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NTE253 (NPN) & NTE254 (PNP) Silicon Complementary Transistors Darlington Power Amplifier TO-126 Type Package

Description:

The NTE253 (NPN) and NTE254 (PNP) are silicon complementary Darlington transistors in a TO-126 type case designed for general-purpose amplifier and low-speed switching applications.

Features:

- High DC Current Gain: $h_{FE} = 750$ (Min) @ $I_C = 1.5A$
- Monolithic Construction with Built-In Base-Emitter Resistors to Limit Leakage Multiplication

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

Collector-Emitter Voltage, V_{CEO}	100V
Collector-Base Voltage, V_{CBO}	100V
Emitter-Base Voltage, V_{EBO}	5V
Collector Current, I_C	4A
Base Current, I_B	100mA
Total Power Dissipation ($T_C = +25^\circ C$), P_D	40W
Operating Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	-55° to +150°C
Thermal Resistance, Junction-to-Case, R_{thJC}	3.13°C/W

Note 1. NTE253MCP is a matched complementary pair containing 1 each of NTE253 (NPN) and NTE254 (PNP).

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50mA, I_B = 0$, Note 1	100	-	-	V
Collector Cutoff Current	I_{CEO}	$V_{CE} = 100V, I_B = 0$	-	-	0.5	mA
		$V_{CE} = 100V, I_E = 0$	-	-	0.2	mA
		$V_{CE} = 100V, I_E = 0, T_C = +100^\circ C$	-	-	2.0	mA
Emitter Cutoff Current	I_{EBO}	$V_{BE} = 5V, I_C = 0$	-	-	2.0	mA

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
ON Characteristics						
DC Current Gain	h_{FE}	$V_{CE} = 3\text{V}, I_C = 1.5\text{A}$	750	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1.5\text{A}, I_B = 30\text{mA}$	-	-	2.5	V
Base-Emitter ON Voltage	$V_{BE(on)}$	$V_{CE} = 3\text{V}, I_C = 1.5\text{A}$	-	-	2.5	V

