

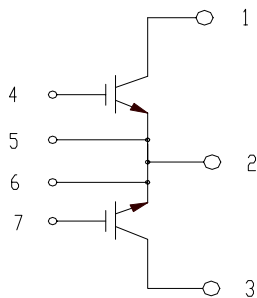
**QIC0212003  
Dual IGBT Module  
Common Emitter  
120 Amperes / 250 Volts**

**Description:**

Powerex Dual IGBT Module designed specially for customer applications. Each Module consists of one IGBT transistors in a common emitter configuration. The modules are isolated for easy mounting with other components on a common heat sink.

**Features:**

- Low Drive Power
- Low Vce(sat)
- One(1) Trench Gate 120A 250V IGBT chip per switch
- Isolated Mounting
- Substrate – DBC AlN
- Copper Baseplate
- 2500V Isolating Mounting



CONNECTION DIAGRAM

Dimensions	Inches	Millimeters
A	3.62	92
B	3.15	80
C	1.40	35.6
D	0.83	21
E	1.18	30
F	0.79	20
G	0.93	23.7
H	0.68	17.2
J	0.23	5.8
K	0.61	15.6
L	0.64	16.2
M	0.65	16.5
N	0.40	10
P	0.25	6.2
Q	0.256 DIA.	6.5 DIA.
R	0.15	3.8
S	M5	M5
T	0.79	20
U	0.25	6.3

**Maximum Ratings, T<sub>j</sub>=25°C unless otherwise specified**

Ratings	Symbol	QIC0212003	Units
Collector Emitter Voltage	V <sub>CES</sub>	250	Volts
Gate Emitter Voltage	V <sub>GES</sub>	±20	Volts
Collector Current	I <sub>C</sub>	120	Amperes
Peak Collector Current	I <sub>CM</sub>	240*	Amperes
Junction Temperature	T <sub>j</sub>	-40 to 150	°C
Storage Temperature	T <sub>stg</sub>	-40 to 125	°C
Mounting Torque, M5 Terminal Screws	-	25	In-lb
Mounting Torque, Mounting Screws	-	44	In-lb
Module Weight (Typical)	-	110	Grams
V Isolation	V <sub>RMS</sub>	2500	Volts

\*Pulse width and repetition rate should be such that device junction temperature does not exceed the device rating.

**Static Electrical Characteristics, T<sub>j</sub>=25°C unless otherwise specified**

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Collector Cutoff Current	I <sub>CES</sub>	V <sub>CE</sub> =V <sub>CES</sub> V <sub>GE</sub> =0V	-	-	1.0	mA
Gate Leakage Current	I <sub>GES</sub>	V <sub>GE</sub> =V <sub>GES</sub> V <sub>CE</sub> =0V	-	-	0.5	μA
Gate-Emitter Threshold Voltage	V <sub>GE(th)</sub>	I <sub>C</sub> =15mA, V <sub>CE</sub> =10V	3.0	4.0	5.0	Volts
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =120A, V <sub>GE</sub> =10V	-	1.2	1.7	Volts
		I <sub>C</sub> =120A, V <sub>GE</sub> =10V, T <sub>j</sub> =150°C	-	1.1	-	Volts

**Thermal and Mechanical Characteristics, T<sub>j</sub>=25°C unless otherwise specified**

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	Per IGBT	-	0.24	TBD	°C/W
Contact Thermal Resistance, Thermal Grease Applied	R <sub>θCF</sub>	Per Module	-	-	0.1	°C/W