# TRANSISTOR MODULE

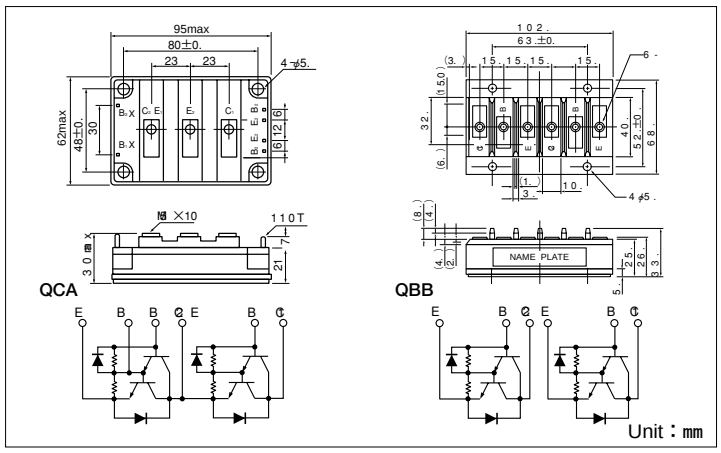
# QCA150A/QBB150A40/60

UL;E76102(M)

**QCA150A** and **QBB150A** is a dual Darlington power transistor module with two high speed, high power Darlington transistors. Each transistor has a reverse paralleled fast recovery diode.

- QCA150A…Series-connected type
  QBB150A…Separate Type
- $I_C$=150A, $V_{CEX}$=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

(Tj=25℃ unless otherwise specified)

| Symbol | Item | | Conditions | Ratings QCA150A40 QBB150A40 | Ratings QCA150A60 QBB150A60 | Unit |
|---|---|---|---|---|---|---|
| $V_{CBO}$ | 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 | | ( ) pw≦1ms | 150 (300) | | A |
| $-I_C$ | Reverse Collector Current | | | 150 | | A |
| $I_B$ | Base Current | | | 9 | | A |
| $P_T$ | Total power dissipation | | $T_C$=25℃ | 690 | | W |
| $T_j$ | Junction Temperature | | | −40 to +150 | | ℃ |
| Tstg | Storage Temperature | | | −40 to +125 | | ℃ |
| $V_{ISO}$ | Isolation Voltage | | A.C.1minute | 2500 | | V |
| | Mounting Torque | Mounting (M5) | Recommended Value 1.5-2.5 (15-25) | 2.7 (28) | | N·m (kgf·cm) |
| | | Terminal (M5) | Recommended Value 1.5-2.5 (15-25) | 2.7 (28) | | |
| | Mass | **QCA150A/QBB150A** | Typical Value | 370/340 | | g |

## ■Electrical Characteristics

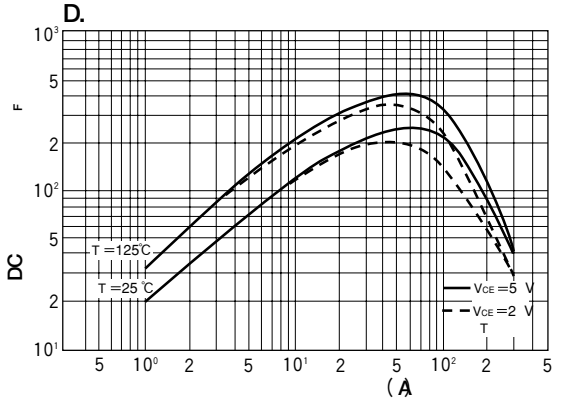
| Symbol | Item | | Conditions | Ratings Min. | Ratings Max. | Unit |
|---|---|---|---|---|---|---|
| $I_{CBO}$ | Collector Cut-off Current | | $V_{CB}$=$V_{CBO}$ | | 1.0 | mA |
| $I_{EBO}$ | Emitter Cut-off Current | | $V_{EB}$=$V_{EBO}$ | | 500 | mA |
| $V_{CEO(SUS)}$ | Collector Emitter Sustaning Voltage | **QCA150A40 QBB150A40** | $I_C$=1A | 300 | | V |
| | | **QCA150A60 QBB150A60** | | 450 | | |
| $V_{CEX(SUS)}$ | | **QCA150A40 QBB150A40** | $I_C$=30A, $I_{B2}$=−5A | 400 | | V |
| | | **QCA150A60 QBB150A60** | | 600 | | |
| $h_{FE}$ | DC Current Gain | | $I_C$=150A, $V_{CE}$=2V/5V | 75/100 | | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | | $I_C$=150A, $I_B$=2.0A | | 2.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | | $I_C$=150A, $I_B$=2.0A | | 2.5 | V |
| ton | Switching Time | On Time | Vcc=300V, $I_C$=150A $I_{B1}$=2A, $I_{B2}$=−2A | | 2.0 | μs |
| ts | | Storage Time | | | 12.0 | |
| tf | | Fall Time | | | 3.0 | |
| $V_{ECO}$ | Collector-Emitter Reverse Voltage | | −$I_C$=150A | | 1.4 | V |
| Rth(j-c) | Thermal Impedance (junction to case) | | Transistor part/Diode part | | 0.18/0.6 | ℃/W |

