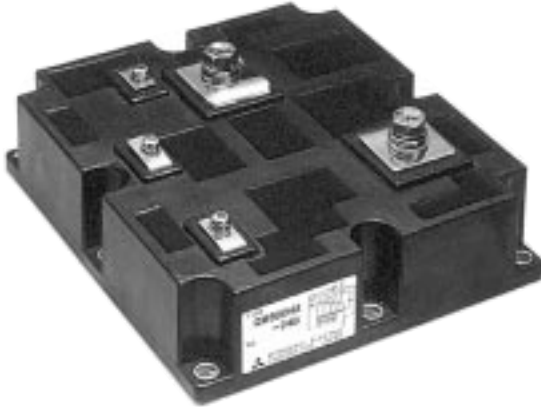


MITSUBISHI TRANSISTOR MODULES

QM800HA-24B

HIGH POWER SWITCHING USE
INSULATED TYPE

QM800HA-24B



- **I_C** Collector current **800A**
- **V_{CEX}** Collector-emitter voltage **1200V**
- **h_{FE}** DC current gain **750**
- **Insulated Type**
- **UL Recognized**

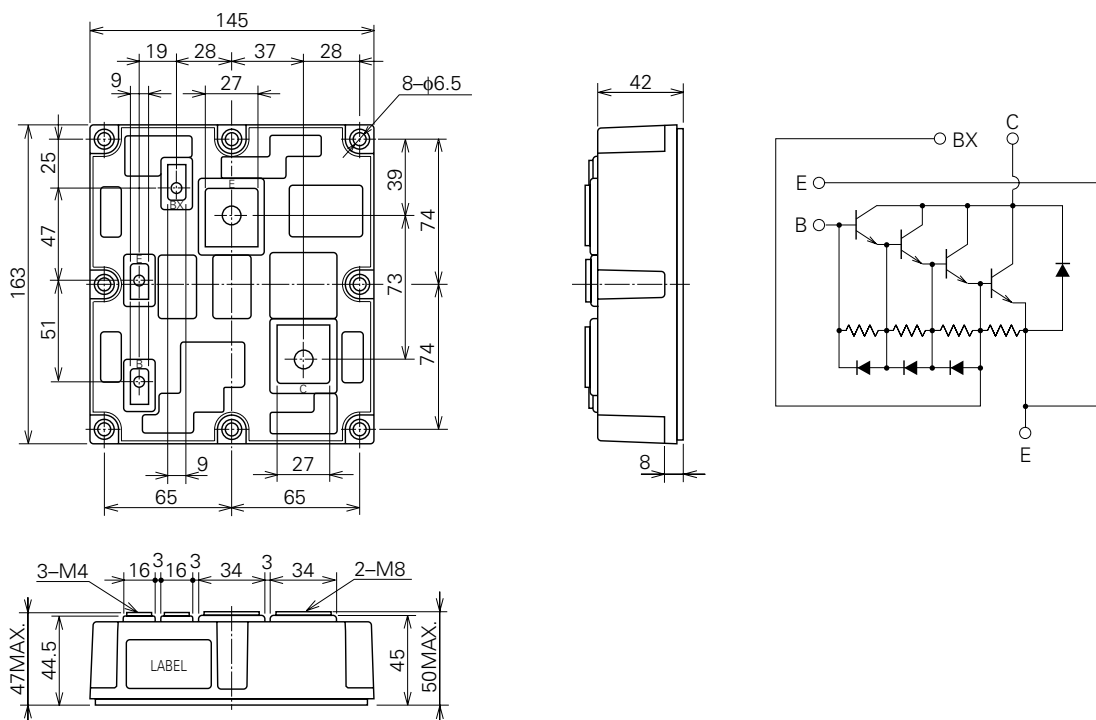
Yellow Card No. E80276 (N)
File No. E80271

