

TRANSISTOR MODULE

捷多, 专业PCB加工 0002171, 909

加急出货

QCA50B/QCB50A40/60

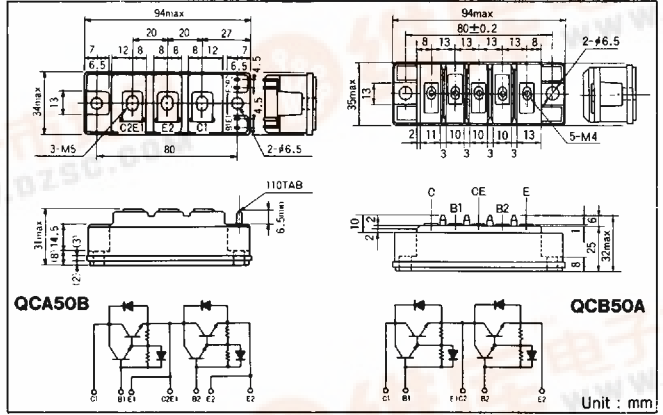
UL:E76102(M)

QCA50B and QCB50A are dual Darlington power transistor modules which have series-connected high speed, high power Darlington transistors. Each transistor has a reverse paralleled fast recovery diode.

- $I_c = 50A$ $V_{CEX} = 400/600V$
- Low saturation voltage for higher efficiency.
- 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

Symbol	Item	Conditions	Ratings		Unit
			QCA50B40 QCB50A40	QCA50B60 QCB50A60	
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	() = $p_w \leq 1ms$	50 (100)		A
$-I_c$	Reverse Collector Current		50		A
I_b	Base Current		3		A
P_T	Total power dissipation	$T_c = 25^\circ C$	300		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	QCA50B	(M6)	Recommended Value 2.5~3.9 (25~40)		N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5~2.5 (15~25)		
	QCB50A	(M5)	Recommended Value 1.5~2.5 (15~25)		
		Terminal (M4)	Recommended Value 1.0~1.4 (10~14)		
Mass	QCA50B/QCB50A	Typical value	240/195		g

Electrical Characteristics

Symbol	Item	Conditions	Ratings		Unit
			Min.	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
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_c = 1A$	QCA50B40 QCB50A40	300	V
			QCA50B60 QCB50A60	450	
$V_{CEX(SUS)}$	Collector-Emitter Sustaining Voltage	$I_c = 10A$ $I_{B2} = -5A$	QCA50B40 QCB50A40	400	V
			QCA50B60 QCB50A60	600	
h_{FE}	DC Current Gain	$I_c = 50A$ $V_{CE} = 2V/5V$	75/100		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_c = 50A$ $I_b = 0.67A$		2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_c = 50A$ $I_b = 0.67A$		2.5	V
Switching Time	On Time	$V_{CC} = 300V$ $I_c = 50A$ $I_{B1} = 1A$ $I_{B2} = -1A$		1.0	μs
	Storage Time			12.0	
	Fall Tjme			2.0	
V_{EBO}	Collector-Emitter Reverse Voltage	$-I_c = 50A$		1.4	V
$R_{th(j-c)}$	Thermal Impedance	Transistor part		0.4	$^\circ C/W$

