

Solitron Devices, Inc.

SPECIFICATIONS

NO.: BU323

TYPE: NPN SILICON POWER
DARLINGTON TRANSISTOR

CASE: TO-3

MAXIMUM RATINGS

VOLTAGE, COLLECTOR TO EMITTER $V_{CE(SUS)}$ $R_{BE} = 100\Omega$	400	V
Voltage, Collector to Base (V_{CBO})	500	V
Voltage, Collector to Emitter ($V_{CE(SUS)}$)	350	V
Voltage, Emitter to Base (V_{EBQ})	8.0	V
Collector Current (I_C)	10	A
Base Current (I_B)	3.0	A
Maximum Thermal Resistance, Junction to Case	1.0	$^{\circ}\text{C/W}$
Maximum Junction Temperature	-65°C TO $+200^{\circ}\text{C}$	
Power of Transistor (P_T) $T_C = 100^{\circ}\text{C}$	100	WATTS
POWER OF TRANSISTOR (P_T) $T_C = 25^{\circ}\text{C}$	175	WATTS

TA = 25°C		PERFORMANCE CHARACTERISTICS		UNLESS OTHERWISE NOTED		
NO.	SYMBOL	CONDITIONS		MIN.	MAX.	UNITS
1	$V_{CE(SUS)}^*$	$I_C = 200\text{MA}$	$V\text{-CLAMP} = 350\text{V}$	350		V
2	$V_{CE(SUS)}^*$	$I_C = 3.0\text{A}$	$R_{BE}=100\Omega$, $L=500\mu\text{H}$, (UNCLAMPED)	400		V
3	I_{CBO}	$V_{CBO} = 500\text{V}$			1.0	MA
4	I_{CER}	$V_{CE} = 400\text{V}$	$R_{BE} = 100\Omega$		1.0	MA
5	I_{EBO}	$V_{EB} = 6.0\text{V}$			40	MA
6	h_{FE1}^*	$I_C = 3.0\text{A}$	$V_{CE} = 6.0\text{V}$	300		
7	h_{FE2}^*	$I_C = 6.0\text{A}$	$V_{CE} = 6.0\text{V}$	150	2000	
8	h_{FE3}^*	$I_C = 10\text{A}$	$V_{CE} = 6.0\text{V}$	50		
9	$V_{CE(S)}1^*$	$I_C = 3.0\text{A}$	$I_B = 60\text{MA}$		1.5	V
10	$V_{CE(S)}2^*$	$I_C = 6.0\text{A}$	$I_B = 120\text{MA}$		1.7	V
11	$V_{CE(S)}3^*$	$I_C = 10\text{A}$	$I_B = 300\text{MA}$		2.7	V
12	$V_{CE(S)}4^*$	$I_C = 6.0\text{A}$	$I_B = 120\text{MA}$ $T_C = -40^{\circ}\text{C}$		2.0	V
13	$V_{BE(S)}1^*$	$I_C = 6.0\text{A}$	$I_B = 120\text{MA}$		2.2	V
14	$V_{BE(S)}2^*$	$I_C = 10\text{A}$	$I_B = 300\text{MA}$		3.0	V
15	$V_{BE(S)}3^*$	$I_C = 6.0\text{A}$	$I_B = 120\text{MA}$ $T_C = -40^{\circ}\text{C}$		2.4	V
16	$V_{BE(ON)}$	$I_C = 10\text{A}$	$V_{CE} = 6.0\text{V}$		2.5	V
17	V_f^*	$I_F = 10\text{A}$			3.5	V
18	C_{OBO}	$V_{CB} = 10\text{V}$	$I_E = 0$ $f_{TEST} = 100\text{KHZ}$		350	PF
19	t_s	$I_C = 6.0\text{A}$ $V_{CC} = 12\text{V}$	$I_{B1} = I_{B2} = 300\text{MA}$		15	μSEC
20	t_f				15	μSEC
21						
22						

NOTES: *PULSED; P.W. = 300 μSEC ; D.C. = 2.0%