

TRANSISTOR MODULE (Hi-β)

QCA200BA60

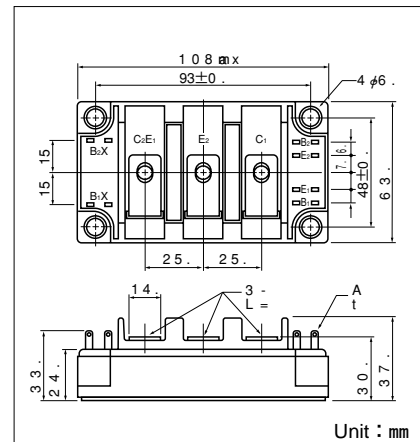
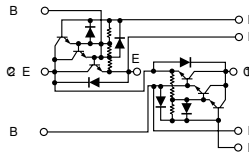
UL;E76102(M)

QCA200BA60 is a dual Darlington power transistor module which has series-connected **ULTRA HIGH** hFE, high speed, high power Darlington transistors. Each transistor has a reverse paralleled fast recovery diode (trr : 200ns). The mounting base of the module is electrically isolated from Semiconductor elements for simple heatsink construction,

- Ic=200A, VCEX=600V
- Low saturation voltage for higher efficiency.
- ULTRA HIGH DC current gain hFE. hFE≥750
- Isolated mounting base
- VEB0 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
				QCA200BA60		
V _{CB0}	Collector-Base Voltage			600		V
V _{CEX}	Collector-Emitter Voltage		V _{BE} =-2V	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°C	1250		W
T _J	Junction Temperature			-40 to +150		°C
T _{stg}	Storage Temperature			-40 to +125		°C
V _{iso}	Isolation Voltage		A.C.1minute	2500		
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)		N·m (kgf·cm)
		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.	Typ.	Max.	
I _{CBO}	Collector Cut-off Current		V _{CB} =V _{CB0}			2.0	mA
I _{EBO}	Emitter Cut-off Current		V _{EB} =V _{EBO}			800	mA
V _{CEO(SUS)}	Collector Emitter Sustaning Voltage		I _C =1A	450		V	
V _{CEX(SUS)}			I _C =40A, I _{B2} =-8A	600			
h _{FE}	D.C. Current Gain		I _C =200A, V _{CE} =2.5V	750			
V _{CE(sat)}	Collector-Emitter Saturation Voltage		I _C =200A, I _B =0.26A			2.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage		I _C =200A, I _B =0.26A			3.0	V
t _{on}	Switching Time	On Time	V _{CC} =300V, I _C =200A I _{B1} =0.4A, I _{B2} =-4A			2.0	μs
t _s		Storage Time				8.0	
t _f		Fall Time				2.0	
V _{ECO}	Collector-Emitter Reverse Voltage		I _C =-200A			1.8	V
trr	Reverse Recovery time		V _{CC} =300V, I _C =-200A, -di/dt=200A/μs, V _{BE} =-5V	200			ns
R _{th(j-c)}	Thermal Impedance (junction to case)		Transistor part			0.1	°C/W
			Diode part			0.3	

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