

NTE330 Germanium PNP Transistor High Power Switch

Description:

The NTE330 is a germanium PNP power transistor in a TO36 type package featuring low saturation voltage capability for high efficiency performance in motor drive controls and low loss regulators.

Absolute Maximum Ratings:

Collector–Emitter Voltage, V_{CEO}	40V
Collector–Base Voltage, V_{CB}	50V
Emitter–Base Voltage, V_{EB}	30V
Continuous Collector Current, I_C	25A
Continuous Base Current, I_B	4A
Total Device Dissipation ($T_C = +25^\circ\text{C}$), P_D	87.5W
Derate Above 25°C	1.17W/ $^\circ\text{C}$
Operating Junction Temperature Range, T_J	-65° to $+95^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+95^\circ\text{C}$
Thermal Resistance, Junction–to–Case, R_{thJC}	0.8 $^\circ\text{C}/\text{W}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1A, I_B = 0$	40	–	–	V
Floating Potential	V_{EBF}	$V_{CB} = 50V, I_E = 0$	–	–	1.0	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 2V, I_E = 0$	–	–	300	μA
		$V_{CB} = 50V, I_E = 0$	–	–	4.0	mA
		$V_{CB} = 50V, I_E = 0, T_B = +85^\circ\text{C}$	–	–	15	mA
Emitter Cutoff Current	I_{EBO}	$V_{BE} = 30V, I_C = 0$	–	–	8.0	mA
ON Characteristics						
DC Current Gain	h_{FE}	$V_{CE} = 4V, I_C = 15A$	15	–	60	
		$V_{CE} = 4V, I_C = 25A$	12	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 25A, I_B = 4A$	–	–	0.7	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 25A, I_B = 3A$	–	–	1.5	V
Small–Signal Characteristics						
Common–Emitter Cutoff Frequency	h_{hfe}	$V_{CE} = 6V, I_C = 5A$	–	4.0	–	kHz

