

Transistors

USP8599

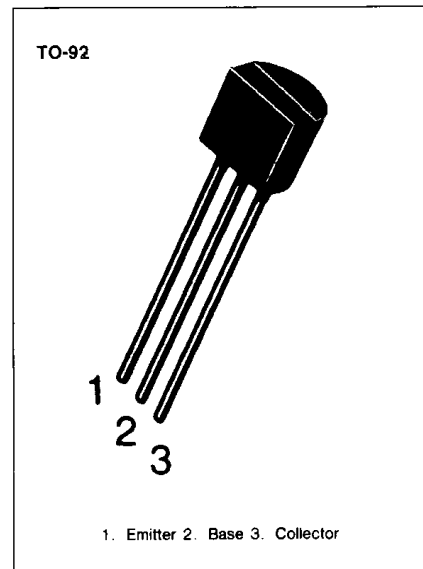
AMPLIFIER TRANSISTOR

• Collector-Emitter Voltage: V_{CE0} : 80V

• Collector Dissipation: P_C (max)=625mW

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	-80	V
Collector-Emitter Voltage	V_{CE0}	-80	V
Emitter-Base Voltage	V_{EB0}	-5	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 Conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C = -100\mu\text{A}, I_E = 0$			
* Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C = -10\text{mA}, I_B = 0$	-80		V
Emitter-Base Breakdown Voltage	BV_{EB0}	$I_E = -10\mu\text{A}, I_C = 0$	-5		V
Collector Cut-off Current	I_{CB0}	$V_{CB} = -80\text{V}, I_E = 0$		-100	nA
Collector Cut-off Current	I_{CE0}	$V_{CE} = -60\text{V}, I_B = 0$		-100	nA
Emitter Cut-off Current	I_{EB0}	$V_{EB} = -4\text{V}, I_C = 0$		-100	nA
* DC Current Gain	h_{FE}	$V_{CE} = -5\text{V}, I_C = -1\text{mA}$	100	300	
		$V_{CE} = -5\text{V}, I_C = -10\text{mA}$	100		
* Collector-Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C = -100\text{mA}, I_B = -5\text{mA}$		-0.4	V
		$I_C = -100\text{mA}, I_B = -10\text{mA}$		-0.3	V
* Base-Emitter On Voltage	$V_{BE}(\text{on})$				
		$V_{CE} = -5\text{V}, I_C = -10\text{mA}$	-0.6	-0.8	V
Current Gain Bandwidth Product	f_T	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	150		MHz
Output Capacitance	C_{OB}	$V_{CB} = -5\text{V}, I_E = 0$ $f = 1\text{MHz}$		8	pF

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

