

## NTE2556 Silicon NPN Transistor Darlingtion, Motor/Relay Driver

**Features:**

- High DC Current Gain
- High Current Capacity
- Wide ASO Range

**Applications:**

- Motor Drivers
- Printer Hammer Drivers
- Relay Drivers
- Voltage Regulator Control

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Collector Base Voltage, $V_{CBO}$ .....	110V
Collector Emitter Voltage, $V_{CEO}$ .....	100V
Emitter Base Voltage, $V_{EBO}$ .....	6V
Collector Current, $I_C$	
Continuous .....	8A
Peak .....	12A
Collector Power Dissipation, $P_C$	
$T_A = +25^\circ\text{C}$ .....	1.65W
$T_C = +25^\circ\text{C}$ .....	40W
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	–	
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

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 5\text{mA}, I_E = 0$	110	–	–	V
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50\text{mA}, R_{BE} = \infty$	100	–	–	V
Turn-On Time	$t_{on}$	$V_{CC} = 50\text{V}, V_{BE} = -5\text{V},$ $500I_{B1} = -500I_{B2} = I_C = 4\text{A},$ Pulse Width = $50\mu\text{s},$ Duty Cycle $\leq 1\%$	–	0.6	–	$\mu\text{s}$
Storage Time	$t_{stg}$		–	4.8	–	$\mu\text{s}$
Fall Time	$t_f$		–	1.6	–	$\mu\text{s}$

