

NTE152 (NPN) & NTE153 (PNP) Silicon Complementary Transistors Audio Power Amplifier, Switch

Description:

The NTE152 (NPN) and NTE153 (PNP) are silicon complementary transistors in a standard TO220 type package designed for general purpose medium power switching and amplifier applications.

Features:

- Good Linearity of h_{FE}

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

Collector–Base Voltage, V_{CBO}	90V
Collector–Emitter Voltage, V_{CEO}	90V
Emitter–Base Voltage, V_{EBO}	5V
Collector Current, I_C	4A
Emitter Current, I_E	–4A
Base Current, I_B	3A
Collector Power Dissipation ($T_C = +25^\circ\text{C}$), P_C	40W
Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	–55° to +150°C

Note 1. NTE152MP is a matched pair of NTE152 with their DC Current Gain (h_{FE}) matched to within 10% of each other.

Note 2. Matched complementary pairs are available upon request (NTE55MCP). Matched complementary pairs have their gain specification (h_{FE}) matched to within 10% of each other.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50\text{mA}$, $I_B = 0$	90	–	–	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 90\text{V}$, $I_E = 0$	–	–	20	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$	–	–	10	μA
DC Current Gain	h_{FE1}	$V_{CE} = 5\text{V}$, $I_C = 0.5\text{A}$	40	–	200	
	h_{FE2}	$V_{CE} = 5\text{V}$, $I_C = 3\text{A}$	15	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3\text{A}$, $I_B = 0.3\text{A}$	–	–	1.5	V
Base–Emitter Voltage	V_{BE}	$V_{CE} = 5\text{V}$, $I_C = 3\text{A}$	–	–	1.5	V
Transition Frequency	f_T	$V_{CE} = 5\text{V}$, $I_C = 0.5\text{A}$	3	8	–	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$	–	85	–	pF

