

NTE293 (NPN) & NTE294 (PNP) Silicon Complementary Transistors Audio Amplifier and Driver

Description:

The NTE293 (NPN) and NTE294 (PNP) are silicon complementary transistors in a Giant TO92 type package designed for use in low-frequency power amplification and drive applications.

Features:

- Low Collector–Emitter Saturation Voltage

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

Collector–Base Voltage, V_{CBO}	60V
Collector–Emitter Voltage, V_{CEO}	50V
Emitter–Base Voltage, V_{EBO}	5V
Collector Current, I_{C}	
Continuous	1A
Peak	1.5A
Collector Power Dissipation, P_{C}	1W
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–Base Breakdown Voltage	$V_{(\text{BR})\text{CBO}}$	$I_{\text{C}} = 10\mu\text{A}$, $I_{\text{E}} = 0$	60	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(\text{BR})\text{CEO}}$	$I_{\text{C}} = 2\text{mA}$, $I_{\text{B}} = 0$	50	–	–	V
Emitter–Base Breakdown Voltage	$V_{(\text{BR})\text{EBO}}$	$I_{\text{E}} = 10\mu\text{A}$, $I_{\text{C}} = 0$	5	–	–	V
Collector Cutoff Current	I_{CBO}	$V_{\text{CB}} = 20\text{V}$, $I_{\text{E}} = 0$	–	–	0.1	μA
DC Current Gain	h_{FE}	$V_{\text{CE}} = 10\text{V}$, $I_{\text{C}} = 500\text{mA}$, Note 2	120	–	240	
		$V_{\text{CE}} = 5\text{V}$, $I_{\text{B}} = 1\text{A}$, Note 2	50	100	–	
Collector–Emitter Saturation Voltage	$V_{\text{CE}(\text{sat})}$	$I_{\text{C}} = 500\text{mA}$, $I_{\text{B}} = 50\text{mA}$, Note 2	–	0.2	0.4	V
Base–Emitter Saturation Voltage	$V_{\text{BE}(\text{sat})}$	$I_{\text{C}} = 500\text{mA}$, $I_{\text{B}} = 50\text{mA}$, Note 2	–	0.85	1.2	V
Current–Gain Bandwidth Product	f_{T}	$V_{\text{CB}} = 10\text{V}$, $I_{\text{E}} = 50\text{mA}$, $f = 200\text{MHz}$	–	200	–	MHz
Collector Output Capacitance	C_{ob}	$V_{\text{CB}} = 10\text{V}$, $I_{\text{e}} = 0$, $f = 1\text{MHz}$	–	11	20	pF

Note 1. NTE293MP is a matched pair of NTE293 with their DC Current Gain (h_{FE}) matched to within 10% of each other.

Note 2. Pulse measurement.