APPLICATION

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

OUTLINE DRAWING & CIRCUIT DIAGRAM

Dimensions in mm



QM800HA-24B

**HIGH POWER SWITCHING USE
INSULATED TYPE**

ABSOLUTE MAXIMUM RATINGS (T_j=25°C, unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
V _{CEX (SUS)}	Collector-emitter voltage	I _C =1A, V _{EB} =2V	1200	V
V _{CEX}	Collector-emitter voltage	V _{EB} =2V	1200	V
V _{CBO}	Collector-base voltage	Emitter open	1200	V
V _{EBO}	Emitter-base voltage	Collector open	7	V
I _C	Collector current	DC	800	A
-I _C	Collector reverse current	DC (forward diode current)	800	A
P _C	Collector dissipation	T _C =25°C	5300	W
I _B	Base current	DC	40	A
-I _{CSM}	Surge collector reverse current (forward diode current)	Peak value of one cycle of 60Hz (half wave)	8000	A
T _j	Junction temperature		-40~+150	°C
T _{stg}	Storage temperature		-40~+125	°C
V _{iso}	Isolation voltage	Charged part to case, AC for 1 minute	2500	V
—	Mounting torque	Main terminal screw M8	8.83~10.8	N·m
			90~110	kg·cm
		Mounting screw M6	1.96~2.94	N·m
			20~30	kg·cm
		B(E) terminal screw M4	0.98~1.47	N·m
			12~18	kg·cm
BX terminal screw M4	0.98~1.47	N·m		
	12~18	kg·cm		
—	Weight	Typical value	2100	g

ELECTRICAL CHARACTERISTICS (T_j=25°C, unless otherwise noted)

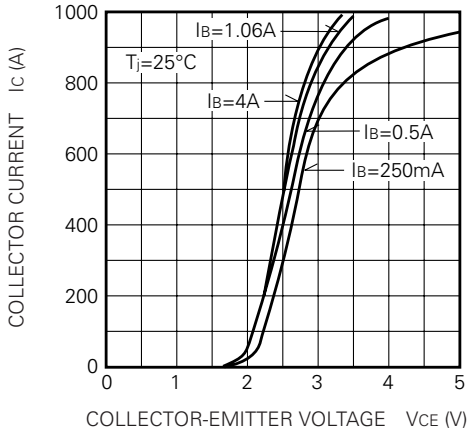
Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
I _{CEX}	Collector cutoff current	V _{CE} =1200V, V _{EB} =2V	—	—	8.0	mA
I _{CBO}	Collector cutoff current	V _{CB} =1200V, Emitter open	—	—	8.0	mA
I _{EBO}	Emitter cutoff current	V _{EB} =7V, Collector open	—	—	600	mA
V _{CE (sat)}	Collector-emitter saturation voltage	I _C =800A, I _B =1.06A	—	—	4.0	V
V _{BE (sat)}	Base-emitter saturation voltage		—	—	4.2	V
-V _{CEO}	Collector-emitter reverse voltage	I _C =-800A (diode forward voltage)	—	—	1.8	V
h _{FE}	DC current gain	I _C =800A, V _{CE} =4.0V	750	—	—	—
t _{on}	Switching time	V _{CC} =600V, I _C =800A, I _{B1} =1.6A, -I _{B2} =16A	—	—	2.5	μs
t _s			—	—	20	μs
t _f			—	—	5.0	μs
R _{th (j-c) Q}	Thermal resistance (junction to case)	Transistor part	—	—	0.023	°C/W
R _{th (j-c) R}		Diode part	—	—	0.12	°C/W
R _{th (c-f)}	Contact thermal resistance (case to fin)	Conductive grease applied	—	—	0.01	°C/W

QM800HA-24B

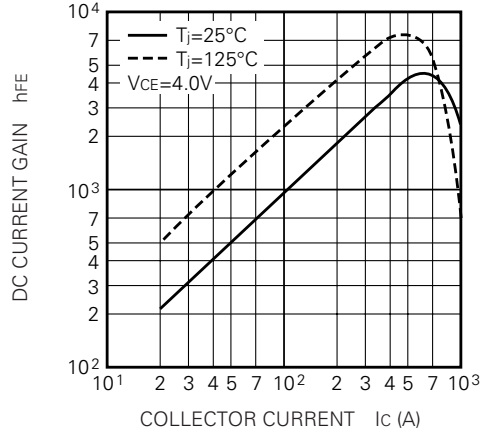
**HIGH POWER SWITCHING USE
INSULATED TYPE**

