



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

MPSA56

Silicon PNP Transistor General Purpose Amplifier

Absolute Maximum Ratings:

Collector–Emitter Voltage, V_{CES}	-80V
Collector–Base Voltage, V_{CBO}	-80V
Emitter–Base Voltage, V_{EBO}	-4V
Continuous Collector Current, I_C	-500mA
Total Device Dissipation ($T_A = 25^\circ\text{C}$), P_D	625mW
Derate Above 25°C	5mW/ $^\circ\text{C}$
Operating Junction Temperature Range, T_J	-55° to $+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ\text{C}$
Thermal Resistance, Junction–to–Case, R_{thJC}	83.3 $^\circ\text{C}/\text{W}$
Thermal Resistance, Junction–to–Ambient, R_{thJA}	200 $^\circ\text{C}/\text{W}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1.0\text{mA}$, $I_B = 0$, Note 1	-80	-	-	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}$, $I_E = 0$	-80	-	-	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}$, $I_C = 0$	-4.0	-	-	V
Collector Cutoff Current	I_{CEO}	$V_{CE} = -60\text{V}$, $I_B = 0$	-	-	-0.1	μA
	I_{CBO}	$V_{CB} = -80\text{V}$, $I_E = 0$	-	-	-0.1	μA
ON Characteristics						
DC Current Gain	h_{FE}	$V_{CE} = -1.0\text{V}$, $I_C = -10\text{mA}$	100	-	-	
		$V_{CE} = -1.0\text{V}$, $I_C = -100\text{mA}$	100	-	-	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}$, $I_B = -10\text{mA}$	-	-	-0.2	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -100\text{mA}$, $V_{CE} = -1.0\text{V}$	-	-	-1.2	V
Small Signal Characteristics						
Current Gain Bandwidth Product	f_t	$I_C = -100\text{mA}$, $V_{CE} = -1.0\text{V}$, $f = 100\text{MHz}$	50	-	-	MHz

Note 1. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.

