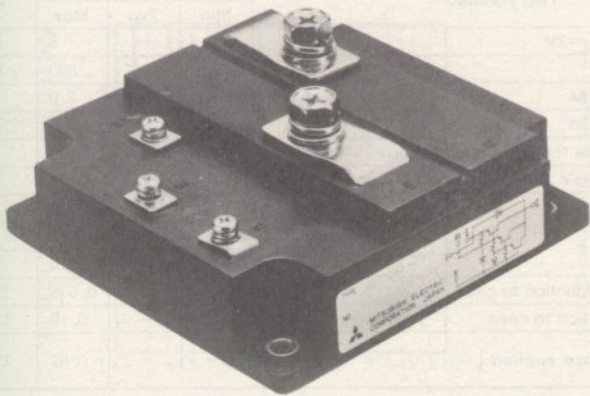


QM600HA-24

HIGH POWER SWITCHING USE
INSULATED TYPE

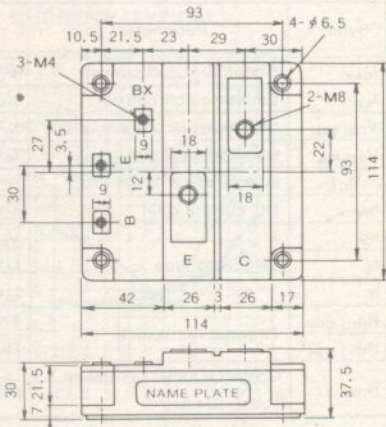
datasheet provided by
www.ineltron.de

QM600HA-24

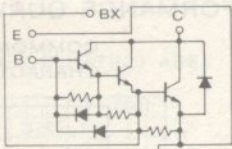


- I_C Collector current 600A
- V_{CEX} Collector-emitter voltage 1200V
- h_{FE} DC current gain 75
- Insulated type

OUTLINE DRAWING Dimensions in mm



CIRCUIT DIAGRAM



APPLICATION

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

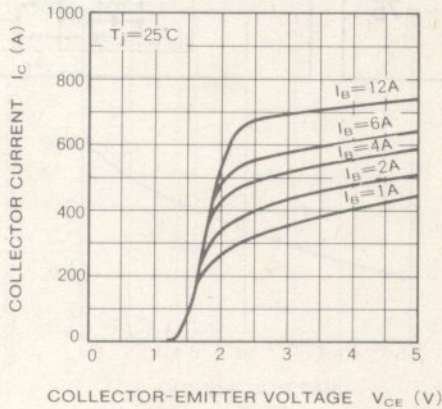
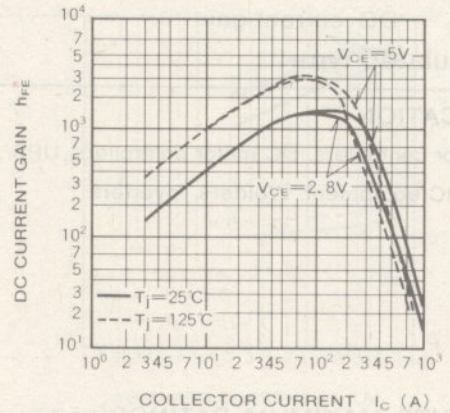
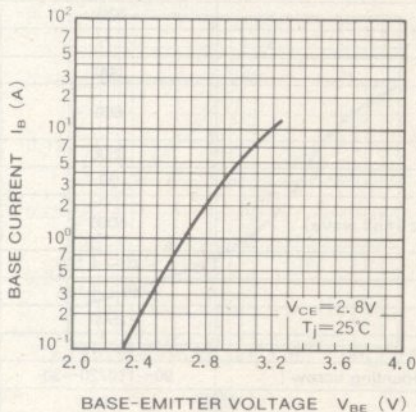
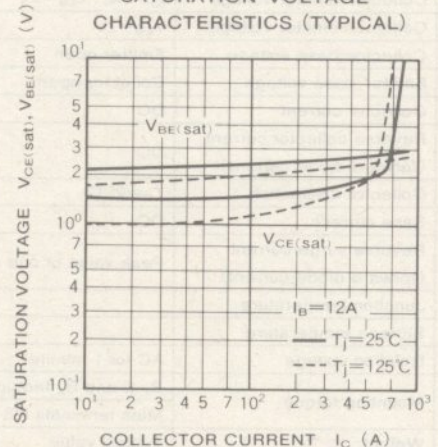
ABSOLUTE MAXIMUM RATINGS($T_j=25^{\circ}\text{C}$)

