

NTE267

Silicon NPN Transistor

High Gain Darlington Power Amp, Switch

Features:

- Forward Current Transfer Ratio: $h_{FE} = 90,000$ min.
- Free-Air Power Dissipation: 1.33W @ $T_A = +50^\circ\text{C}$
- Hard Solder Mountdown

Applications:

- | | |
|---|--|
| <ul style="list-style-type: none"> ● Driver ● Regulator ● Audio Output ● Relay Substitute ● Touch Switch | <ul style="list-style-type: none"> ● Oscillator ● IC Driver ● Servo Amplifier ● Capacitor Multiplier |
|---|--|

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$, unless otherwise specified)

Collector to Emitter, V_{CEO}	30V
Emitter to Base, V_{EBO}	13V
Collector to Emitter, V_{CES}	30V
Collector Current, I_C	
Continuous	500mA
Peak	1A
Power Dissipation, P_T	
Tab at $+25^\circ\text{C}$	6.25W
Free Air at $+50^\circ\text{C}$ ^w /Tab	1.33W
Thermal Resistance, Junction to Case (Note 1), R_{thJC}	20°C/W
Thermal Resistance, Junction to Ambient (Note 1), R_{thJA}	75°C/W
Operating Junction Temperature Range, T_J	-55° to $+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ\text{C}$
Lead Temperature (During Soldering, 1/16" $\pm$ 1/32" from case, 10sec max), T_L	$+260^\circ\text{C}$

Note 1. Tab temperature is measured on center of tab, 1/16" from plastic body.

Electrical Characteristics: ($T_A = +25^{\circ}\text{C}$, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Current Transfer Ratio	h_{FE}	$V_{CE} = 5\text{V}$, $f = 1\text{kHz}$, $I_C = 200\text{mA}$	90k	—	—	
		$I_C = 20\text{mA}$	90k	—	—	
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}$, $I_B = 0.5\text{mA}$, Note 2	—	—	1.5	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 500\text{mA}$, $I_B = 0.5\text{mA}$	—	—	2.0	V
Collector Cutoff Current	I_{CES}	$V_{CE} = \text{Rated } V_{CES}$, $T_J = +25^{\circ}\text{C}$	—	—	0.5	μA
	I_{CBO}	$V_{CE} = \text{Rated } V_{CES}$, $T_J = +150^{\circ}\text{C}$	—	—	20	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 13\text{V}$	—	—	0.1	μA
Collector Capacitance	C_{cbo}	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$	—	5	10	pF
Gain Bandwidth Product	f_T	$V_{CE} = 5\text{V}$, $I_C = 20\text{mA}$	—	75	—	MHz
Switching Times						
Delay Time and Rise Time	$t_d \text{ \& \; } t_r$	$I_C = 1\text{A}$, $I_{B1} = 1\text{mA}$	—	100	—	ns
Storage Time	t_s	$I_C = 1\text{A}$, $I_{B1} = I_{B2} = 1\text{mA}$	—	350	—	ns
Fall Time	t_f	$I_C = 1\text{A}$, $I_{B1} = I_{B2} = 1\text{mA}$	—	800	—	ns

Note 2. Pulsed measurement, 300 μsec pulse width, duty cycle $\leq 2\%$.

