

MAXIMUM RATINGS

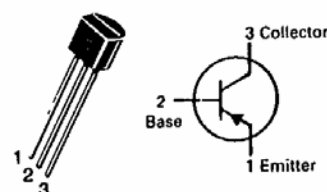
Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CE0}	25	Vdc
Collector-Base Voltage	V_{CBO}	25	Vdc
Collector Current — Continuous	I_C	600	mA dc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	625 5.0	mW mW/°C
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	1.5 12	Watts mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	83.3	°C/W
Thermal Resistance, Junction to Ambient(1)	$R_{\theta JA}$	200	°C/W

MPSD55

CASE 29-04, STYLE 1
TO-92 (TO-226AA)



AMPLIFIER TRANSISTOR
PNP SILICON

Refer to 2N4400 for MPSD05 graphs.*

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage ($I_C = 1.0 \text{ mA dc}, I_B = 0$)	$V_{(BR)CEO}$	25	—	Vdc
Collector-Base Breakdown Voltage ($I_C = 10 \mu\text{A dc}, I_E = 0$)	$V_{(BR)CBO}$	25	—	Vdc
Collector Cutoff Current ($V_{CE} = 20 \text{ Vdc}$)	I_{CEO}	—	1.0	$\mu\text{A dc}$
Collector Cutoff Current ($V_{CB} = 20 \text{ Vdc}, I_E = 0$)	I_{CBO}	—	1.0	$\mu\text{A dc}$
Emitter Cutoff Current ($V_{EB} = 3.0 \text{ Vdc}, I_C = 0$)	I_{EBO}	—	100	nA dc
ON CHARACTERISTICS(2)				
DC Current Gain ($I_C = 50 \text{ mA dc}, V_{CE} = 5.0 \text{ Vdc}$) ($I_C = 100 \text{ mA dc}, V_{CE} = 5.0 \text{ Vdc}$) ($I_C = 500 \text{ mA dc}, V_{CE} = 5.0 \text{ Vdc}$)	h_{FE}	50 80 30	— — —	—
Collector-Emitter Saturation Voltage ($I_C = 100 \text{ mA dc}, I_B = 10 \text{ mA dc}$)	$V_{CE(sat)}$	—	0.5	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Current-Gain — Bandwidth Product ($I_C = 50 \text{ mA dc}, V_{CE} = 10 \text{ Vdc},$ $f = 100 \text{ MHz}$)	f_T	100	—	MHz

(1) $R_{\theta JA}$ is measured with the device soldered into a typical printed circuit board.

(2) Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2.0\%$.

*Refer to 2N4402 for MPSD55 graphs.