



NTE2540 Silicon NPN Transistor Darlington, High Voltage Switch

Features:

- High DC Current Gain: $h_{FE} = 600$ Min ($V_{CE} = 2V$, $I_C = 2A$)
- Monolithic Construction ^w/Built-In Base-Emitter Shunt Resistor

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

Collector Base Voltage, V_{CBO}	600V
Collector Emitter Voltage, V_{CEO}	400V
Emitter Base Voltage, V_{EBO}	5V
Collector Current, I_C	6A
Base Current, I_B	1A
Collector Power Dissipation, P_C	
$T_A = +25^\circ C$	2W
$T_C = +25^\circ C$	25W
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 Cutoff Current	I_{CBO}	$V_{CB} = 600V$, $I_E = 0$	—	—	0.5	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5V$, $I_C = 0$	—	—	3	mA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA$, $I_B = 0$	400	—	—	V
DC Current Gain	h_{FE}	$V_{CE} = 2V$, $I_C = 2A$	600	—	—	
		$V_{CE} = 2V$, $I_C = 4A$	100	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 4A$, $I_B = 40mA$	—	—	2.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 4A$, $I_B = 40mA$	—	—	2.5	V
Emitter-Collector Forward Voltage	V_{ECF}	$I_E = 4A$, $I_B = 0$	—	—	3.0	V
Collector Output Capacitance	C_{ob}	$V_{CB} = 50V$, $I_E = 0$, $f = 1MHz$	—	35	—	pF
Turn-On Time	t_{on}	$V_{CC} = 100V$, $I_{B1} = -I_{B2} = 40mA$, Duty Cycle $\leq 1\%$	—	1	—	μs
Storage Time	t_{stg}		—	8	—	μs
Fall Time	t_f		—	5	—	μs

Darlington Internal Schematic

