

TRANSISTOR MODULE (Hi- β)

QCA75BA60

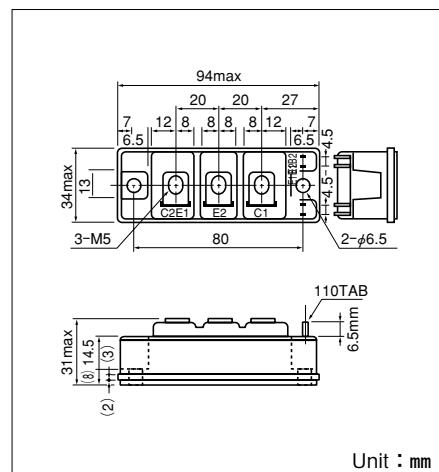
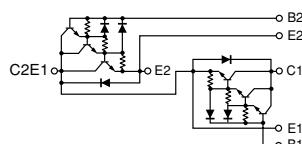
UL-E76102(M)

QCA75BA60 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,

- $I_c = 75A$, $V_{CEX} = 600V$
 - Low saturation voltage for higher efficiency.
 - ULTRA HIGH DC current gain h_{FE} . $h_{FE} \geq 750$
 - Isolated mounting base
 - $V_{EB0} 10V$ for faster switching speed.

(Applications)

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



Unit : mm

(T_j=25°C unless otherwise specified)

■ Maximum Ratings

Symbol	Item	Conditions	Ratings	Unit
			QCA75BA60	
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	() $pw \leq 1ms$	75 (150)	A
$-I_c$	Reverse Collector Current		75	A
I_B	Base Current		4.5	A
P_T	Total power dissipation	$T_c = 25^\circ C$	350	W
T_j	Junction Temperature		-40 to +150	$^\circ C$
T_{stg}	Storage Temperature		-40 to +125	$^\circ C$
V_{iso}	Isolation Voltage	A.C. 1 minute	2500	V
Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	$N\cdot m$ $kgf\cdot cm$
	Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass	Typical Value	240	g

■ Electrical Characteristics

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I _{CBO}	Collector Cut-off Current	V _{CB} =V _{CBO}			1.0	mA
I _{EBO}	Emitter Cut-off Current	V _{EB} =V _{EBO}			300	mA
V _{CEO(SUS)}	Collector Emitter Sustaining Voltage	I _C =1A	450			V
V _{CEx(SUS)}		I _C =15A, I _{B2} =-5A	600			
h _{FE}	D.C. Current Gain	I _C =75A, V _{CE} =2.5V	750			
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C =75A, I _B =100mA			2.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C =75A, I _B =100mA			3.0	V
ton	Switching Time	On Time	V _{CC} =300V, I _C =75A I _{B1} =150mA, I _{B2} =-1.5A		2.0	μs
ts		Storage Time			8.0	
tf		Fall Time			2.0	
V _{ECO}	Collector-Emitter Reverse Voltage	I _C =-75A			1.8	V
trr	Reverse Recovery time	V _{CC} =300V, -I _C =75A, -dI/dt=75A μA, V _{BE} =-5V		200		ns
R _{th(j-c)}	Thermal Impedance (junction to case)	transistor part			0.35	°C/W
		Diode part			1.3	

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