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NTE218 Silicon PNP Transistor Audio Power Output

Description:

The NTE218 is ideal for use as a driver, switch and medium-power amplifier applications. This device features:

Features:

- Low Saturation Voltage – $0.6V_{CE(sat)}$ @ $I_C = 1A$
- High Gain Characteristics – h_{FE} @ $I_C = 250mA$: 30–100
- Excellent Safe Area Limits

Absolute Maximum Ratings:

Collector–Emitter Voltage, V_{CEO}	80V
Collector–Base Voltage, V_{CB}	80V
Emitter–Base Voltage, V_{EB}	7V
Collector Current, I_C	
Continuous	4A
Peak (Note 1)	10A
Base Current, I_B	2A
Total Device Dissipation ($T_C = +25^\circ C$), P_D	25W
Derate above $25^\circ C$	0.143W/ $^\circ C$
Operating Junction Temperature Range, T_J	-65° to $+200^\circ C$
Storage Temperature Range, T_{stg}	-65° to $+200^\circ C$

Note 1 Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2.0\%$.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 100mA, I_B = 0, \text{Note 1}$	80	–	–	V
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 7V$	–	–	0.5	mA
Collector Cutoff Current	I_{CEX}	$V_{CE} = 80V, V_{BE(off)} = 1.5V$	–	–	100	μA
		$V_{CE} = 60V, V_{BE(off)} = 1.5V, T_C = +150^\circ C$	–	–	1.0	mA
	I_{CEO}	$V_{CE} = 60V, I_B = 0$	–	–	1.0	mA
	I_{CBO}	$V_{CB} = 80V, I_E = 0$	–	–	100	μA

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
ON Characteristics (Note 1)						
DC Current Gain	h_{FE}	$V_{CE} = 1\text{V}, I_C = 100\text{mA}$	40	-	-	
		$V_{CE} = 1\text{V}, I_C = 250\text{mA}$	30	-	100	
		$V_{CE} = 1\text{V}, I_C = 500\text{mA}$	20	-	-	
		$V_{CE} = 1\text{V}, I_C = 1\text{A}$	10	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1\text{A}, I_B = 125\text{mA}$	-	-	0.6	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = 1\text{V}, I_C = 250\text{mA}$	-	-	1.0	V
Transient Characteristics						
Current Gain Bandwidth Product	f_T	$V_{CE} = 1\text{V}, I_C = 250\text{mA}, f = 1\text{MHz}$	3	-	-	MHz
Common Base Output Capacitance	C_{ob}	$V_{CE} = 10\text{V}, I_C = 0, f = 100\text{kHz}$	-	-	100	pF
Small-Signal Current Gain	h_{fe}	$V_{CE} = 10\text{V}, I_C = 50\text{mA}, f = 1\text{kHz}$	25	-	-	

Note 1 Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$.

