

TRANSISTOR MODULE

QCA100AA120

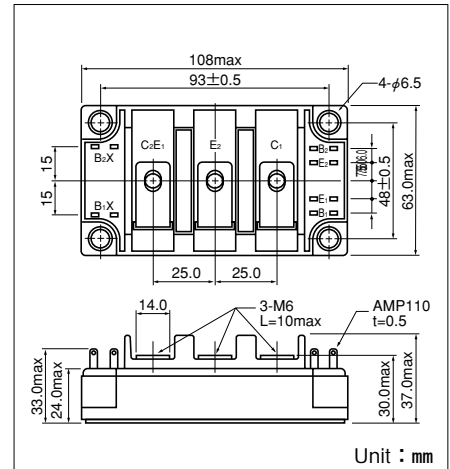
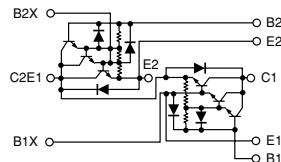
UL:E76102(M)

QCA100AA120 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,

- $I_C=100A$, $V_{CEX}=1200V$
- Low saturation voltage for higher efficiency.
- High DC current gain h_{FE}
- Isolated mounting base

(Applications)

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



Maximum Ratings

($T_j=25^{\circ}C$ unless otherwise specified)

Symbol	Item	Conditions	Ratings		Unit
			QCA100AA120		
V _{CB0}	Collector-Base Voltage		1200		V
V _{CEX}	Collector-Emitter Voltage	V _{BE} =-2V	1200		V
V _{EBO}	Emitter-Base Voltage		10		V
I _C	Collector Current		100		A
-I _C	Reverse Collector Current		100		A
I _B	Base Current		5		A
P _T	Total power dissipation	T _C =25°C	800		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		V
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)		N·m (kgf·cm)
		Terminal (M6)	Recommended Value 2.5-3.9 (25-40)		
	Mass	Typical Value	470		g

Electrical Characteristics

Symbol	Item	Conditions	Ratings		Unit
			Min.	Max.	
I _{CB0}	Collector Cut-off Current	V _{CB} =1200V		2.0	mA
I _{EBO}	Emitter Cut-off Current	V _{EB} =10V		600	mA
V _{CEX(SUS)}	Collector Emitter Sustaning Voltage	I _C =20A, I _{B2} =-4A	1200		V
h _{FE}	DC Current Gain	I _C =100A, V _{CE} =5V	75		
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C =100A, I _B =2A		3.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C =100A, I _B =2A		3.5	V
ton	Switching Time	On Time		3.0	μs
ts		Storage Time	V _{CC} =600V, I _C =100A I _{B1} =2A, I _{B2} =-2A	15.0	
tf		Fall Time		3.0	
V _{ECO}	Collector-Emitter Reverse Voltage	-I _C =100A		1.8	V
R _{th(j-c)}	Thermal Impedance (junction to case)	Transistor part		0.155	°C/W
		Diode part		0.65	

