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NTE215 Silicon NPN Transistor Darlington Driver

Description:

The NTE215 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: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Collector to Base Voltage, V_{CBO}	110V
Collector to Emitter Voltage, V_{CEO}	100V
Emitter to Base Voltage, V_{EBO}	6V
Collector Current, I_C	
Continuous	8A
Peak	12A
Collector Dissipation ($T_A = +25^\circ\text{C}$), P_C	2.5W
Collector Dissipation ($T_C = +25^\circ\text{C}$), P_C	60W
Operating Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	-55° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 80V, I_E = 0$	-	-	0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$	-	-	3.0	mA
DC Current Gain	h_{FE}	$V_{CE} = 3V, I_C = 4A$	1500	4000	-	
Current Gain-Bandwidth Product	f_T	$V_{CE} = 5V, I_C = 4A$	-	20	-	MHz
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 4A, I_B = 8mA$	-	0.9	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 4A, I_B = 8mA$	-	-	2.0	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 5mA, I_E = 0$	110	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50mA, R_{BE} = \infty$	100	-	-	V
Turn-On Time	t_{on}	$V_{CC} = 50V, V_{BE} = -5V,$ $500I_{B1} = -500I_{B2} = I_C = 4A,$ $PW = 50\mu s, \text{Duty Cycle} \leq 1\%$	-	0.6	-	μs
Storage Time	t_{stg}		-	4.8	-	μs
Fall Time	t_f		-	1.6	-	μs

Schematic Diagram

