



ELECTRONICS, INC.
 44 FARRAND STREET
 BLOOMFIELD, NJ 07003
 (973) 748-5089
<http://www.nteinc.com>

NTE2649 (NPN) & NTE2650 (PNP) Silicon Complementary Transistors Darlingtons

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

Collector–Base Voltage, V_{CBO}	200V
Collector–Emitter Voltage, V_{CEO}	200V
Emitter–Base Voltage, V_{EBO}	5V
Collector Current, I_C	15A
Base Current, I_B	1A
Collector Power Dissipation ($T_A = +25^\circ\text{C}$), P_C	130W
Operating Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	–55° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 200V, I_E = 0$	–	–	100	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$	–	–	100	μA
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 30\text{mA}$	200	–	–	V
DC Current Gain	h_{FE}	$V_{CE} = 4V, I_C = 10A$	5000	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10A, I_B = 10\text{mA}$	–	–	2.5	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10A, I_B = 10\text{mA}$	–	–	3.0	V
Transition Frequency	f_T	$V_{CE} = 12V, I_E = 2A$	–	70	–	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1\text{MHz}$	–	120	–	pF

Schematic Diagram

