

Transistors

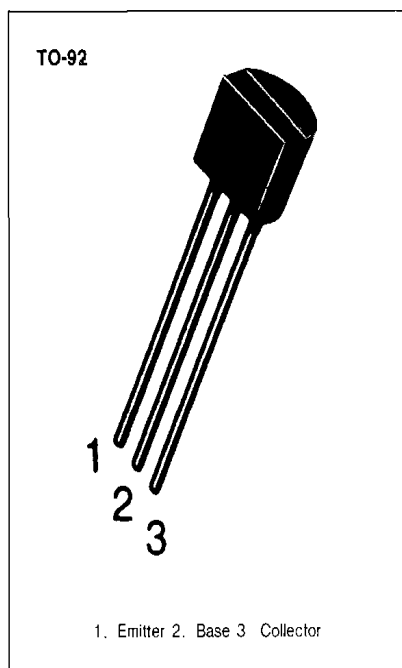
USP05

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	μA
Collector Cut-off Current	I_{CEO}	$V_{CE} = 60\text{V}, I_B = 0\text{V}$		0.1	μA
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 $\leq 2\%$