Symbol	Parameter	Conditions	Ratings	Unit
$V_{CEX(SUS)}$	Collector-emitter voltage	$I_C=1A, V_{EB}=2V$	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	600	A
$-I_C$	Reverse collector current (forward diode current)	DC	600	A
P_C	Collector dissipation	$T_C=25^{\circ}\text{C}$	3500	W
I_B	Base current	DC	20	A
$-I_{CSM}$	Reverse surge current (forward diode current)	Peak value of one cycle of 60Hz (half wave)	6000	A
T_j	Junction temperature		$-40\sim+150$	$^{\circ}\text{C}$
T_{stg}	Storage temperature		$-40\sim+125$	$^{\circ}\text{C}$
V_{isol}	Isolation voltage	AC for 1 minute	2500	V
—	Mounting torque	B, E and B _x terminals M4	10~15	kg·cm
		Main terminals M8 screw/M6 mounting screw	90~110/20~30	
—	Weight	Typical value	1100	g

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

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
I_{CEX}	Collector cutoff current	$V_{CE}=V_{CEX}, V_{EB}=2V$	—	—	8	mA
I_{EBO}	Emitter cutoff current	$V_{EB}=7V$	—	—	800	mA
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=600A, I_B=12A$	—	—	3.0	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=600A, I_B=12A$	—	—	3.5	V
$-V_{CEO}$	Collector-emitter reverse voltage	$-I_C=600A$ (diode forward voltage drop)	—	—	1.8	V
h_{FE}	DC current gain	$I_C=600A, V_{CE}=5V$	75	—	—	—
t_{on}	Switching time	$V_{CC}=600V$	—	—	3.0	μs
t_s		$I_C=600A$	—	—	16	μs
t_f		$I_{B1}=-I_{B2}=12A$	—	—	3.0	μs
$R_{th(j-c)Q}$	Thermal resistance	Transistor part, junction to case	—	—	0.035	$^\circ\text{C/W}$
$R_{th(j-c)R}$		Diode part, junction to case	—	—	0.16	$^\circ\text{C/W}$
$R_{th(c-f)}$	Contact thermal resistance (case to fin)	Conductive grease applied	—	—	0.02	$^\circ\text{C/W}$

PERFORMANCE CURVES

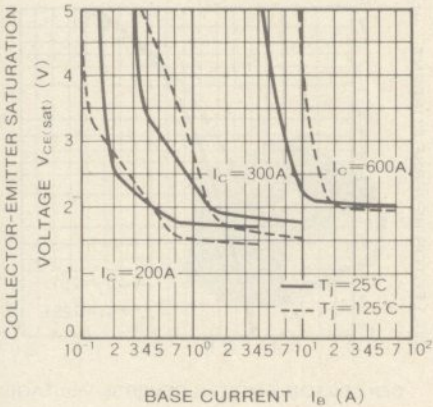
COMMON EMITTER OUTPUT
CHARACTERISTICS (TYPICAL)DC CURRENT GAIN VS.
COLLECTOR CURRENT (TYPICAL)COMMON EMITTER INPUT
CHARACTERISTICS (TYPICAL)SATURATION VOLTAGE
CHARACTERISTICS (TYPICAL)

