

NTE27 Germanium PNP Transistor High Current, High Gain Amp

Description:

The NTE27 is a PNP germanium power transistor designed for high current applications requiring high-gain and low saturation voltages.

Absolute Maximum Ratings:

Collector–Emitter Voltage, V_{CEO}	45V
Collector–Emitter Voltage, V_{CES}	60V
Collector–Base Voltage, V_{CB}	60V
Emitter–Base Voltage, V_{EB}	30V
Continuous Collector Current, I_C	60A
Total Device Dissipation ($T_C = +25^\circ\text{C}$), P_D	170W
Derate Above 25°C	2W/ $^\circ\text{C}$
Operating Junction Temperature Range, T_J	-65° to $+110^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+110^\circ\text{C}$
Thermal Resistance, Junction to Case, $R_{\theta JC}$	$+0.5^\circ\text{C/W}$

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	$V_{(BR)CEO}$	$I_C = 1\text{A}, I_B = 0$, Note 1	45	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C = 300\text{mA}, V_{BE} = 0$	60	–	–	V
Floating Potential	V_{EBF}	$V_{CB} = 60\text{V}, I_E = 0$	–	–	0.5	V
Collector Cutoff Current	I_{CEX}	$V_{CE} = 45\text{V}, V_{BE(off)} = 2\text{V}, T_C = +71^\circ\text{C}$	–	–	15	mA
	I_{CBO}	$V_{CB} = 60\text{V}, I_E = 0$	–	–	4	mA
Emitter Cutoff Current	I_{EBO}	$V_{BE} = 30\text{V}, I_C = 0$	–	–	4	mA
		$V_{BE} = 30\text{V}, I_C = 0, T_C = +71^\circ\text{C}$	–	–	15	mA

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
ON Characteristics						
DC Current Gain	h_{FE}	$I_C = 15\text{A}, V_{CE} = 2\text{V}, \text{Note 1}$	60	–	180	
		$I_C = 60\text{A}, V_{CE} = 2\text{V}, \text{Note 1}$	15	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 15\text{A}, I_B = 1\text{A}, \text{Note 1}$	–	–	0.15	V
		$I_C = 60\text{A}, I_B = 6\text{A}, \text{Note 1}$	–	–	0.3	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 15\text{A}, I_B = 1\text{A}, \text{Note 1}$	–	–	0.6	V
		$I_C = 60\text{A}, I_B = 6\text{A}, \text{Note 1}$	–	–	1.0	V
Small Signal Characteristics						
Common–Emitter Cutoff Frequency	$f_{\alpha e}$	$I_C = 15\text{A}, V_{CE} = 2\text{V}$	2	–	–	kHz

Note 1. To avoid excessive heating of the collector junction, perform test with pulse method.

