

### MAXIMUM RATINGS

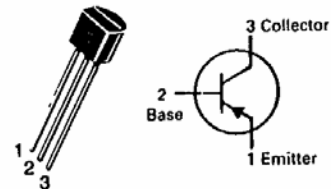
Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CE0}$	25	Vdc
Collector-Base Voltage	$V_{CBO}$	25	Vdc
Collector Current — Continuous	$I_C$	600	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	625 5.0	mW mW/°C
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	1.5 12	Watts mW/°C
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-65 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
<b>OFF CHARACTERISTICS</b>				
Collector-Emitter Breakdown Voltage ( $I_C = 1.0 \text{ mAdc}, I_B = 0$ )	$V_{(BR)CEO}$	25	—	Vdc
Collector-Base Breakdown Voltage ( $I_C = 10 \mu\text{Adc}, I_E = 0$ )	$V_{(BR)CBO}$	25	—	Vdc
Collector Cutoff Current ( $V_{CE} = 20 \text{ Vdc}$ )	$I_{CEO}$	—	1.0	$\mu\text{Adc}$
Collector Cutoff Current ( $V_{CB} = 20 \text{ Vdc}, I_E = 0$ )	$I_{CBO}$	—	1.0	$\mu\text{Adc}$
Emitter Cutoff Current ( $V_{EB} = 3.0 \text{ Vdc}, I_C = 0$ )	$I_{EBO}$	—	100	nAdc
<b>ON CHARACTERISTICS(2)</b>				
DC Current Gain ( $I_C = 50 \text{ mAdc}, V_{CE} = 5.0 \text{ Vdc}$ ) ( $I_C = 100 \text{ mAdc}, V_{CE} = 5.0 \text{ Vdc}$ ) ( $I_C = 500 \text{ mAdc}, V_{CE} = 5.0 \text{ Vdc}$ )	$h_{FE}$	50 80 30	—	—
Collector-Emitter Saturation Voltage ( $I_C = 100 \text{ mAdc}, I_B = 10 \text{ mAdc}$ )	$V_{CE(sat)}$	—	0.5	Vdc
<b>SMALL-SIGNAL CHARACTERISTICS</b>				
Current-Gain — Bandwidth Product ( $I_C = 50 \text{ mAdc}, V_{CE} = 10 \text{ Vdc},$ $f = 100 \text{ MHz}$ )	$f_T$	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.