

NTE2338
Silicon NPN Transistor
Darlington Power Amp ^{w/}Internal
Damper & Zener Diode

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

Collector–Emitter Voltage, V_{CEO}	60 \pm 10V
Emitter–Base Voltage, V_{EBO}	7V
Collector Current, I_C	
Continuous	1.5A
Peak	3.0A
Collector Dissipation ($T_C = +25^\circ\text{C}$), P_C	10W
Operating Junction Temperature, T_J	+150 $^\circ\text{C}$
Storage Temperature Range, T_{stg}	–55 $^\circ$ to +150 $^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 0.1\text{mA}$, $I_E = 0$	50	60	70	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 50\text{mA}$, $I_C = 0$	7	–	–	V
Collector Cutoff Current	I_{CEO}	$V_{CE} = 50\text{V}$, $R_{BE} = \infty$	–	–	10	μA
DC Current Gain	h_{FE}	$V_{CE} = 3\text{V}$, $I_C = 1\text{A}$	2000	–	30000	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1\text{A}$, $I_B = 1\text{mA}$	–	–	1.5	V
		$I_C = 1.5\text{A}$, $I_B = 1.5\text{mA}$	–	–	2.0	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1\text{A}$, $I_B = 1\text{mA}$	–	–	2.0	V
		$I_C = 1.5\text{A}$, $I_B = 1.5\text{mA}$	–	–	2.5	V
Turn–On Time	t_{on}	$I_C = 1\text{A}$, $I_{B1} = -I_{B2} = 1\text{mA}$	–	0.5	–	μs
Turn–Off Time	t_{off}		–	2.0	–	μs

Schematic Diagram

