MITSUBISHI TRANSISTOR MODULES

QM5HG-24

MEDIUM POWER SWITCHING USE

NON-INSULATED TYPE

QM5HG-24

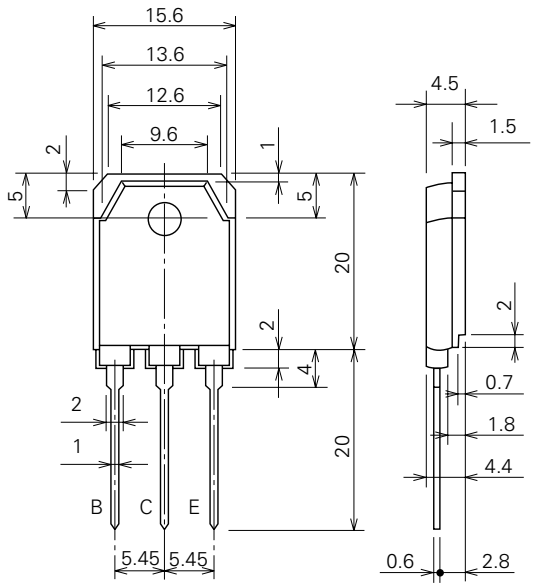
- **I_C** Collector current **5A**
- **V_{CEX}** Collector-emitter voltage **1200V**
- **h_{FE}** DC current gain **5**
- **Non-Insulated Type**

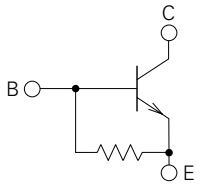
APPLICATION

Base driver for High voltage transistor modules

OUTLINE DRAWING & CIRCUIT DIAGRAM

Dimensions in mm





MITSUBISHI ELECTRIC

QM5HG-24

MEDIUM POWER SWITCHING USE
NON-INSULATED TYPE

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

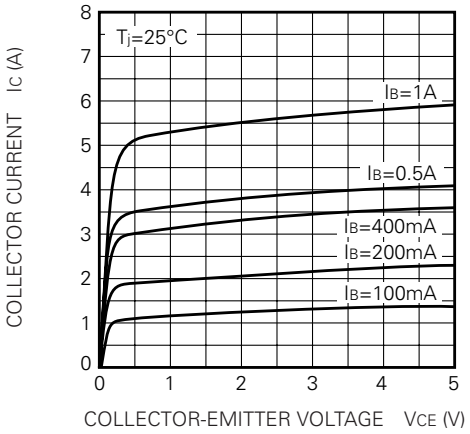
Symbol	Parameter	Conditions	Ratings	Unit
V_{CEX}	Collector-emitter voltage	V_{EB}=2V	1200	V
V_{CBO}	Collector-base voltage	Emitter open	1200	V
V_{EBO}	Emitter-base voltage	Collector open	7	V
I_C	Collector current	DC	5.0	A
P_C	Collector dissipation	T_C=25°C	100	W
I_B	Base current	DC	2	A
T_j	Junction temperature		–40~+150	°C
T_{stg}	Storage temperature		–40~+125	°C
—	Mounting torque	Mounting screw M3	0.59~0.98	N·m
			6~10	kg·cm
—	Weight	Typical value	5	g

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

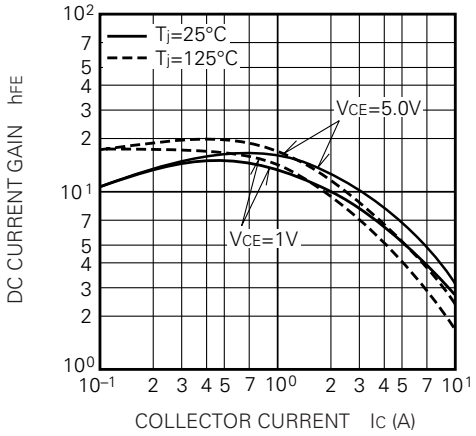
Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
I_{CEX}	Collector cutoff current	V_{CE}=1200V, V_{EB}=2V	—	—	1.0	mA
I_{CBO}	Collector cutoff current	V_{CB}=1200V, Emitter open	—	—	1.0	mA
I_{EBO}	Emitter cutoff current	V_{EB}=7V	—	—	50	mA
$V_{CE\ (sat)}$	Collector-emitter saturation voltage	I_C=3A, I_B=0.6A	—	—	1.0	V
$V_{BE\ (sat)}$	Base-emitter saturation voltage		—	—	1.5	V
h_{FE}	DC current gain	I_C=3A, V_{CE}=1V	5	—	—	—
t_{on}	Switching time	V_{CC}=600V, I_C=3A, I_{B1}=0.6A, $-I_{B2}$=1.2A	—	—	1.0	μs
t_s			—	—	4.0	μs
t_f			—	—	0.8	μs
$R_{th\ (j-c)\ Q}$	Thermal resistance (junction to case)	Transistor part	—	—	1.25	°C/W
$R_{th\ (j-c)\ R}$		Diode part	—	—	—	°C/W
$R_{th\ (c-f)}$	Contact thermal resistance (case to fin)	Conductive grease applied	—	—	0.5	°C/W

PERFORMANCE CURVES

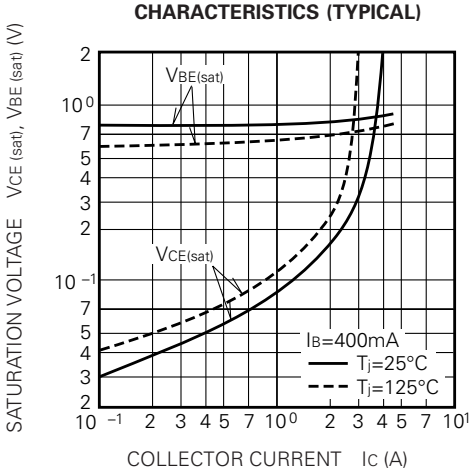
COMMON EMITTER OUTPUT CHARACTERISTICS (TYPICAL)



DC CURRENT GAIN VS. COLLECTOR CURRENT (TYPICAL)



SATURATION VOLTAGE CHARACTERISTICS (TYPICAL)



SWITCHING TIME VS. COLLECTOR CURRENT (TYPICAL)