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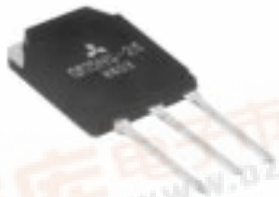
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MITSUBISHI TRANSISTOR MODULES

# QM5HG-24

MEDIUM POWER SWITCHING USE  
NON-INSULATED TYPE

QM5HG-24



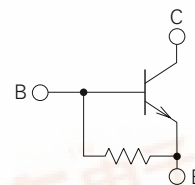
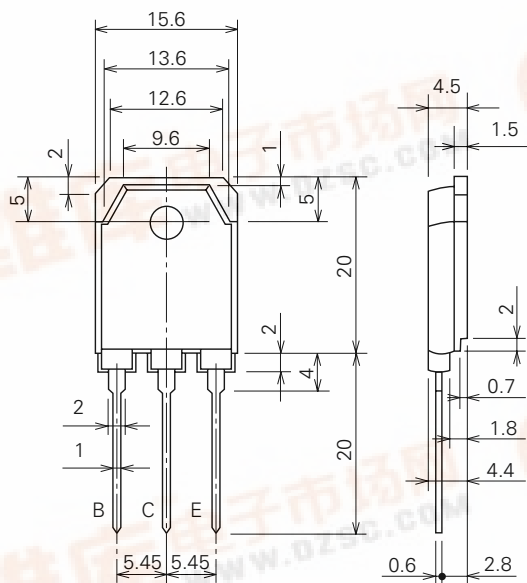
- **I<sub>c</sub>** Collector current ..... **5A**
- **V<sub>CEX</sub>** Collector-emitter voltage ..... **1200V**
- **h<sub>FE</sub>** DC current gain ..... **5**
- **Non-Insulated Type**

## APPLICATION

Base driver for High voltage transistor modules

## OUTLINE DRAWING & CIRCUIT DIAGRAM

Dimensions in mm



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**ABSOLUTE MAXIMUM RATINGS** (T<sub>j</sub>=25°C, unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
V <sub>CEX</sub>	Collector-emitter voltage	V <sub>EB</sub> =2V	1200	V
V <sub>CBO</sub>	Collector-base voltage	Emitter open	1200	V
V <sub>EBO</sub>	Emitter-base voltage	Collector open	7	V
I <sub>C</sub>	Collector current	DC	5.0	A
P <sub>C</sub>	Collector dissipation	T <sub>C</sub> =25°C	100	W
I <sub>B</sub>	Base current	DC	2	A
T <sub>j</sub>	Junction temperature		-40~+150	°C
T <sub>stg</sub>	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** (T<sub>j</sub>=25°C, unless otherwise noted)

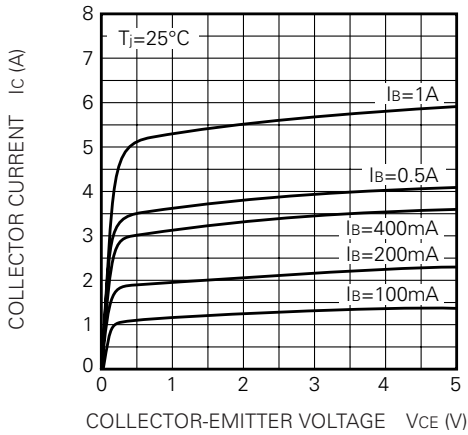
Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
I <sub>CEX</sub>	Collector cutoff current	V <sub>CE</sub> =1200V, V <sub>EB</sub> =2V	—	—	1.0	mA
I <sub>CBO</sub>	Collector cutoff current	V <sub>CB</sub> =1200V, Emitter open	—	—	1.0	mA
I <sub>EBO</sub>	Emitter cutoff current	V <sub>EB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

**QM5HG-24**

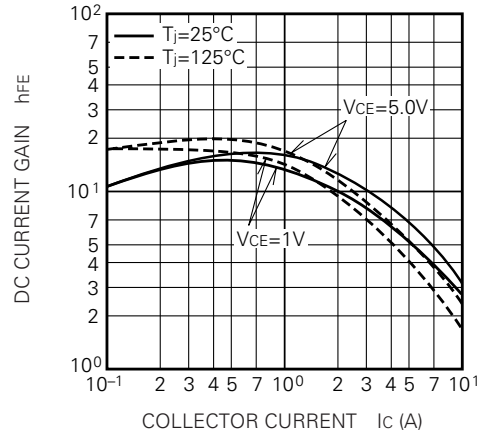
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**PERFORMANCE CURVES**

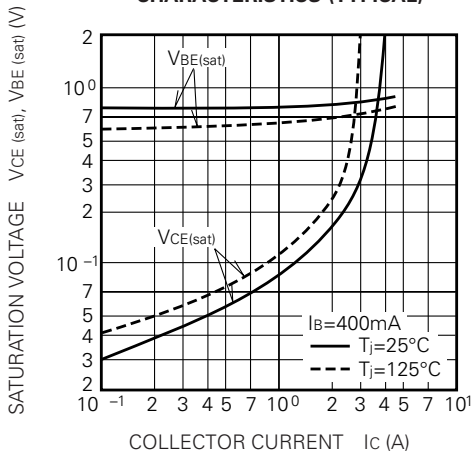
**COMMON EMITTER OUTPUT CHARACTERISTICS (TYPICAL)**



**DC CURRENT GAIN VS. COLLECTOR CURRENT (TYPICAL)**



**SATURATION VOLTAGE CHARACTERISTICS (TYPICAL)**



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