MITSUBISHI TRANSISTOR MODULES

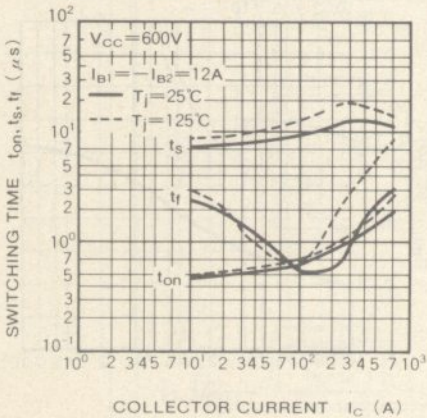
QM600HA-24

**HIGH POWER SWITCHING USE
INSULATED TYPE**

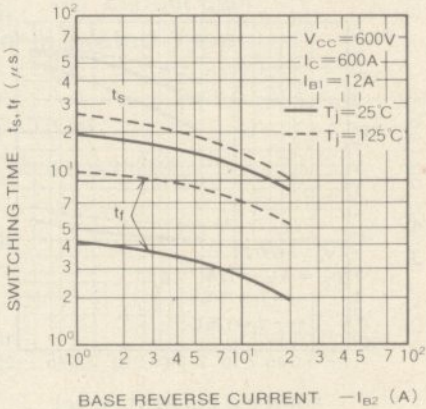
**COLLECTOR-EMITTER SATURATION
VOLTAGE (TYPICAL)**



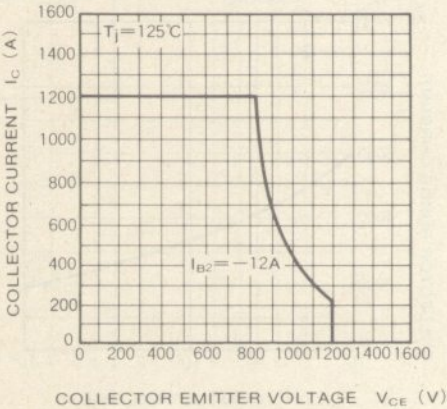
**SWITCHING TIME VS. COLLECTOR
CURRENT (TYPICAL)**



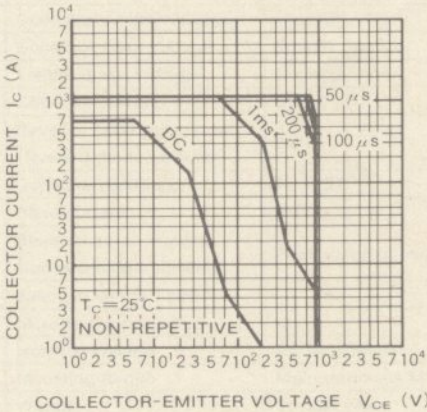
**SWITCHING TIME VS. BASE
CURRENT (TYPICAL)**



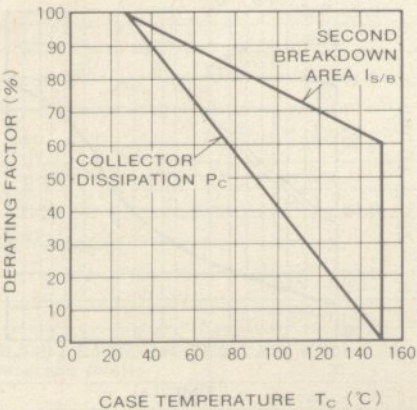
REVERSE BIAS SAFE OPERATING AREA



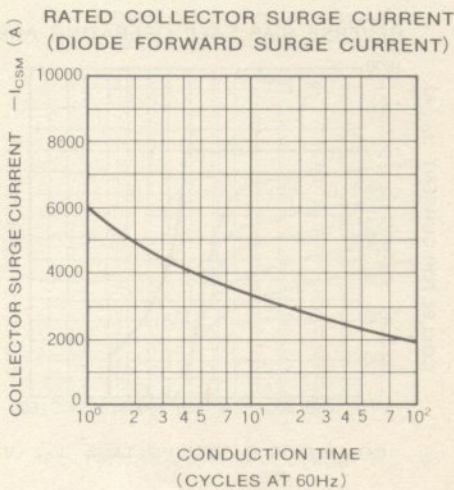
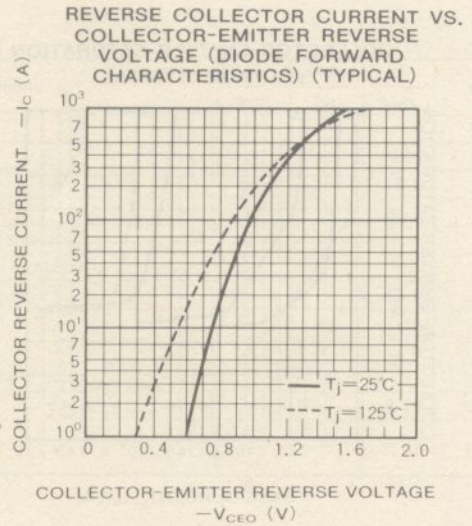
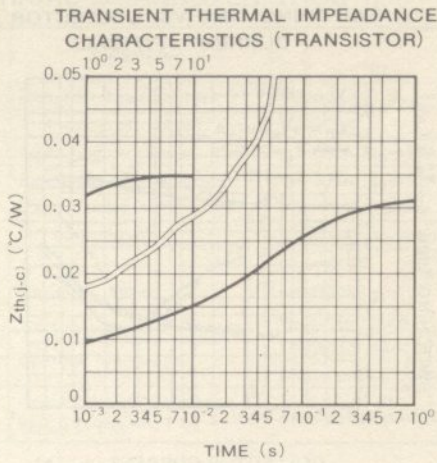
FORWARD BIAS SAFE OPERATING AREA



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



datasheet provided by
www.ineltron.de



REVERSE RECOVERY CHARACTERISTICS OF FREE-WHEEL DIODE (TYPICAL)

