

New Jersey Semi-Conductor Products, Inc.

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Silicon Transistors



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

Voltages—Dark Characteristics

Collector to Emitter
Collector to Base
Emitter to Base

	2N5777, 79	2N5778, 80	
V_{CEO}	25	40	Volts
V_{CBO}	25	40	Volts
V_{EBO}	8	12	Volts

Current

Light Current

	2N5777, 79	2N5778, 80	
I_L	250	250	mA

Dissipation

Power Dissipation*

	2N5777, 79	2N5778, 80	
P_T	200	200	mW

Temperature

Junction Temperature
Storage Temperature

	T_J	T_{stg}
	100°C	-65°C to +100°C

*Derate 2.67mW/°C above 25°C ambient

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

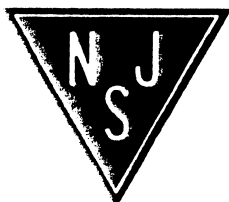
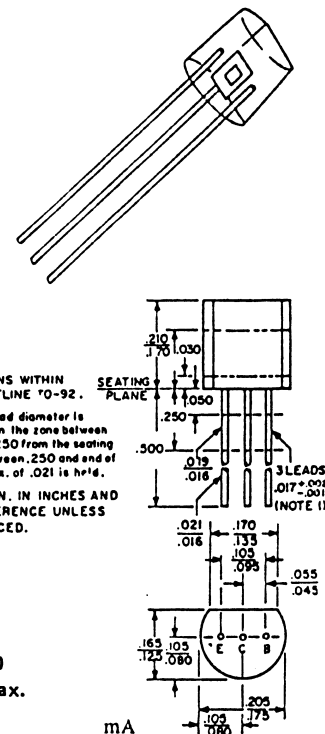
Static Characteristics

Light Current ($V_{CE} = 5V$, $H = 2mW/cm^2$ **)

	2N5777, 78		2N5779, 80		
	Min.	Max.	Min.	Max.	
I _L	0.5	—	2.0	—	mA

Forward Current Transfer Ratio ($V_{CE} = 5V$,
 $I_C = 0.5mA$)

h_{FE}	2.5k	—	5k	—
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NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

		2N5777, 79		2N5778, 80		
		Min.	Max.	Min.	Max.	
Dark Current ($V_{CE} = 12V, I_B = 0$)	I_D	—	100	—	100	nA
Collector-Emitter Breakdown Voltage ($I_C = 10mA, I_H = 0$)	$V_{(BR)CEO}$	25	—	40	—	Volts
Collector-Base Breakdown Voltage ($I_C = 100nA, H = 0$)	$V_{(BR)CBO}$	25	—	40	—	Volts
Emitter-Base Breakdown Voltage ($I_E = 100nA, H = 0$)	$V_{(BR)EBO}$	8	—	12	—	Volts
Dynamic Characteristics		2N5777-80				
		Min.	Typ.	Max.		
Switching Speeds ($V_{CE} = 10V, I_L = 10mA$, $R_L = 100$ ohms, GaAs LED source)						
Delay Time	t_d	—	30	100	$\mu sec.$	
Rise Time	t_r	—	75	250	$\mu sec.$	
Storage Time	t_s	—	0.5	5	$\mu sec.$	
Fall Time	t_f	—	45	150	$\mu sec.$	
Collector-Base Capacitance ($V_{CB} = 10V, f = 1MHz$)	C_{cb}	—	7.6	10	pF	
Emitter-Base Capacitance ($V_{EB} = 0.5V, f = 1MHz$)	C_{eb}	—	10.5	—	pF	
Collector-Emitter Capacitance ($V_{CEO} = 10V$, $f = 1MHz$)	C_{ceo}	—	3.4	—	pF	

**H = Radiation Flux Density. Radiation source is an unfiltered tungsten filament bulb at 2870°K color temperature.