

## 2N5401

## PNP EPITAXIAL SILICON TRANSISTOR

T-29-21

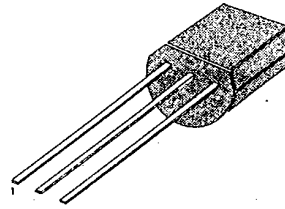
## AMPLIFIER TRANSISTOR

- 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

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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CB0}$	$I_C = 100\mu A, I_E = 0$	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
		$R_S = 1K\Omega$				
		$f = 10Hz \text{ to } 15.7KHz$				

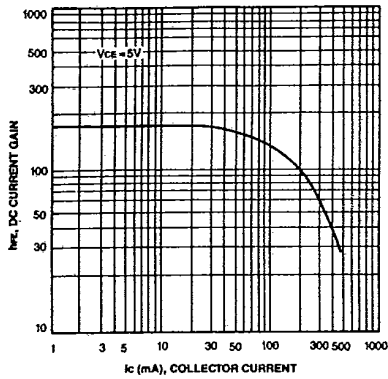
\* Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$

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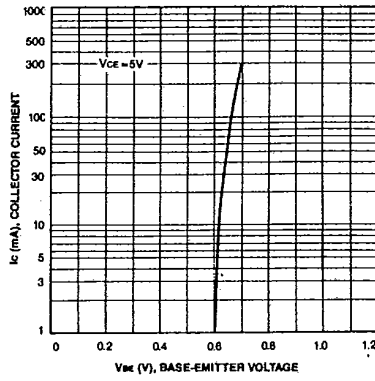
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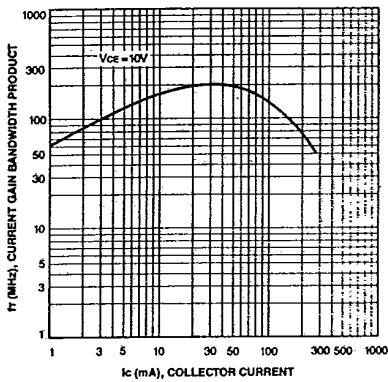
DC CURRENT GAIN



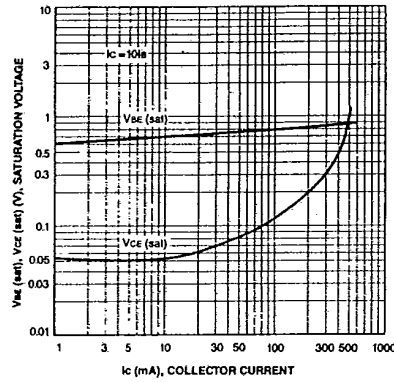
BASE-EMITTER ON VOLTAGE



CURRENT GAIN-BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



OUTPUT CAPACITANCE

