

Transistors

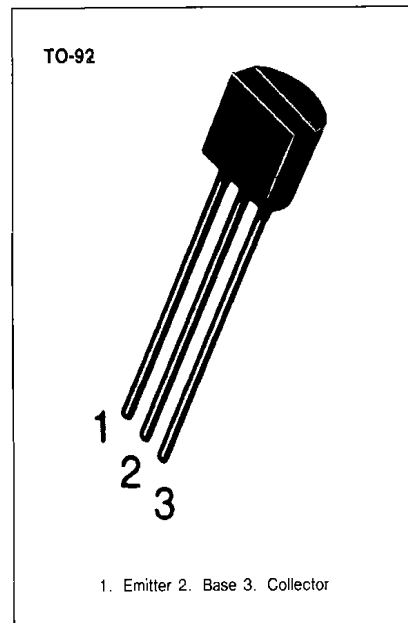
2N5551

AMPLIFIER TRANSISTOR

- Collector-Emitter Voltage: $V_{CE0} = 160V$
- Collector Dissipation: $P_C(\text{max}) = 625mW$

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	6	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	$^\circ C$



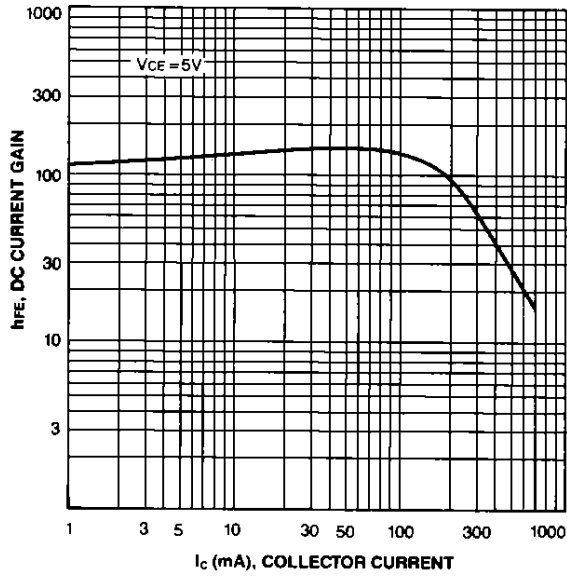
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	180			V
*Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 1mA, I_B = 0$	160			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = 10\mu A, I_C = 0$	6			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 120V, I_E = 0$			50	nA
Emitter Cut-off Current	I_{EBO}	$V_{BE} = 4V, I_C = 0$			50	nA
*DC Current Gain	h_{FE}	$I_C = 1mA, V_{CE} = 5V$	80			
		$I_C = 10mA, V_{CE} = 5V$	80		250	
		$I_C = 50mA, V_{CE} = 5V$	30			
*Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10mA, I_B = 1mA$			0.15	V
		$I_C = 50mA, I_B = 5mA$			0.2	V
*Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10mA, I_B = 1mA$			1	V
		$I_C = 50mA, I_B = 5mA$			1	V
Current Gain Bandwidth Product	f_T	$I_C = 10mA, V_{CE} = 10V$ $f = 100MHz$	100		300	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0$ $f = 1MHz$			6	pF
Noise Figure	NF	$I_C = 250\mu A, V_{CE} = 5V$ $R_S = 1K\Omega$ $f = 10Hz \text{ to } 15.7KHz$			8	dB

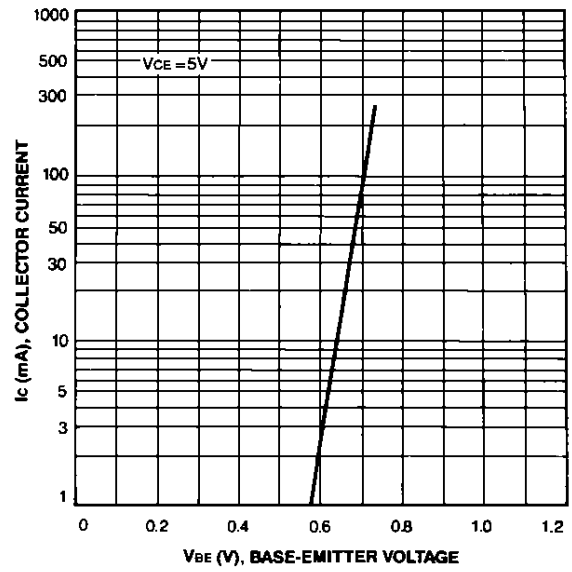
*Pulse Test: Pulse Width=300 μ S, Duty Cycle=2%



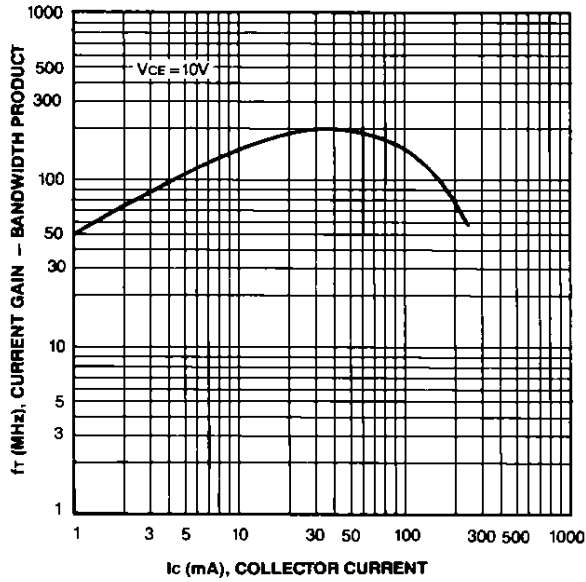
DC CURRENT GAIN



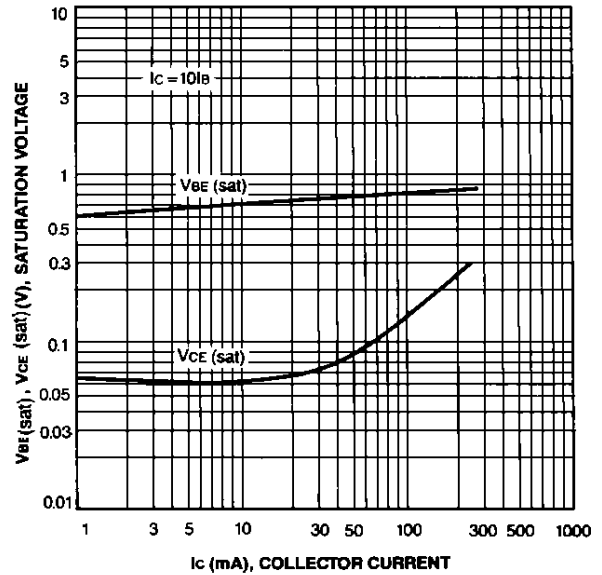
BASE-EMITTER ON VOLTAGE



CURRENT GAIN-BANDWIDTH PRODUCT



**BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE**



OUTPUT CAPACITANCE

