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NTE267 Silicon NPN Transistor High Gain Darlington Power Amp, Switch

Features:

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

Applications:

- | | |
|--------------------|------------------------|
| ● Driver | ● Oscillator |
| ● Regulator | ● IC Driver |
| ● Audio Output | ● Servo Amplifier |
| ● Relay Substitute | ● Capacitor Multiplier |
| ● Touch Switch | |

Absolute Maximum Ratings: ($T_A = +25^\circ C$, 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 $+25^\circ C$	6.25W
Free Air at $+50^\circ C$ ^w /Tab	1.33W
Thermal Resistance, Junction to Case (Note 1), R_{thJC}	$20^\circ C/W$
Thermal Resistance, Junction to Ambient (Note 1), R_{thJA}	$75^\circ C/W$
Operating Junction Temperature Range, T_J	-55° to $+150^\circ C$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ C$
Lead Temperature (During Soldering, $1/16'' \pm 1/32''$ from case, 10sec max), T_L	$+260^\circ C$

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	-	-	
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
		$V_{CE} = \text{Rated } V_{CES}, T_J = +150^\circ\text{C}$	-	-	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 $\leq 2\%$.

