

**MPS8099****NPN EPITAXIAL SILICON TRANSISTOR**

T-29-21

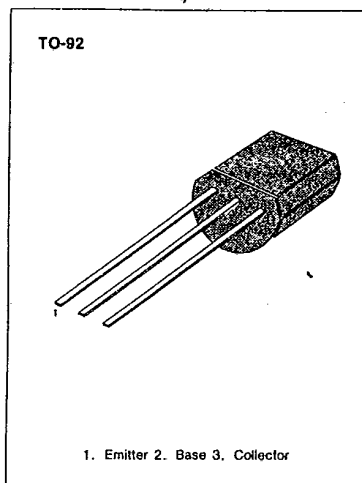
**AMPLIFIER TRANSISTOR**

- 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	$V_{CB0}$	80	V
Collector-Emitter Voltage	$V_{CE0}$	80	V
Emitter-Base Voltage	$V_{EB0}$	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	$BV_{CE0}$	$I_C = 10mA, I_B = 0$	80			V
Collector-Base Breakdown Voltage	$BV_{CB0}$	$I_C = 100\mu A, I_E = 0$	80			V
Emitter-Base Breakdown Voltage	$BV_{EB0}$	$I_E = 10\mu A, I_C = 0$	6			V
Collector Cut-off Current	$I_{CE0}$	$V_{CE} = 60V, I_B = 0$			100	nA
Collector Cut-off Current	$I_{CB0}$	$V_{CB} = 80V, I_E = 0$			100	nA
Emitter Cut-off Current	$I_{EB0}$	$V_{BE} = 6V, I_C = 0$			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	$V_{CE(sat)}$	$I_C = 100mA, I_B = 5mA$			0.4	V
		$I_C = 100mA, I_B = 10mA$			0.3	V
*Base-Emitter On Voltage	$V_{BE(on)}$	$I_C = 10mA, V_{CE} = 5V$	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  $\leq 2\%$