

TRANSISTOR MODULE

QCA100AA100

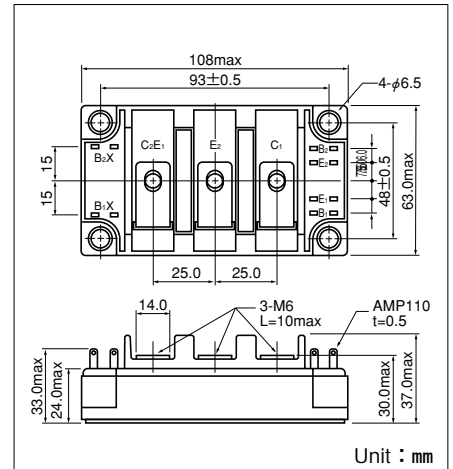
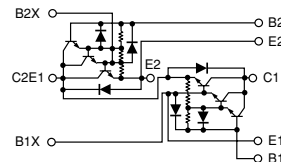
UL:E76102(M)

QCA100AA100 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,

- $I_C=100A$, $V_{CEX}=1000V$
- 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 Application



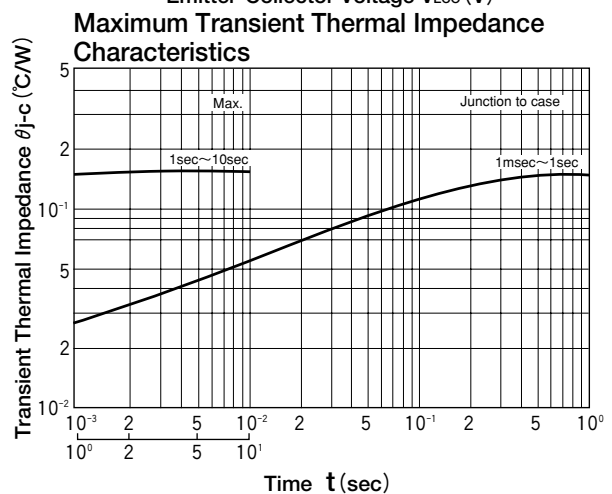
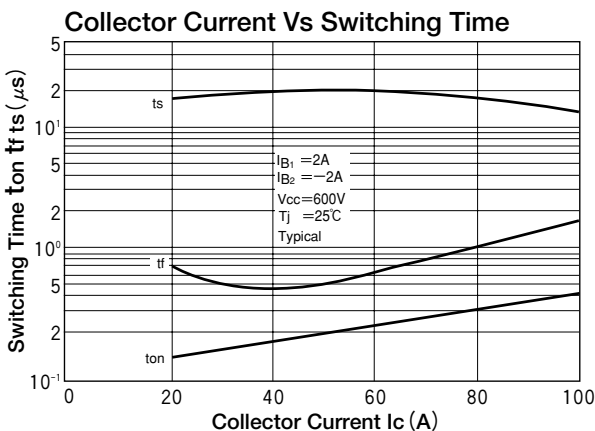
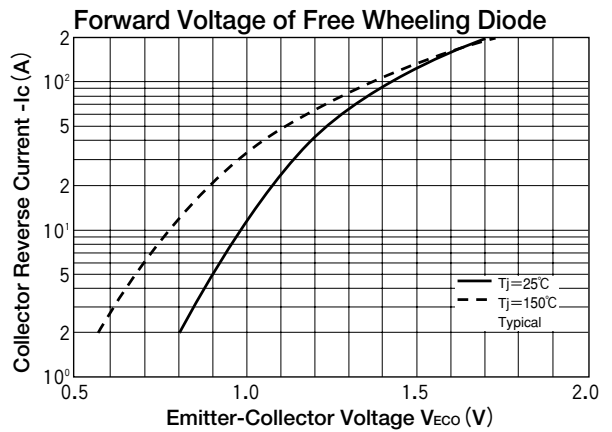
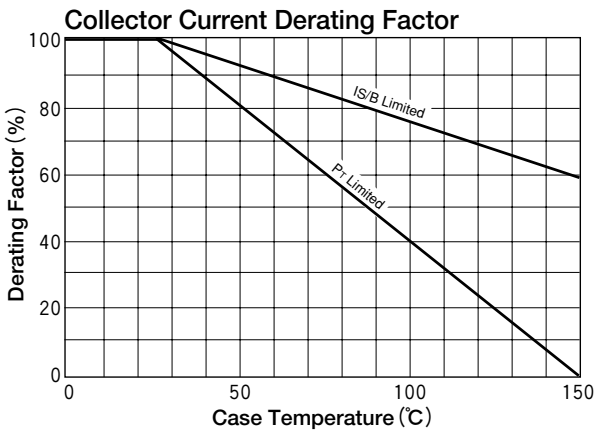
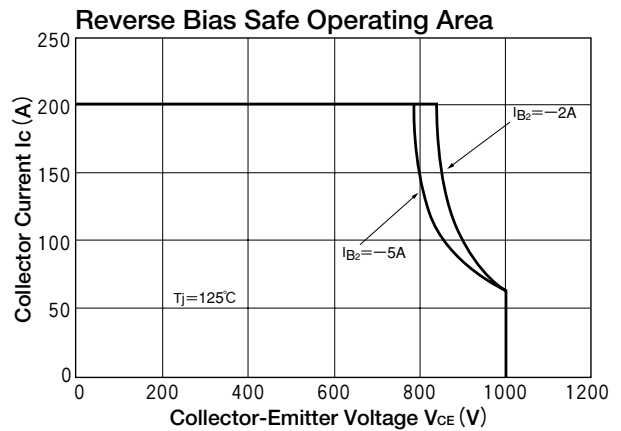
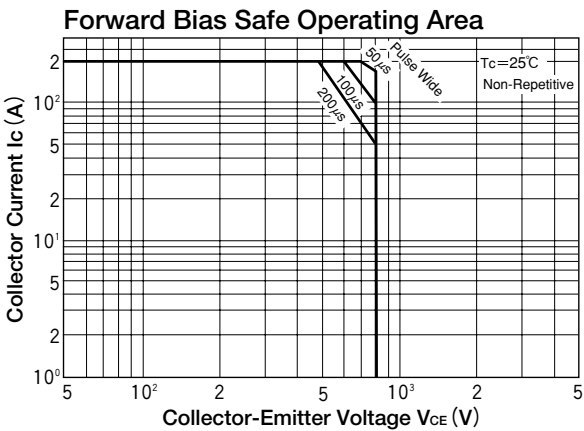
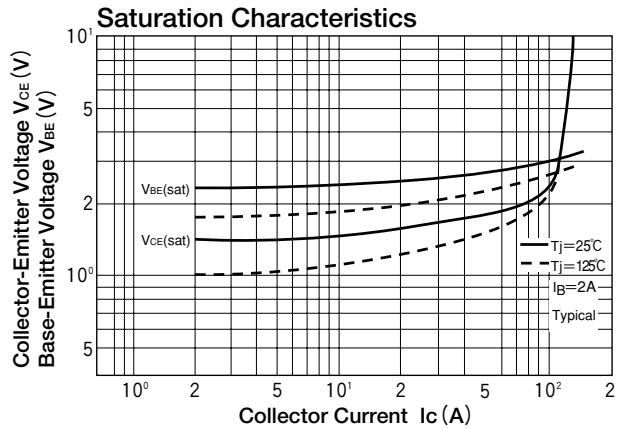
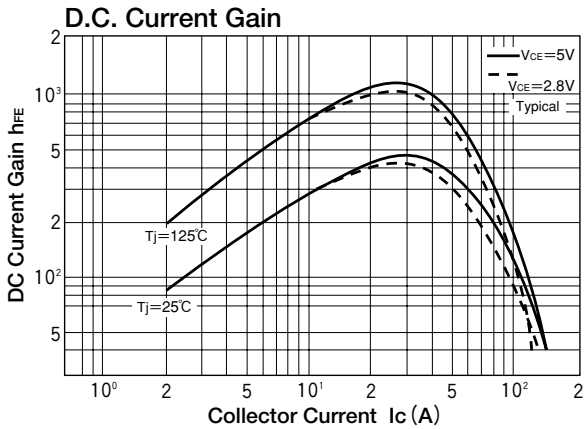
Maximum Ratings

