

MITSUBISHI TRANSISTOR MODULES

QM150HY-2H

HIGH POWER SWITCHING USE
INSULATED TYPE

QM150HY-2H



- **I_C** Collector current **150A**
- **V_{CEx}** Collector-emitter voltage **1000V**
- **h_{FE}** DC current gain **75**
- **Insulated Type**
- **UL Recognized**

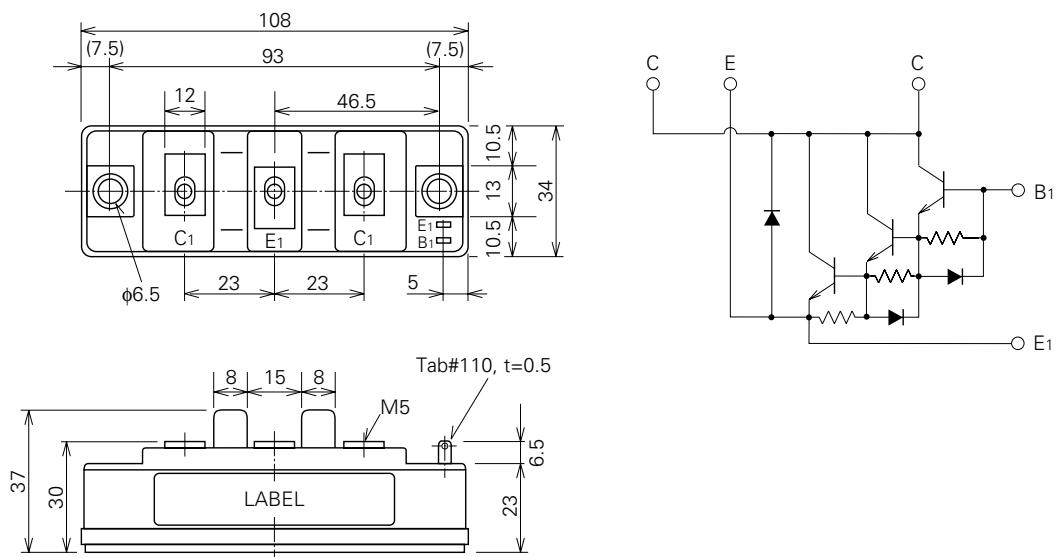
Yellow Card No. E80276 (N)
File No. E80271

APPLICATION

Inverters, Servo drives, DC motor controllers, NC equipment, Welders

OUTLINE DRAWING & CIRCUIT DIAGRAM

Dimensions in mm



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

Symbol	Parameter	Conditions	Ratings	Unit
VCEX (SUS)	Collector-emitter voltage	$I_C=1\text{A}$, $V_{EB}=2\text{V}$	1000	V
VCEX	Collector-emitter voltage	$V_{EB}=2\text{V}$	1000	V
VCBO	Collector-base voltage	Emitter open	1000	V
VEBO	Emitter-base voltage	Collector open	7	V
I_C	Collector current	DC	150	A
$-I_C$	Collector reverse current	DC (forward diode current)	150	A
Pc	Collector dissipation	$T_c=25^\circ\text{C}$	1000	W
I_B	Base current	DC	8	A
$-I_{CSM}$	Surge collector reverse current (forward diode current)	Peak value of one cycle of 60Hz (half wave)	1500	A
T_j	Junction temperature		-40~+150	$^\circ\text{C}$
Tstg	Storage temperature		-40~+125	$^\circ\text{C}$
Viso	Isolation voltage	Charged part to case, AC for 1 minute	2500	V
—	Mounting torque	Main terminal screw M5	1.47~1.96	N·m
			15~20	kg·cm
		Mounting screw M6	1.96~2.94	N·m
			20~30	kg·cm
—	Weight	Typical value	250	g

ELECTRICAL CHARACTERISTICS ($T_j=25^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
ICEX	Collector cutoff current	$V_{CE}=1000\text{V}$, $V_{EB}=2\text{V}$	—	—	2.0	mA
ICBO	Collector cutoff current	$V_{CB}=1000\text{V}$, Emitter open	—	—	2.0	mA
IEBO	Emitter cutoff current	$V_{EB}=7\text{V}$	—	—	200	mA
VCE (sat)	Collector-emitter saturation voltage	$I_C=150\text{A}$, $I_B=3\text{A}$	—	—	2.5	V
VBE (sat)	Base-emitter saturation voltage		—	—	3.5	V
-VCEO	Collector-emitter reverse voltage	$-I_C=150\text{A}$ (diode forward voltage)	—	—	1.8	V
hFE	DC current gain	$I_C=150\text{A}$, $V_{CE}=2.8\text{V}/5\text{V}$	75/100	—	—	—
ton	Switching time	$V_{CC}=600\text{V}$, $I_C=150\text{A}$, $I_{B1}=-I_{B2}=3\text{A}$	—	—	3.0	μs
ts			—	—	15	μs
tf			—	—	3.0	μs
Rth (j-c) Q	Thermal resistance (junction to case)	Transistor part	—	—	0.125	$^\circ\text{C}/\text{W}$
Rth (j-c) R		Diode part	—	—	0.6	$^\circ\text{C}/\text{W}$
Rth (c-f)	Contact thermal resistance (case to fin)	Conductive grease applied	—	—	0.065	$^\circ\text{C}/\text{W}$

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