PERFORMANCE CURVES

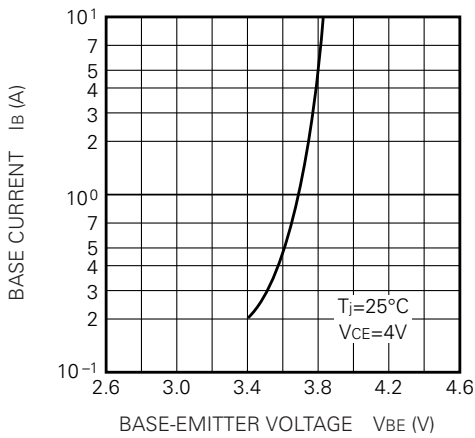
COMMON EMITTER OUTPUT CHARACTERISTICS (TYPICAL)



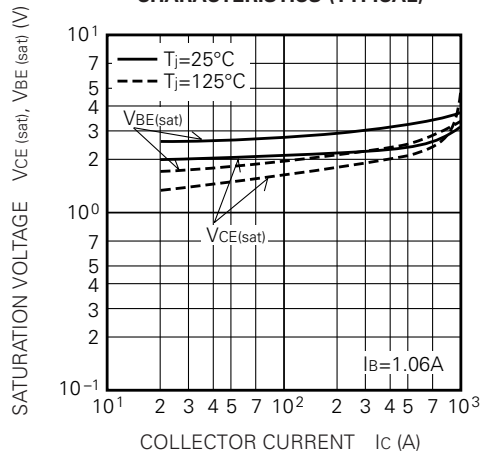
DC CURRENT GAIN VS. COLLECTOR CURRENT (TYPICAL)



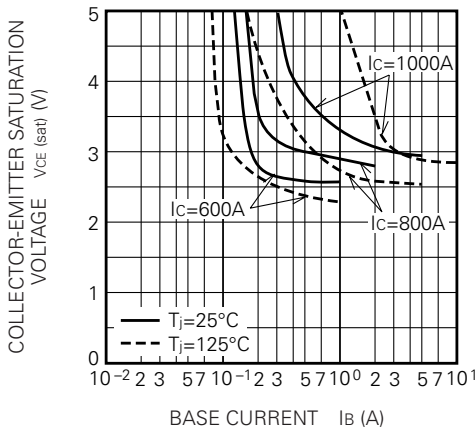
COMMON EMITTER INPUT CHARACTERISTIC (TYPICAL)



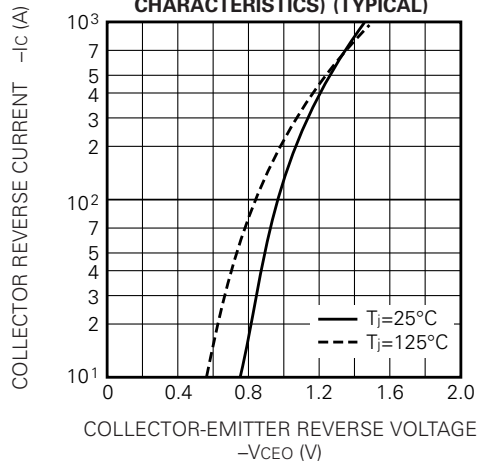
SATURATION VOLTAGE CHARACTERISTICS (TYPICAL)



COLLECTOR-EMITTER SATURATION VOLTAGE (TYPICAL)



REVERSE COLLECTOR CURRENT VS. COLLECTOR-EMITTER REVERSE VOLTAGE (DIODE FORWARD CHARACTERISTICS) (TYPICAL)



QM800HA-24B

HIGH POWER SWITCHING USE
INSULATED TYPE

REVERSE BIAS SAFE OPERATING AREA