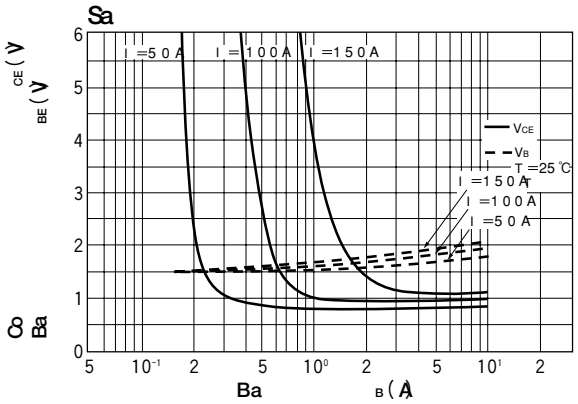

SanRex®

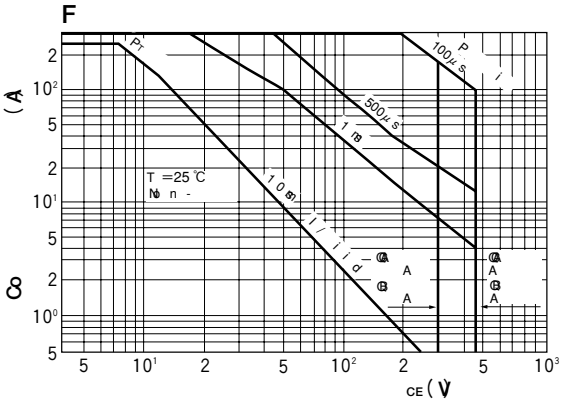
50 Seaview Blvd. Port Washington, NY 11050-4618 PH.(516)625-1313 FAX(516)625-8845 E-mail: semi@sanrex.com

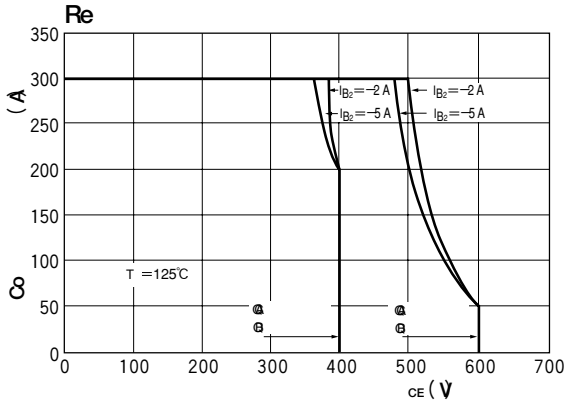


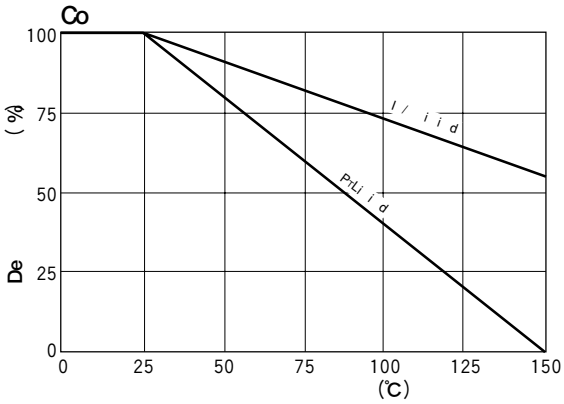
Downloaded from Elcodis.com electronic components distributor

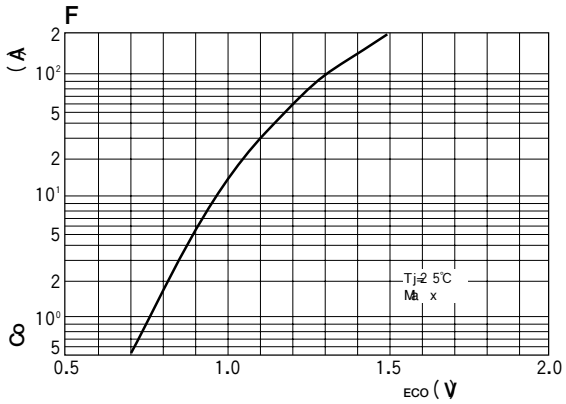


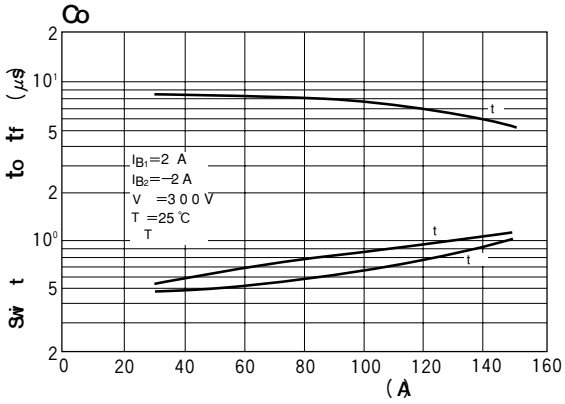



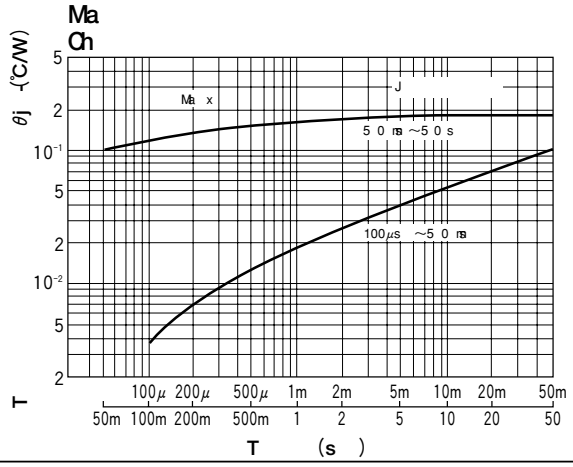






Downloaded from Elcodis.com electronic components distributor