

TRANSISTOR MODULE

QCA200AA120

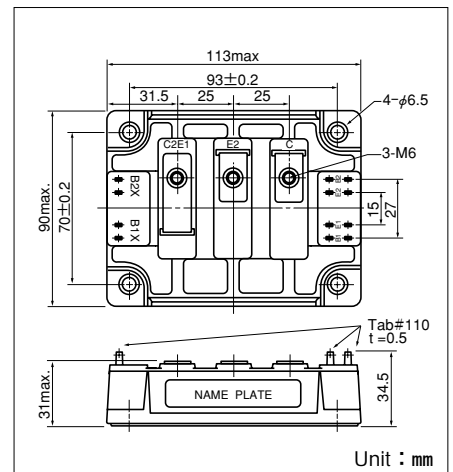
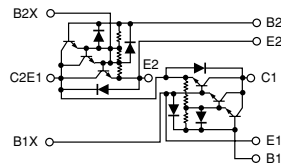
UL:E76102(M)

QCA200AA120 is a dual Darlington power transistor module with 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.

- $I_C=200A$, $V_{CEX}=1200V$
- Low saturation voltage for higher efficiency
- High DC current gain h_{FE}
- Isolated monuting base

(Applications)

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



Maximum Ratings

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

| Symbol | Item | Conditions | Ratings | | Unit |
|----------------|--------------------------------------|-----------------------------------|-------------|--|-----------------|
| | | | QCA200AA120 | | |
| V_{CBO} | Collector-Base Voltage | Emitter open | 1200 | | V |
| V_{CEX} | Collector-Emitter Voltage | $V_{BE}=-2V$ | 1200 | | V |
| $V_{CEX(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C=40A$, $I_{B2}=-5A$ | 1200 | | V |
| V_{EBO} | Emitterr-Base Voltage | Collector open | 10 | | V |
| I_C | Collector Current | | 200 | | A |
| $-I_C$ | Reverse Collector Current | | 200 | | A |
| I_B | Base Current | | 10 | | A |
| P_C | Collector-Emitter power dissipation | $T_C=25^\circ C$ | 1560 | | W |
| T_j | Junction Temperature | | -40 to 150 | | $^\circ C$ |
| T_{stg} | Storage Temperature | | -40 to 125 | | $^\circ C$ |
| V_{iso} | Isolation Voltage(RMS) | A.C. 1minute | 2500 | | V |
| | Mounting Torque(M6) | Recommended Value 2.5-3.9 (25-40) | 4.7 (48) | | N·m (kgf·cm) |
| | Mass | Typical Value | 675 | | g |

Electrical Characteristics

| Symbol | Item | Conditions | Ratings | | Unit |
|---------------|---|-----------------------------|--|-------|--------------|
| | | | Min. | Max | |
| I_{CBO} | Collector Cut-off Current | $V_{CB}=1000V$ Emtter open | | 4.00 | mA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB}=10V$ Collector open | | 500 | mA |
| h_{FE} | D.C. Current Gain | $I_C=200A$, $V_{CE}=5V$ | 75 | | |
| $V_{CE(sat)}$ | Collector-Emitter Sturation Voltage | $I_C=200A$, $I_B=4A$ | | 3.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=200A$, $I_B=4A$ | | 3.5 | V |
| t_{on} | Switching Time | On Time | | 3.0 | μs |
| t_{stg} | | Storage Time | $V_{CC}=600V$, $I_C=200A$ $I_{B1}=4A$, $I_{B2}=-4A$ | 15.00 | |
| t_f | | Fall Time | | 3.0 | |
| V_{ECO} | Collector-Emitter Reverse Voltage (Diode forward voltage drop) | $-I_C=200A$ | | 1.8 | V |
| $R_{th(j-c)}$ | Thermal Impedance (Junction to case) | Transistor part | | 0.08 | $^\circ C/W$ |
| | | Diode part | | 0.35 | |

