

# Transistors

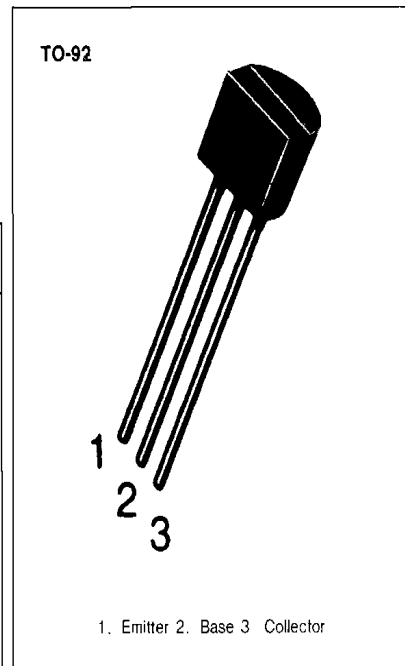
## USP05

### AMPLIFIER TRANSISTOR

- Collector Dissipation:  $P_C(\text{max})=625\text{mW}$

### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Collector Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	60	V
Emitter-Base Voltage	$V_{EBO}$	4	V
Collector Current	$I_C$	500	mA
Collector Dissipation	$P_C$	625	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55 ~ 150	$^\circ\text{C}$



### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ )

Characteristic	Symbol	Test Condition	Min	Max	Unit
*Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = 1\text{mA}, I_B = 0$	60		V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	4		V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 60\text{V}, I_E = 0$		0.1	$\mu\text{A}$
Collector Cut-off Current	$I_{CEO}$	$V_{CE} = 60\text{V}, I_B = 0\text{V}$		0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 1\text{V}, I_C = 10\text{mA}$ $V_{CE} = 1\text{V}, I_C = 100\text{mA}$	50 50		
Collector-Emitter Saturation Voltage	$V_{CE(\text{sat})}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$		0.25	V
Base-Emitter On Voltage	$V_{BE(\text{on})}$	$V_{CE} = 1\text{V}, I_C = 100\text{mA}$		1.2	V
Current Gain Bandwidth Product	$f_T$	$V_{CE} = 2\text{V}, I_C = 10\text{mA}$ $f = 100\text{MHz}$	100		MHz

\* Pulse Test:  $PW \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

