TRANSISTOR MODULE

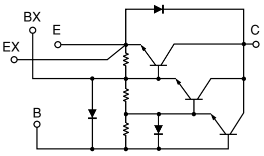
SQD300AA100

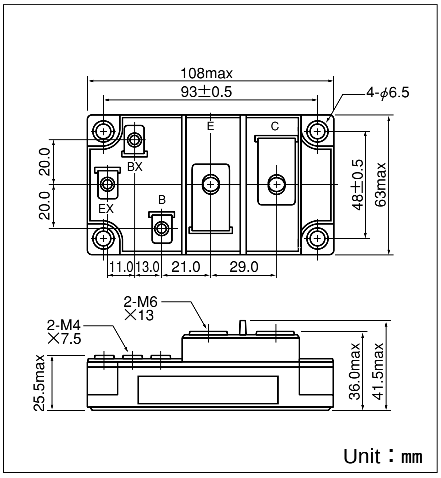
UL;E76102（M）

SQD300AA100 is a Darlington power transistor module with a high speed, high power Darlington transistor. The transistor has a reverse paralled fast recovery diode. The mounting base of the module is electrically isolated from semiconductor elements for simple heatsink construction.

- ● I_C=300A, V_{CEX}=1000V
- ● Low saturation voltage for higher efficiency.
- ● High DC current gain h_{FE}
- ● Isolated mounting base

（**Applications**）
Moter Control（VVVF）, AC/DC Servo, UPS,
Switching Power Supply, Ultrasonic Application





■Maximum Ratings

（Tj=25℃ unless otherwise specified）

Symbol	Item		Conditions	Ratings	Unit
				SQD300AA100	
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			300	A
$-I_C$	Reverse Collector Current			300	A
I_B	Base Current			16	A
P_T	Total power dissipation		T_C=25℃	2000	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（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）	
		Terminal（M4）	Recommended Value 1.0-1.4（10-14）	1.5（15）	
	Mass		Typical Value	520	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		800	mA
$V_{CEX(SUS)}$	Collector Emitter Sustaning Voltage		I_C=60A, I_{B2}=−12A	1000		V
h_{FE}	DC Current Gain		I_C=300A, V_{CE}=2.8V	75		
			I_C=300A, V_{CE}=5V	100		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		I_C=300A, I_B=6A		2.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		I_C=300A, I_B=6A		3.5	V
ton	Switching Time	On Time	V_{CC}=600V, I_C=300A I_{B1}=6A, I_{B2}=−6A		3.0	μs
ts		Storage Time			15.0	
tf		Fall Time			3.0	
V_{ECO}	Collector-Emitter Reverse Voltage		I_C=−300A		1.8	V
Rth（j-c）	Thermal Impedance (junction to case)		Transistor part		0.063	℃/W
			Diode part		0.3	