

## NTE2343 (NPN) & NTE2344 (PNP) Silicon Complementary Transistors Darlington Power Amp, Switch

### Absolute Maximum Ratings:

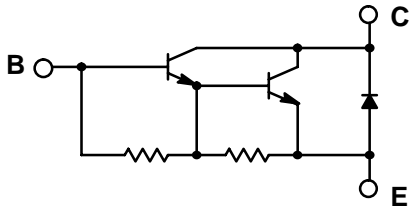
Collector–Base Voltage, $V_{CBO}$ .....	120V
Collector–Emitter Voltage, $V_{CEO}$ .....	120V
Collector Current, $I_C$	
DC .....	12A
Pulse .....	15A
Base Current, $I_B$ .....	200mA
Collector Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_C$ .....	80W
Operating Junction Temperature, $T_J$ .....	+150°C
Storage Temperature Range, $T_{stg}$ .....	–65° to +150°C
Thermal Resistance, Junction–to–Case, $R_{thJC}$ .....	1.56°C/W

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 100\text{mA}$ , $I_B = 0$ , Note 1	100	–	–	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 100\text{V}$ , $I_E = 0$	–	–	100	$\mu\text{A}$
	$I_{CEO}$	$V_{CE} = 100\text{V}$ , $I_B = 0$	–	–	1	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5\text{V}$ , $I_C = 0$	–	–	2	mA
DC Current Gain	$h_{FE}$	$V_{CE} = 3\text{V}$ , $I_C = 3\text{A}$	1000	–	–	
		$V_{CE} = 3\text{V}$ , $I_C = 5\text{A}$	750	–	1000	
		$V_{CE} = 3\text{V}$ , $I_C = 10\text{A}$	100	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5\text{A}$ , $I_B = 20\text{mA}$ , Note 1	–	–	2.0	V
		$I_C = 10\text{A}$ , $I_B = 100\text{mA}$ , Note 1	–	–	3.0	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5\text{A}$ , $I_B = 20\text{mA}$ , Note 1	–	–	2.5	V
		$I_C = 10\text{A}$ , $I_B = 100\text{mA}$ , Note 1	–	–	4.0	V
Parallel Diode Forward Voltage	$V_f$	$I_f = 5\text{A}$ , Note 1	–	1.3	2.0	V
		$I_f = 10\text{A}$ , Note 1	–	1.8	4.0	V
Small–Signal Current Gain	$h_{fe}$	$I_C = 1\text{A}$ , $V_{CE} = 10\text{V}$ , $f = 1\text{MHz}$	20	–	–	

Note 1. Pulse Test: Pulse Width = 300 $\mu\text{s}$ , Duty Cycle = 1.5%.

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