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## NTE2550 Silicon NPN Transistor Darlington Driver, Switch

### Absolute Maximum Ratings:

Collector–Base Voltage, $V_{CBO}$ .....	500V
Collector–Emitter Voltage, $V_{CEO}$ .....	400V
Emitter–Base Voltage, $V_{EBO}$ .....	12V
Collector Current, $I_C$	
Continuous .....	10A
Peak .....	15A
Base Current, $I_B$	
Continuous .....	0.5A
Peak .....	1.0A
Collector Power Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_C$ .....	50W
Dielectric Strength (Terminal to case, AC1 minute), $V_{dis}$ .....	2kV
Operating Junction Temperature, $T_J$ .....	+150°C
Storage Temperature Range, $T_{stg}$ .....	–55° to +150°C
Maximum Thermal Resistance, Junction–to–Case, $R_{thJC}$ .....	2.5°C/W
Mounting Torque (Note 1), TOR .....	5kg •cm

Note 1. Recommended torque: 3kg • cm.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Sustaining Voltage	$V_{CEO}$	$V_{CE}$ (Clamp)	400	–	–	V
Collector Cut–Off Current	$I_{CBO}$	$V_{CB} = 500V$	–	–	0.1	mA
	$I_{CEO}$	$V_{CE} = 400V$	–	–	0.1	mA
Emitter Cut–Off Current	$I_{EBO}$	$V_{EB} = 12V$	–	–	100	mA
DC Current Gain	$h_{FE}$	$V_{CE} = 2V, I_C = 7A$	150	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 7A, I_B = 70mA$	–	–	1.5	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 7A, I_B = 70mA$	–	–	2.0	V
Gain–Bandwidth Product	$f_T$	$V_{CE} = 10V, I_C = 1A$	–	10	–	MHz
Turn–On Time	$t_{on}$	$I_{B1} = I_{B2} = 70mA,$ $I_C = 7A, R_L = 10\Omega,$ $V_{BB2} = 4V$	–	–	2.0	$\mu s$
Storage Time	$t_s$		–	–	15	$\mu s$
Fall Time	$t_f$		–	–	15	$\mu s$

### Schematic Diagram

