



**ELECTRONICS, INC.**  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089

## 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, $T_J$ .....	$-65^\circ$ to $+200^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-65^\circ$ 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 sepcified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>OFF Characteristics</b>						
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	$\mu A$
		$V_{CE} = 60V, V_{BE(off)} = 1.5V, T_C = +150^\circ C$	–	–	1.0	mA
	$I_{CEO}$	$V_{CE} = 60V, I_B = 0$	–	–	1.0	mA
	$I_{CBO}$	$V_{CB} = 80V, I_E = 0$	1	–	100	$\mu A$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>ON Characteristics (Note 1)</b>						
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
<b>Transient Characteristics</b>						
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  $\leq 2.0\%$ .

