



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

NTE28

Germanium PNP Transistor

High Current, High Gain Amplifier

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
Collector Current-Continuous, I_C	60A
Total Device Dissipation ($T_C = +25^\circ\text{C}$), P_D	170W
Derate above 25°C	2.0W/ $^\circ\text{C}$
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_{thJC}	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
	$V_{(BR)CES}$	$I_C = 300\text{mA}, V_{BE} = 0$	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}	$V_{CB} = 2\text{V}, I_E = 0$	–	–	0.2	mA
		$V_{CB} = 60\text{V}, I_E = 0$	–	–	4.0	mA
Emitter Cutoff Current	I_{EBO}	$V_{BE} = 30\text{V}, I_C = 0$	–	–	4.0	mA
		$V_{BE} = 30\text{V}, I_C = 0, T_C = +71^\circ\text{C}$	–	–	15	mA
ON Characteristics (Note 1)						
DC Current Gain	h_{FE}	$I_C = 15\text{A}, V_{CE} = 2\text{V}$	60	–	180	
		$I_C = 60\text{A}, V_{CE} = 2\text{V}$	15	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 15\text{A}, I_B = 1\text{A}$	–	–	0.15	V
		$I_C = 60\text{A}, I_B = 6\text{A}$	–	–	0.3	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 15\text{A}, I_B = 1\text{A}$	–	–	0.6	V
		$I_C = 60\text{A}, I_B = 6\text{A}$	–	–	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.

