

# TRANSISTOR MODULE (NON-ISOLATED TYPE)

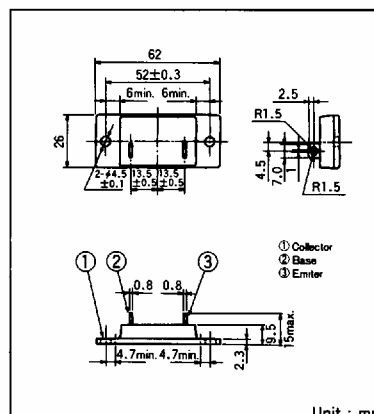
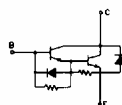
## SQD50AB100

SQD50AB is a high speed, high power Darlington transistor designed for use in Resonance circuit. The transistor has a reverse paralleled fast recovery diode.

- $V_{CB0} = 1000V$ ,  $I_C = 50A$
- Suitable for Resonance circuit applications.
- Non-isolated.

(Applications)

Induction Cooker, Inverter, Microwave Oven etc.



### Maximum Ratings

Unit : mm  
 $T_j = 25^\circ C$

Symbol	Item	Conditions	Ratings	Unit
$V_{CB0}$	Collector-Base Voltage		1000	V
$V_{CE0}$	Collector-Emitter Voltage	$I_C = 25mA$	450	V
$V_{EB0}$	Emitter-Base Voltage		11	V
$I_C$	Collector Current	( ) Peak	50 (100)	A
$-I_C$	Reverse Collector Current		6	
$I_B$	Base Current		5	A
$P_T$	Total power dissipation		350	W
$T_j$	Junction Temperature		$-30 \sim +150$	$^\circ C$
$T_{stg}$	Storage Temperature		$-30 \sim +125$	$^\circ C$
	Mounting Torque (M4)	Recommended Value 1.0~1.4 (10~14)	1.5 (15)	N·m (kgf·cm)

### Electrical Characteristics

$T_j = 25^\circ C$

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
$I_{CB0}$	Collector Cut-off Current	$V_{CB} = 1000V$			1.0	mA
$I_{EB0}$	Emitter Cut-off Current	$V_{EB} = 11V$ $T_j = 25^\circ C$		600	830	mA
		$V_{EB} = 11V$ $T_j = -10^\circ C$		700		
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 25mA$	450			V
$V_{CEX(SUS)}$		$I_C = 1A$ $I_{B2} = -10A$	800			
$h_{FE}$	DC Current Gain	$I_C = 10A$ $V_{CE} = 5V$		300		
		$I_C = 50A$ $V_{CE} = 5V$	70	120	250	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 50A$ $I_B = 1A$			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 50A$ $I_B = 1A$			2.8	V
$t_{on}$	Switching Time	On Time			3.5	$\mu s$
$t_s$		Storage Time			3.0	
$t_f$		Fall Time			1.75	
$V_{ECO}$	Collector-Emitter Reverse Voltage	$I_C = -10A$			1.5	V
$t_{rr}$	Reverse Recovery time	$I_C = -2A$ $di/dt = -20A/\mu s$		3		$\mu s$
$R_{th(j-c)}$	Thermal Impedance (junction to case)				0.36	$^\circ C/W$

