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NTE2695 Silicon PNP Transistor Low Power Audio Amp TO-126 Type Package

Description:

The NTE2695 is a silicon PNP transistor in a TO-126 type package designed for low power audio amplifier and low-current, high-speed switching applications.

Features:

- High Collector-Emitter Sustaining Voltage
- High DC Current Gain at $I_C = 200\text{mA}$
- Low Collector-Emitter Saturation Voltage
- High Current Gain Bandwidth Product
- Annular Construction for Low Leakage

Absolute Maximum Ratings: (Note 1)

Collector-Emitter Voltage, V_{CEO}	100V
Collector-Base Voltage, V_{CBO}	100V
Emitter-Base Voltage, V_{EBO}	7V
Collector Current, I_C	
Continuous	4A
Peak	8A
Base Current, I_B	10A
Total Power Dissipation ($T_C = +25^\circ\text{C}$), P_D	15W
Derate above $+25^\circ\text{C}$	120mW/ $^\circ\text{C}$
Total Power Dissipation ($T_A = +25^\circ\text{C}$), P_D	1.5W
Derate above $+25^\circ\text{C}$	12mW/ $^\circ\text{C}$
Operating Junction Temperature Range, T_J	-65° to $+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+150^\circ\text{C}$
Thermal Resistance, Junction-to-Case, R_{thJC}	8.34 $^\circ\text{C}/\text{W}$
Thermal Resistance, Junction-to-Ambient, R_{thJA}	83.4 $^\circ\text{C}/\text{W}$

Note 1. Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.



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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
OFF Characteristics							
Collector-Emitter Sustaining Voltage	$V_{CE(sus)}$	$I_C = 10\text{mA}, I_B = 0$	100	-	-	V	
Collector Cutoff Current	I_{CBO}	$V_{CB} = 100\text{V}, I_E = 0$	-	-	0.1	μA	
			$T_C +125^\circ\text{C}$	-	-	0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{BE} = 7\text{V}, I_C = 0$	-	-	0.1	μA	
ON Characteristics							
DC Current Gain	h_{FE}	$V_{CE} = 1\text{V}$	$I_C = 200\text{mA}$	40	-	180	
			$I_C = 1\text{A}$	15	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	-	-	0.3	V	
		$I_C = 1\text{A}, I_B = 100\text{mA}$	-	-	0.6	V	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 2\text{A}, I_B = 200\text{mA}$	-	-	1.8	V	
Base-Emitter ON Voltage	$V_{BE(on)}$	$I_C = 500\text{mA}, V_{CE} = 1\text{V}$	-	-	1.5	V	
Dynamic Characteristics							
Current-Gain-Bandwidth Product	f_T	$I_C = 100\text{mA}, V_{CE} = 10\text{V}, f_{test} = 10\text{MHz}$	40	-	-	MHz	
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 0.1\text{MHz}$	-	-	50	pF	

