

QM30HC-2H

INDUCTION HEATER USE
NON-INSULATED TYPE

QM30HC-2H



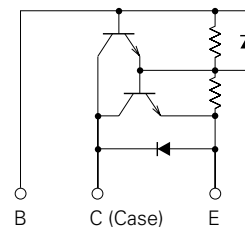
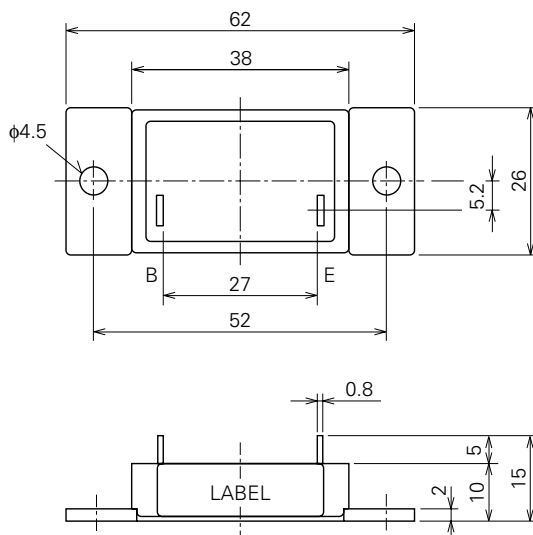
- **IC** Collector current **30A**
- **VCEX** Collector-emitter voltage **1600V**
- **hFE** DC current gain **75**
- **Non-Insulated Type**

APPLICATION

Induction heater for cooking

OUTLINE DRAWING & CIRCUIT DIAGRAM

Dimensions in mm



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

Symbol	Parameter	Conditions	Ratings	Unit
VCEX (SUS)	Collector-emitter voltage	I _C =1A, V _{EB} =2V	—	V
VCEX	Collector-emitter voltage	V _{EB} =2V	1600	V
VCBO	Collector-base voltage	Emitter open	1600	V
VEBO	Emitter-base voltage	Collector open	10	V
I _C	Collector current	DC	30	A
-I _C	Collector reverse current	DC (forward diode current)	30	A
P _C	Collector dissipation	T _C =25°C	310	W
I _B	Base current	DC	5	A
-I _{CSM}	Surge collector reverse current (forward diode current)	Peak value of one cycle of 60Hz (half wave)	300	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	—	V
—	Mounting torque	Mounting screw M4	0.98~1.47	N·m
—	Weight	Typical value	10~15	kg·cm
—	Weight	Typical value	50	g

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

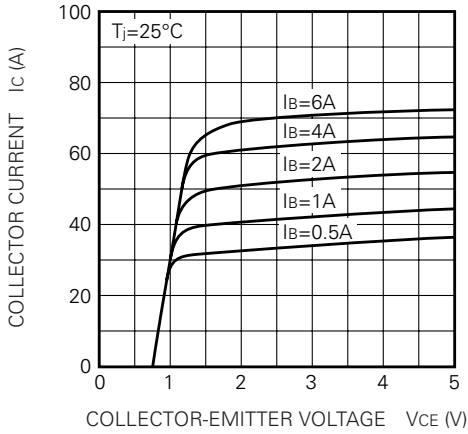
Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
I _C EX	Collector cutoff current	V _{CE} =1600V, V _{EB} =2V	—	—	1.0	mA
I _C BO	Collector cutoff current	V _{CB} =1600V, Emitter open	—	—	1.0	mA
I _E BO	Emitter cutoff current	V _{EB} =10V	—	—	400	mA
V _{CE} (sat)	Collector-emitter saturation voltage	I _C =30A, I _B =2A	—	—	2.0	V
V _{BE} (sat)	Base-emitter saturation voltage		—	—	2.5	V
-V _{CEO}	Collector-emitter reverse voltage	-I _C =30A (diode forward voltage)	—	—	1.5	V
h _{FE}	DC current gain	I _C =30A, V _{CE} =5V	75	—	—	—
t _{on}	Switching time	V _{CC} =100V, I _C =30A, I _{B1} =2A, I _{B2} =-5A	—	—	4.0	μs
t _s			—	—	5.0	μs
t _f			—	—	3.0	μs
R _{th} (j-c) Q	Thermal resistance (junction to case)	Transistor part	—	—	0.4	°C/W
R _{th} (j-c) R		Diode part	—	—	0.8	°C/W
R _{th} (c-f)	Contact thermal resistance (case to fin)	Conductive grease applied	—	—	0.25	°C/W

