

TRANSISTOR MODULE

SQD400AA100



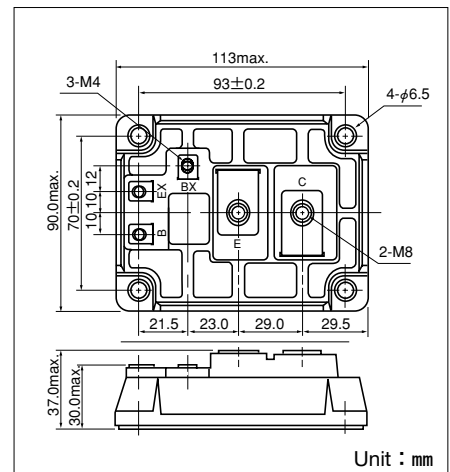
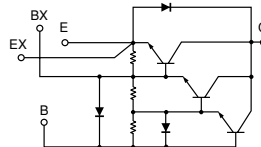
UL;E76102 (M)

SQD400AA100 is a Darlington power transistor module with a high speed, high power Darlington transistor. The transistor has a reverse paralleled fast recovery diode. The mounting base of the module is electrically isolated from Semiconductor elements for simple heatsink construction.

- $I_C=400A$, $V_{CEX}=1000V$
- Low saturation voltage High DC current gain
- Isolated monuting base

(Applications)

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



Unit : mm

Maximum Ratings

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

Symbol	Item	Conditions	Ratings		Unit	
			SQD400AA100			
V_{CBO}	Collector-Base Voltage		1000		V	
V_{CEX}	Collector-Emitter Voltage	$V_{BE}=-2V$	1200		V	
$V_{CEX(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=-80A, I_B=-18A$	1000		V	
V_{EBO}	Emitterr-Base Voltage		10		V	
I_C	Collector Current		400		A	
$-I_C$	Reverse Collector Current		400		A	
I_B	Base Current		20		A	
P_T	Total power dissipation	$T_C=25^\circ C$	3120		W	
T_j	Junction Temperature		-40 to +150		$^\circ C$	
T_{stg}	Storage Temperature		-40 to +125		$^\circ C$	
V_{iso}	Isolation Voltage	A.C. 1minute	2500		V	
	Mounting Torque	Mouting (M6)	Recommended Value	2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M8)	Recommended Value	8.8-10 (90-105)	11 (115)	
		Terminal (M4)	Recommended Value	1.0-1.4 (10-14)	1.5 (15)	
	Mass	Typical Value	670		g	

Electrical Characteristics

Symbol	Item	Conditions	Ratings		Unit
			Min.	Max.	
I_{CBO}	Collector Cut-off Current	$V_{CB}=1000V$		3.0	mA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=10V$		1000	mA
h_{FE}	DC Current Gain	$I_C=300A, V_{CE}=2.8V$	75		
		$I_C=400A, V_{CE}=5V$	100		
$V_{CE(sat)}$	Collector-Emitter Sturation Voltage	$I_C=400A, I_B=8A$	2.5		V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=400A, I_B=8A$	3.5		V
t_{on}	Switching Time	$V_{CC}=600V, I_C=400A$ $I_{B1}=8A, I_{B2}=-8A$	3.0		μs
t_s			16.0		
t_f			3.0		
V_{ECO}	$I_C=-400A$	Collector-Emitter Reverse Voltage	1.8		V
$R_{th(j-c)}$	Thermal Impedance (junction to case)	Transistor part	0.04		$^\circ C/W$
		Diode part	0.16		

