

MPS3704**NPN EPITAXIAL SILICON TRANSISTOR**

T-29-21

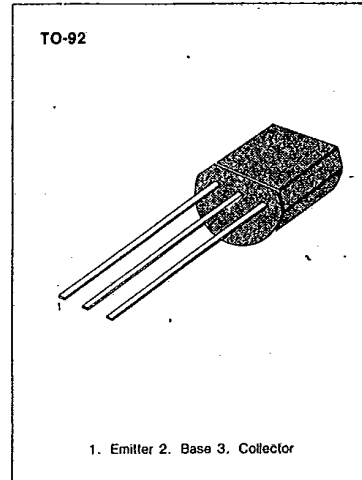
GENERAL PURPOSE TRANSISTOR

- Collector-Emitter Voltage: $V_{CE0} = 30V$
- Collector Dissipation: $P_C (max) = 625mW$

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	50	V
Collector-Emitter Voltage	V_{CE0}	30	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	600	mA
Collector Dissipation	P_C	625	mW
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ C$

- Refer to 2N4400 for graphs



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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C = 100\mu A, I_E = 0$	50			V
*Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C = 10mA, I_B = 0$	30			V
Emitter-Base Breakdown Voltage	BV_{EB0}	$I_E = 100\mu A, I_C = 0$	5			V
Emitter Cut-off Current	I_{EBO}	$V_{BE} = 3V, I_C = 0$			100	nA
Collector Cut-off Current	I_{CBO}	$V_{CB} = 20V, I_E = 0$			100	nA
*DC Current Gain	h_{FE}	$I_C = 50mA, V_{CE} = 2V$	100		300	
*Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100mA, I_B = 5mA$			0.6	V
Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0$ $f = 1MHz$			12	pF
Current Gain Bandwidth Product	f_T	$I_C = 50mA, V_{CE} = 2V$ $f = 20MHz$	100			MHz
*Base-Emitter On Voltage	$V_{BE(on)}$	$I_C = 100mA, V_{CE} = 2V$	0.5		1	V

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