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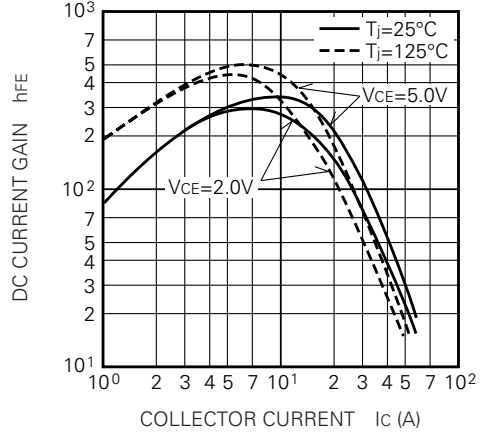
INDUCTION HEATER USE
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PERFORMANCE CURVES

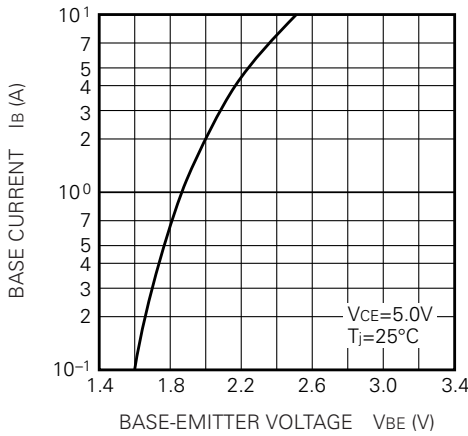
COMMON EMITTER OUTPUT CHARACTERISTICS (TYPICAL)



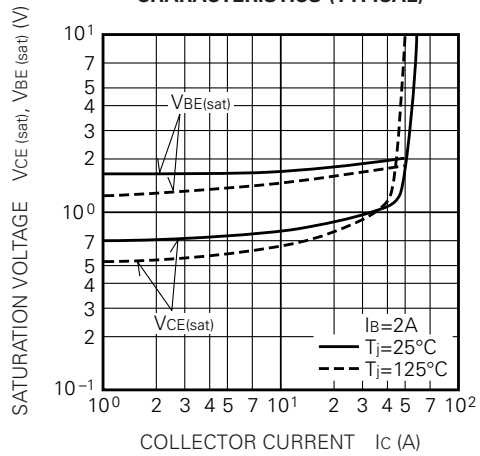
DC CURRENT GAIN VS. COLLECTOR CURRENT (TYPICAL)



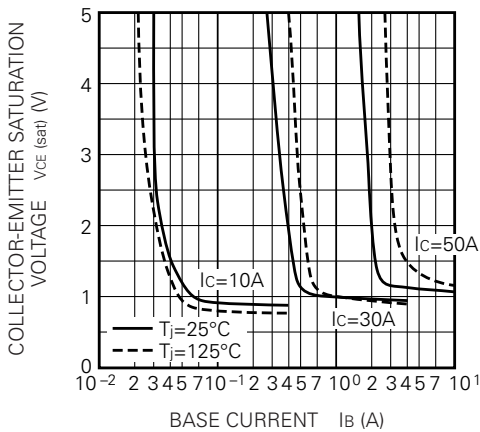
COMMON EMITTER INPUT CHARACTERISTIC (TYPICAL)



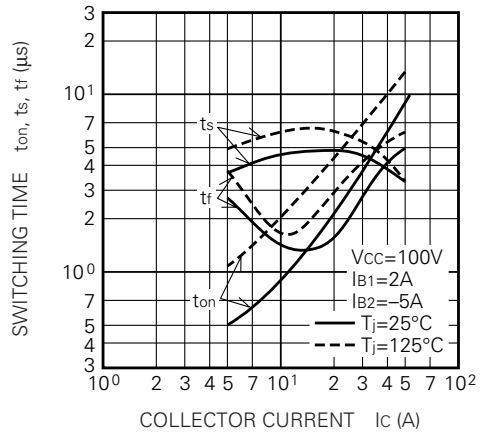
SATURATION VOLTAGE CHARACTERISTICS (TYPICAL)



COLLECTOR-EMITTER SATURATION VOLTAGE (TYPICAL)



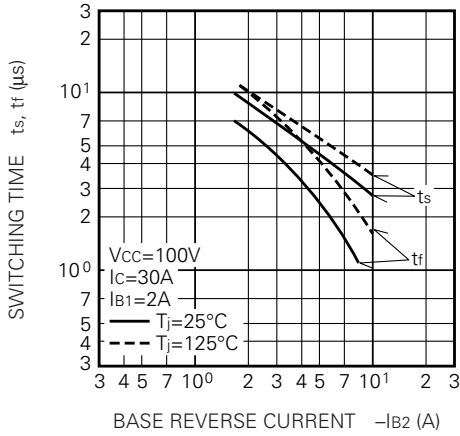
SWITCHING TIME VS. COLLECTOR CURRENT (TYPICAL)



