ELECTRONICS, INC.
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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°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°C 2W
T_C = +25°C 25W
Operating Junction Temperature, T_J . . . . . +150°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C

Electrical Characteristics: (T_A = +25°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 ≤ 1%	–	1	–	µs
Storage Time	t_{stg}		–	8	–	µs
Fall Time	t_f		–	5	–	µs

Darlington Internal Schematic