

2N5401

PNP EPITAXIAL SILICON TRANSISTOR

T-29-21

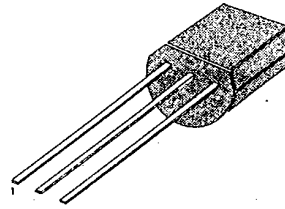
AMPLIFIER TRANSISTOR

- Collector-Emitter Voltage: $V_{CE0} = 150V$
- Collector Dissipation: $P_C (\text{max}) = 625mW$

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	160	V
Collector-Emitter Voltage	V_{CE0}	150	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	$^\circ C$

TO-92



1. Emitter 2. Base 3. Collector

3

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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C = 100\mu A, I_E = 0$	160			V
*Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C = 1mA, I_B = 0$	150			V
Emitter-Base Breakdown Voltage	BV_{EB0}	$I_E = 10\mu A, I_C = 0$	5			V
Collector Cut-off Current	I_{CB0}	$V_{CB} = 120V, I_E = 0$			50	nA
Emitter Cut-off Current	I_{EB0}	$V_{EB} = 3V, I_C = 0$			50	nA
*DC Current Gain	h_{FE}	$I_C = 1mA, V_{CE} = 5V$	50			
		$I_C = 10mA, V_{CE} = 5V$	60		240	
		$I_C = 50mA, V_{CE} = 5V$	50			
*Collector-Emitter Saturation Voltage	$V_{CE} (\text{sat})$	$I_C = 10mA, I_B = 1mA$			0.2	V
		$I_C = 50mA, I_B = 5mA$			0.5	V
*Base-Emitter Saturation Voltage	$V_{BE} (\text{sat})$	$I_C = 10mA, I_B = 1mA$			1	V
		$I_C = 50mA, I_B = 5mA$			1	V
Current Gain Bandwidth Product	f_T	$I_C = 10mA, V_{CE} = 10V$	100		300	MHz
		$f = 100MHz$				
Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0$			6	pF
		$f = 1MHz$				
Noise Figure	NF	$I_C = 250\mu A, V_{CE} = 5V$			8	dB
		$R_S = 1K\Omega$				
		$f = 10Hz \text{ to } 15.7KHz$				

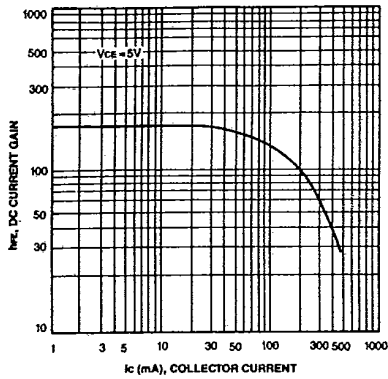
* Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

2N5401

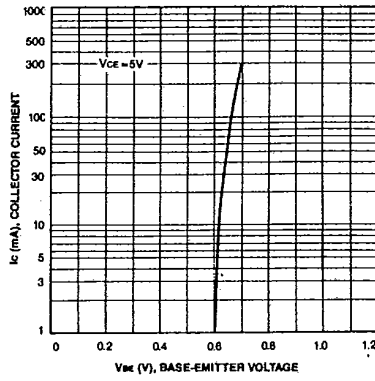
PNP EPITAXIAL SILICON TRANSISTOR

T-29-21

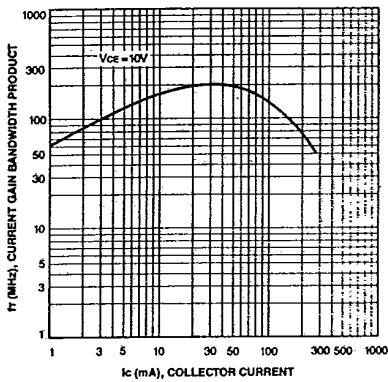
DC CURRENT GAIN



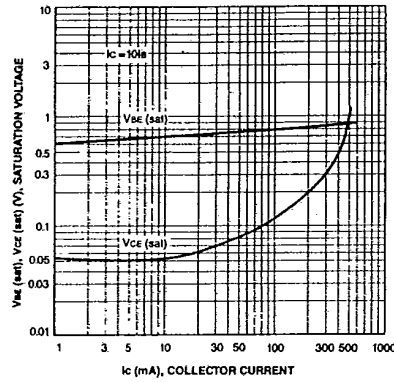
BASE-EMITTER ON VOLTAGE



CURRENT GAIN-BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



OUTPUT CAPACITANCE

