



ELECTRONICS, INC.
 44 FARRAND STREET
 BLOOMFIELD, NJ 07003
 (973) 748-5089
<http://www.nteinc.com>

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