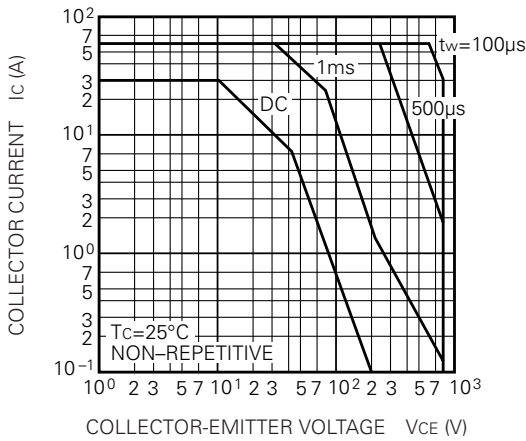
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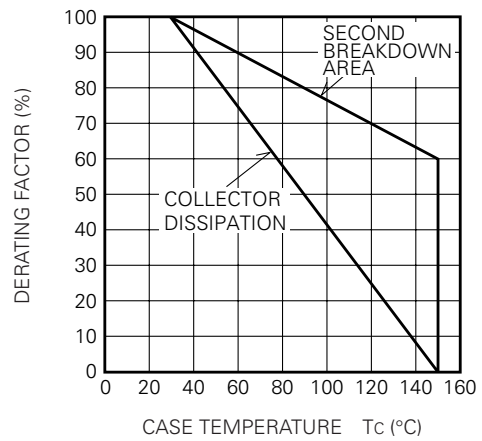
SWITCHING TIME VS. BASE CURRENT (TYPICAL)



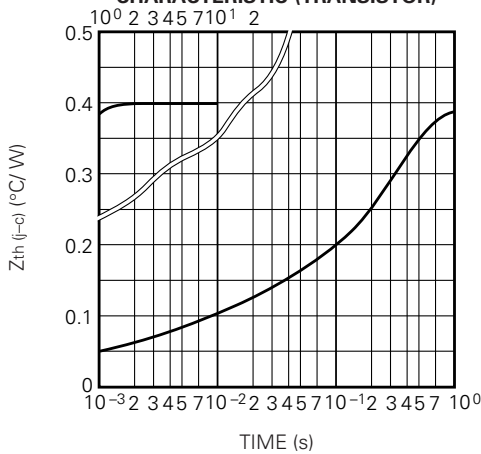
FORWARD BIAS SAFE OPERATING AREA



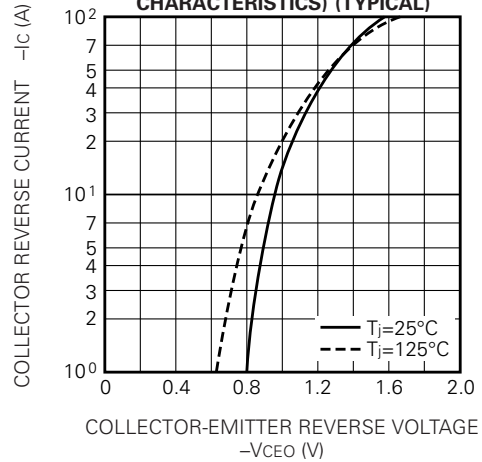
DERATING FACTOR OF F. B. S. O. A.



TRANSIENT THERMAL IMPEDANCE CHARACTERISTIC (TRANSISTOR)



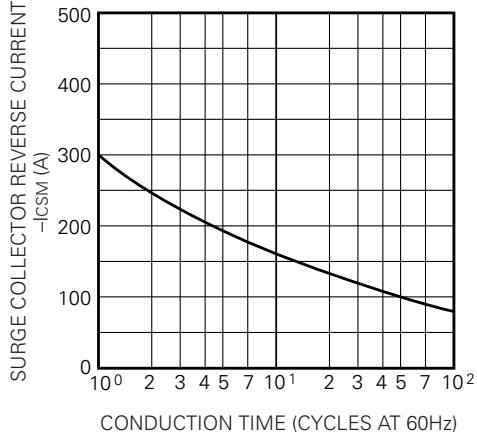
REVERSE COLLECTOR CURRENT VS. COLLECTOR-EMITTER REVERSE VOLTAGE (DIODE FORWARD CHARACTERISTICS) (TYPICAL)



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**RATED SURGE COLLECTOR REVERSE CURRENT
(DIODE FORWARD SURGE CURRENT)**



**TRANSIENT THERMAL IMPEDANCE
CHARACTERISTIC (DIODE)**

