

## NTE2351 (NPN) & NTE2352 (PNP) Silicon Complementary Transistors Darlington Power Amp, Switch

**Features:**

- High DC Current Gain:  $h_{FE(1)} = 2000$  Min @  $V_{CE} = 2V, I_C = 1A$
- Low Saturation Voltage:  $V_{CE(sat)} = 1.5V$  Max @  $I_C = 3A$

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

Collector–Base Voltage, $V_{CBO}$ .....	100V
Collector–Emitter Voltage, $V_{CEO}$ .....	80V
Emitter–Base Voltage, $V_{EBO}$ .....	5V
Collector Current, $I_C$ .....	4A
Base Current, $I_B$ .....	400mA
Collector Power Dissipation, $P_C$	
$T_A = +25^\circ C$ .....	1W
$T_C = +25^\circ C$ .....	15W
Operating Junction Temperature, $T_J$ .....	+150°C
Storage Temperature Range, $T_{stg}$ .....	–55° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut–Off Current	$I_{CBO}$	$V_{CB} = 100V, I_E = 0$	–	–	20	$\mu A$
Emitter Cut–Off Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	–	–	2.5	mA
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	80	–	–	V
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 2V, I_C = 1A$	2000	–	–	
	$h_{FE(2)}$	$V_{CE} = 2V, I_C = 3A$	1000	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3A, I_B = 6mA$	–	–	1.5	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 3A, I_B = 6mA$	–	–	2.0	V
<b>Switching Characteristics</b>						
Turn–On Time	$t_{on}$	$V_{CC} = 30V, I_{B1} = -I_{B2} = 6mA,$ Duty Cycle $\leq 1\%$	–	0.2	–	$\mu s$
Storage Time	$t_{stg}$		–	1.5	–	$\mu s$
Fall Time	$t_f$		–	0.6	–	$\mu s$

