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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	-	$\mu s$
Storage Time	$t_{stg}$		-	4.8	-	$\mu s$
Fall Time	$t_f$		-	1.6	-	$\mu s$

### Schematic Diagram

