

## 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	$V_{CEO(sus)}$	$I_C = 100mA$ , $I_B = 0$ , 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 sepcified)

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

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

