

TRANSISTOR MODULE

QCA200A40/60

TOP



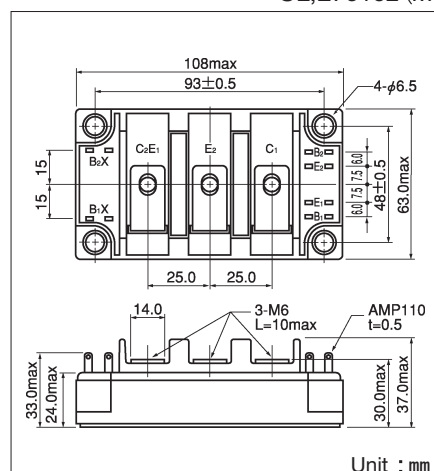
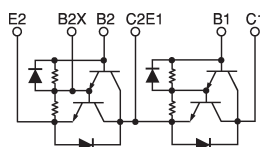
UL;E76102 (M)

QCA200 is a dual Darlington power transistor module which has series- connected high speed, high power Darlington transistors. Each transistor has a reverse paralleled fast recovery diode. The mounting base of the module is electrically isolated from semiconductor elements for simple heatsink construction,

- $I_C=200A$ 、 $V_{CEX}=400/600V$
- Low saturation voltage for higher efficiency.
- High DC current gain h_{FE}
- Isolated mounting base
- High DC current gain h_{FE}
- V_{EBO} 10V for faster switching speed.

(Applications)

Motor Control (VVVF), AC/DC Servo, UPS,
Switching Power Supply, Ultrasonic Application



Maximum Ratings

($T_j=25^{\circ}C$)

Symbol	Item		Conditions	Ratings		Unit
				QCA200A40	QCA200A60	
V _{CBO}	Collector-Base Voltage			400	600	V
V _{CEX}	Collector-Emitter Voltage		V _{BE} = -2V	400	600	V
V _{EBO}	Emitter-Base Voltage			10		V
I _C	Collector Current		() =pw ≤1ms	200 (400)		A
-I _C	Reverse Collector Current			200		A
I _B	Base Current			12		A
P _T	Total power dissipation		T _C =25℃	1250		W
T _J	Junction Temperature			-40 ~ +150		℃
T _{stg}	Storage Temperature			-40 ~ +125		℃
V _{iso}	Isolation Voltage		A.C.1minute	2500		V
	Mounting	Mounting (M6)	Recommended Value 2.5~3.9 (25~40)	4.7 (48)		N・m (kgf・cm)
	Torque	Terminal (M6)	Recommended Value 2.5~3.9 (25~40)	4.7 (48)		
	Mass		Typical Value	470		g

Electrical Characteristics

($T_j=25^{\circ}C$)

Symbol	Item		Conditions	Ratings		Unit	
				Min.	Max.		
IcBO	Collector Cut-off Current		V _{CB} =V _{CBO}		2.0	mA	
IeBO	Emitter Cut-off Current		V _{EB} =V _{EBO}		800	mA	
V _{CEO} (SUS)	Collector Emitter Sustaning Voltage	QCA200A40	Ic=1A	300		V	
		QCA200A60		450			
V _{CEX} (SUS)			QCA200A40	Ic=40A, IB2=−8A	400		V
			QCA200A60		600		
hFE	DC Current Gain		Ic=200A, VCE=2V	75			
			Ic=200A, VCE=5V	100			
VCE(sat)	Collector-Emitter Saturation Voltage		Ic=200A, IB=2.7A		2.0	V	
VBE(sat)	Base-Emitter Saturation Voltage		Ic=200A, IB=2.7A		2.5	V	
ton	Switching Time	On Time	Vcc=300V, Ic=200A IB1=4A, IB2=−4A		2.0	μs	
ts		Storage Time			12.0		
tf		Fall Time			3.0		
VECO	Collector-Emitter Reverse Voltage		−Ic=200A		1.4	V	
Rth(j-c)	Thermal Impedance (junction to case)		Transistor part		0.1	℃/W	
			Diode part		0.3		

