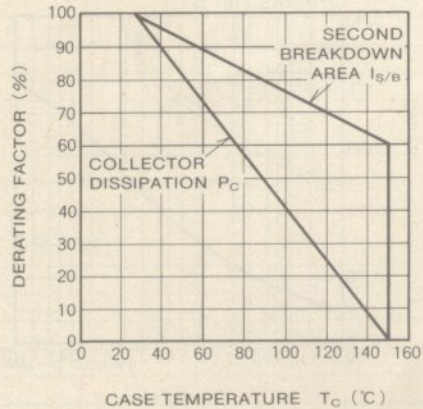
REVERSE BIAS SAFE OPERATING AREA



FORWARD BIAS SAFE OPERATING AREA



DERATING FACTOR OF F.B.S.O.A.



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HIGH POWER SWITCHING USE
INSULATED TYPE

