

## NTE13 Silicon NPN Transistor Low Voltage Output Amp

**Features:**

- Low Collector–Emitter Saturation Voltage
- High DC Current Gain
- An M Type Mold package that Allows Downsizing of Equipment and Automatic Insertion by Taping and Magazine Packaging

**Absolute Maximum Ratings:**

Collector–Base Voltage, $V_{CBO}$ .....	25V
Collector–Emitter Voltage, $V_{CEO}$ .....	20V
Emitter–Base Voltage, $V_{EBO}$ .....	12V
Collector Current, $I_C$	
Continuous .....	500mA
Peak .....	1A
Power Dissipation, $P_C$ .....	600mW
Operating Junction Temperature, $T_J$ .....	+150°C
Storage Temperature Range, $T_{stg}$ .....	–55° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 25V, I_C = 0$	–	–	100	nA
Collector–Base Voltage	$V_{CBO}$	$I_C = 10\mu A, I_E = 0$	25	–	–	V
Collector–Emitter Voltage	$V_{CEO}$	$I_C = 1mA, I_B = 0$	20	–	–	V
Emitter–Base Voltage	$V_{EBO}$	$I_E = 10\mu A, I_C = 0$	12	–	–	V
DC Current Gain	$h_{FE}$	$V_{CE} = 2V, I_C = 500mA, \text{Note 1}$	400	–	800	
		$V_{CE} = 2V, I_C = 1A, \text{Note 1}$	60	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500mA, I_B = 20mA$	–	0.13	0.4	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 500mA, I_B = 50mA$	–	–	1.2	V
Transistion Frequency	$f_T$	$V_{CB} = 10V, -I_E = 50mA$	–	200	–	MHz
Collector Capaciatnce	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	–	10	–	pF

Note 1. Pulse Test