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

| Symbol | Item | Conditions | Ratings | | Unit |
|-----------|---------------------------|------------------------|-----------------------------------|----------|------------------|
| | | | QCA100AA100 | | |
| V_{CBO} | Collector-Base Voltage | | 1000 | | V |
| V_{CEX} | Collector-Emitter Voltage | $V_{BE}=-2V$ | 1000 | | V |
| V_{EBO} | Emitter-Base Voltage | | 7 | | 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 | $T_C=25^\circ\text{C}$ | 800 | | W |
| T_j | Junction Temperature | | -40 to +150 | | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | | -40 to +125 | | $^\circ\text{C}$ |
| V_{iso} | Isolation Voltage | A.C.1minute | 2500 | | V |
| | Mounting Torque | Mounting (M6) | Recommended Value 2.5-3.9 (25-40) | 4.7 (48) | N·m (kgf·cm) |
| | | Terminal (M6) | Recommended Value 2.5-3.9 (25-40) | 4.7 (48) | |
| | Mass | Typical Value | 470 | | g |

Electrical Characteristics

| Symbol | Item | Conditions | Ratings | | Unit |
|----------------|--------------------------------------|----------------------------|--|-------|--------------------|
| | | | Min. | Max. | |
| I_{CBO} | Collector Cut-off Current | $V_{CB}=1000V$ | | 2.0 | mA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB}=7V$ | | 400 | mA |
| $V_{CEX(SUS)}$ | Collector Emitter Sustaining Voltage | $I_C=20A$, $I_{B2}=-5A$ | 1000 | | V |
| h_{FE} | DC Current Gain | $I_C=100A$, $V_{CE}=2.8V$ | 75 | | |
| | | $I_C=100A$, $V_{CE}=5V$ | 100 | | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=100A$, $I_B=2A$ | | 2.5 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=100A$, $I_B=2A$ | | 3.5 | V |
| t_{on} | Switching Time | On Time | | 3.0 | μs |
| t_s | | Storage Time | $V_{CC}=600V$, $I_C=100A$ $I_{B1}=2A$, $I_{B2}=-2A$ | 15.0 | |
| t_f | | 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 | $^\circ\text{C/W}$ |
| | | Diode part | | 0.65 | |



This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.