TRANSISTOR MODULE

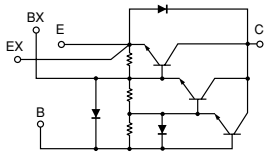
SQD300AA120

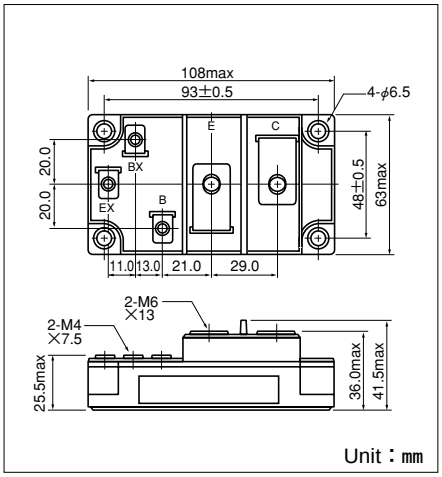
UL;E76102(M)

SQD300AA120 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}=1200V
- 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
				SQD300AA120	
V_{CBO}	Collector-Base Voltage			1200	V
V_{CEX}	Collector-Emitter Voltage		V_{BE}=−2V	1200	V
V_{EBO}	Emitter-Base Voltage			10	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	(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	470	g

■Electrical Characteristics

Symbol	Item		Conditions	Ratings		Unit
				Min.	Max.	
I_{CBO}	Collector Cut-off Current		V_{CB}=1200V		4.0	mA
I_{EBO}	Emitter Cut-off Current		V_{EB}=10V		1200	mA
$V_{CEX(SUS)}$	Collector Emitter Sustaning Voltage		Ic=60A, I_{B2}=−12A	1200		V
h_{FE}	DC Current Gain		Ic=300A, V_{CE}=5V	75		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		Ic=300A, I_B=6A		3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		Ic=300A, I_B=6A		3.5	V
ton	Switching Time	On Time	Vcc=600V, Ic=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		Ic=−300A		1.8	V
Rth(j-c)	Thermal Impedance (junction to case)		Transistor part		0.063	℃/W
			Dioe part		0.3	

SanRex®

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