

QCA200A40/60

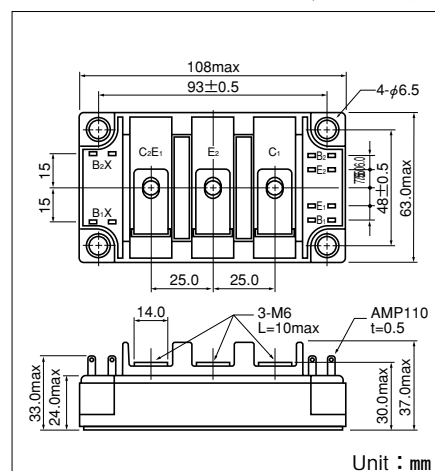
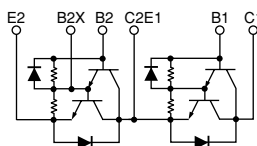
UL:E76102(M)

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
- V_{EBO} 10V for faster switching speed.

(Applications)

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



■ Maximum Ratings

(Tj=25°C unless otherwise specified)

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 to +150		℃
T _{stg}	Storage Temperature			-40 to +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

Symbol	Item		Conditions	Ratings		Unit	
				Min.	Max.		
I _{CB} O	Collector Cut-off Current		V _{CB} =V _{CB} O		2.0	mA	
I _{EB} O	Emitter Cut-off Current		V _{EB} =V _{EB} O		800	mA	
V _{CE} (SUS)	Collector Emitter Sustaning Voltage	QCA200A40	I _C =1A	300		V	
		QCA200A60		450			
V _{CE} (SUS)			QCA200A40	I _C =40A, I _B 2=−8A	400		V
			QCA200A60		600		
h _{FE}	DC Current Gain		I _C =200A, V _{CE} =2V	75			
			I _C =200A, V _{CE} =5V	100			
V _{CE} (sat)	Collector-Emitter Saturation Voltage		I _C =200A, I _B =2.7A		2.0	V	
V _{BE} (sat)	Base-Emitter Saturation Voltage		I _C =200A, I _B =2.7A		2.5	V	
ton	Switching Time	On Time	V _{CC} =300V, I _C =200A I _B 1=4A, I _B 2=−4A		2.0	μs	
ts		Storage Time			12.0		
tf		Fall Time			3.0		
V _{ECO}	Collector-Emitter Reverse Voltage		−I _C =200A		1.4	V	
R _{th} (j-c)	Thermal Impedance (junction to case)		Transistor part		0.1	°C/W	
			Diode part		0.3		

