



NTE2431 Silicon PNP Transistor High Voltage Amp/Switch (Compl to NTE2430)

Description:

The NTE2431 is a silicon PNP transistor in a SOT-89 type surface mount package designed for use in amplifier and switching applications.

Absolute Maximum Ratings:

Collector-Base Voltage (Open Emitter), V_{CBO}	350V
Collector-Emitter Voltage (Open Base), V_{CEO}	300V
Emitter-Base Voltage (Open Collector), V_{EBO}	6V
DC Collector Current, I_C	1A
Base Current, I_B	500mA
Total Power Dissipation ($T_A \leq +25^\circ\text{C}$, Note 1), P_{tot}	1W
Operating Junction Temperature, T_J	$+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+150^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient (Note 1), R_{thJA}	125K/W
Thermal Resistance, Junction-to-Tab, R_{thJTAB}	10K/W

Note 1. Device mounted on a ceramic substrate; area = 2.5cm^2 , thickness = 0.7mm.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 280\text{V}$, $I_E = 0$	—	—	1	μA
	I_{CEO}	$V_{CE} = 250\text{V}$, $I_B = 0$	—	—	50	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 6\text{V}$, $I_C = 0$	—	—	20	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50\text{mA}$, $I_B = 0$, $L = 25\text{mH}$	300	—	—	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}$, $I_B = 5\text{mA}$	—	—	2	V
DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}$, $I_C = 50\text{mA}$	30	—	120	
Collector Capacitance	C_c	$I_E = I_e = 0$, $V_{CB} = 10$, $f = 1\text{MHz}$	—	—	15	pF
Transitional Frequency	f_T	$V_{CE} = 10\text{V}$, $I_C = 10\text{mA}$, $f = 30\text{MHz}$	15	—	—	MHz

