



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

## NTE2649 (NPN) & NTE2650 (PNP) Silicon Complementary Transistors Darlington

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

Collector-Base Voltage, $V_{CBO}$ .....	200V
Collector-Emitter Voltage, $V_{CEO}$ .....	180V
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	° A
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	-	-	100	° A
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 30mA$	180	-	-	V
DC Current Gain	$h_{FE}$	$V_{CE} = 4V, I_C = 10A$	5000	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10A, I_B = 10mA$	-	-	2.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10A, I_B = 10mA$	-	-	3.0	V
Transition Frequency	$f_T$	$V_{CE} = 12V, I_E = 2A$	-	70	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	-	120	-	pF

Schematic Diagram

