

TRANSISTOR MODULE (Hi- β)

QCA100BA60

TOP



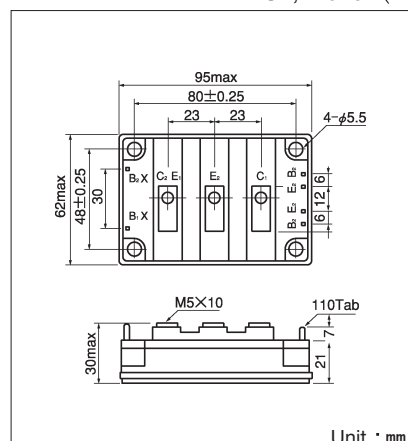
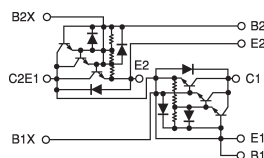
UL;E76102 (M)

QCA100BA60 is a dual Darlington power transistor module which has series-connected **ULTRA HIGH** h_{FE} , high speed, high power Darlington transistors. Each transistor has a reverse paralleled fast recovery diode (t_{rr} : 200ns). The mounting base of the module is electrically isolated from Semiconductor elements for simple heatsink construction,

- $I_C=100A$, $V_{CEX}=600V$
- Low saturation voltage for higher efficiency.
- ULTRA HIGH DC current gain h_{FE} . $h_{FE} \geq 750$
- 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

($T_j=25^\circ C$)

Symbol	Item		Conditions	Ratings	Unit
				QCA100BA60	
V_{CBO}	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		() = $p_w \leq 1ms$	100 (200)	A
$-I_C$	Reverse Collector Current			100	A
I_B	Base Current			6	A
P_T	Total power dissipation		$T_C = 25^\circ C$	620	W
T_j	Junction Temperature			$-40 \sim +150$	$^\circ C$
T_{stg}	Storage Temperature			$-40 \sim +125$	$^\circ C$
V_{iso}	Isolation Voltage		A.C.1minute	2500	V
	Mounting Torque	Mounting (M5)	Recommended Value 1.5~2.5 (15~25)	2.7 (28)	N · m (kgf · cm)
		Terminal (M5)	Recommended Value 1.5~2.5 (15~25)	2.7 (28)	
	Mass		Typical Value	360	g

Electrical Characteristics

($T_j=25^\circ C$)

Symbol	Item		Conditions	Ratings			Unit
				最小	標準	最大	
ICBO	Collector Cut-off Current		$V_{CB}=V_{CBO}$			1.0	mA
IEBO	Emitter Cut-off Current		$V_{EB}=V_{EBO}$			400	mA
VCEO (SUS)	Collector Emitter Sustaning Voltage		Ic=1A	450			V
VCEX (SUS)			Ic=20A, IB2=-5A	600			
hFE	D.C. Current Gain		Ic=100A, VCE=2.5V	750			
VCE (sat)	Collector-Emitter Saturation Voltage		Ic=100A, IB=130mA			2.5	V
VBE (sat)	Base-Emitter Saturation Voltage		Ic=100A, IB=130mA			3.0	V
ton	Switching Time	On Time	Vcc=300V, Ic=100A IB1=0.2A, IB2=-2A			2.0	μs
ts		Storage Time				8.0	
tf		Fall Time				2.0	
VECO	Collector-Emitter Reverse Voltage		Ic=-100A			1.8	V
trr	Reverse Recovery time		Vcc=300V, -Ic=100A, -di/dt=100/μs, VBE=-5V		200		ns
Rth (j-c)	Thermal Impedance (junction to case)		Transistor part			0.2	℃/W
			Diode part			0.6	

