New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

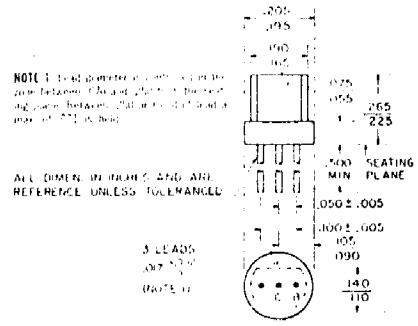
2N3855A,

Silicon Transistor

absolute maximum ratings: (25°C) (unless otherwise specified)

Voltages			
Collector to Emitter	V_{CEO}	30	volts
Emitter to Base	V_{EBO}	4	volts
Collector to Base	V_{CBO}	30	volts
Current			
Collector (Steady State)†	I_C	100	mA
Dissipation			
Total Power (Free air at 25°C)‡	P_T	200	mW
Total Power (Free air at 55°C)‡	P_T	120	mW
Temperature			
Storage	T_S	−30 to 150°C	
Operating	T_J	100°C	
Lead soldering, 1/16 ± 1/32" from case for 10 sec. max.	T_L	260°C	

†Determined from power limitations due to saturation voltage at this point.
‡Derate 2.67 mW/°C increase in ambient temperature above 25°C.



electrical characteristics: (25°C) (unless otherwise specified)

Static Characteristics

		Min.	Typ.	Max.	Units
Collector Cutoff Current ($V_{CB} = 18V$)	I_{CBO}			0.5	μA
($V_{CB} = 18V$, $T_A = 100°C$)	I_{CBO}			15	μA
Forward Current Transfer Ratio ($V_{CE} = 4.5V$, $I_C = 2mA$)	h_{FE}	60		120	
Emitter—Base Breakdown Voltage ($I_E = 500\mu A$)	BV_{EBO}	4			volts
Collector—Emitter Breakdown Voltage ($I_C = 1mA$)	BV_{CEO}	30	70		volts
Collector—Base Breakdown Voltage ($I_C = 0.1mA$)	BV_{CBO}	30			volts
Collector Saturation Voltage ($I_C = 10mA$, $I_B = 1mA$)	$V_{CE(SAT)}$			0.200	volts

Dynamic Characteristics

Gain Bandwidth Product ($V_{CB} = 10V$, $I_C = 5mA$)	f_T	130		450	MHz
Collector—Base Time Constant ($V_{CB} = 10V$, $I_C = 5mA$)	$r_b' C_c$		35	90	psec.
Output Capacitance ($V_{CB} = 10V$, $I_E = 0$, $f = 1$ MHz)	C_{ob}			3.5	pF
Input Capacitance ($V_{EB} = 0.5V$, $I_E = 0$, $f = 1$ MHz)	C_{ib}		16		pF
Case Capacitance			0.66		pF

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