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NTE214
Silicon NPN Transistor
Darlington Driver

Description:
The NTE214 is a silicon NPN Darlington transistor in a TO3P type package. Typical applications include motor drivers, printer hammer drivers, relay drivers, regulated DC power supply controllers.

Features:
- High DC Current Gain
- Large Current Capacity and Wide ASO
- Low Saturation Voltage

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Collector to Base Voltage, V_{CBO} 70V
Collector to Emitter Voltage, V_{CEO} 60V
Emitter to Base Voltage, V_{EBO} 6V
Collector Current, I_C
  Continuous 10A
  Peak 15A
Collector Dissipation (T_A = +25°C), P_C 2.5W
Collector Dissipation (T_C = +25°C), P_C 60W
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} = 40V, I_E = 0	–	–	0.1	mA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0	–	–	3.0	mA
DC Current Gain	h_{FE}	V_{CE} = 2V, I_C = 5A	2000	5000	–	
Current Gain–Bandwidth Product	f_T	V_{CE} = 5V, I_C = 5A	–	20	–	MHz
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 5A, I_B = 10mA	–	0.9	1.5	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 5A, I_B = 10mA	–	–	2.0	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 5mA, I_E = 0	70	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 50mA, R_{BE} = ∞	60	–	–	V
Turn–On Time	t_{on}	V_{CC} = 20V, V_{BE} = –5V, $500I_{B1} = -500I_{B2} = I_C$ = 5A, PW = 50μs, Duty Cycle ≤ 1%	–	0.6	–	μs
Storage Time	t_{stg}		–	3.0	–	μs
Fall Time	t_f		–	1.8	–	μs

Schematic Diagram