

MPS8099**NPN EPITAXIAL SILICON TRANSISTOR**

T-29-21

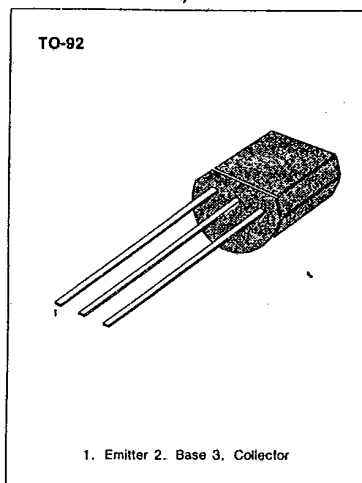
AMPLIFIER TRANSISTOR

- Collector-Emitter Voltage: $V_{CE0} = 80V$
- Collector Dissipation: $P_C (\text{max}) = 625mW$

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	500	mA
Collector Dissipation	P_C	625	mW
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55 - 150	$^\circ C$

- Refer to MPS8098 for graphs



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ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
*Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 10mA, I_B = 0$	80			V
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	80			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = 10\mu A, I_C = 0$	6			V
Collector Cut-off Current	I_{CEO}	$V_{CE} = 60V, I_B = 0$			100	nA
Collector Cut-off Current	I_{CBO}	$V_{CB} = 80V, I_E = 0$			100	nA
Emitter Cut-off Current	I_{EBO}	$V_{BE} = 6V, I_C = 0$			100	nA
*DC Current Gain	h_{FE}	$I_C = 1mA, V_{CE} = 5V$	100		300	
		$I_C = 10mA, V_{CE} = 5V$	100			
		$I_C = 100mA, V_{CE} = 5V$	75			
*Collector-Emitter Saturation Voltage	$V_{CE} (\text{sat})$	$I_C = 100mA, I_B = 5mA$			0.4	V
		$I_C = 100mA, I_B = 10mA$			0.3	V
*Base-Emitter On Voltage	$V_{BE} (\text{on})$	$I_C = 10mA, V_{CE} = 5V$	0.6		0.8	V
Current Gain Bandwidth Product	f_T	$I_C = 10mA, V_{CE} = 5V$ $f = 100MHz$	150			MHz
Output Capacitance	C_{ob}	$V_{CB} = 5V, I_E = 0$ $f = 1MHz$			6	pF

- Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

