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## NTE2338 Silicon NPN Transistor Darlington Power Amp <sup>w/</sup>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	$\mu\text{A}$
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	–	$\mu\text{s}$
Turn–Off Time	$t_{off}$		–	2.0	–	$\mu\text{s}$

### Schematic Diagram

