

Transistors

2SC9014

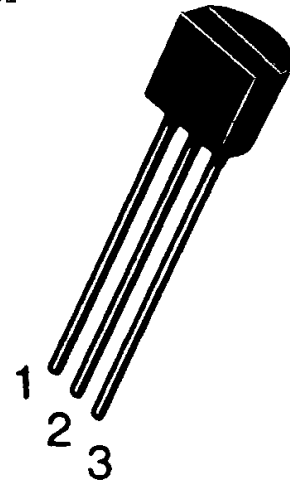
PRE-AMPLIFIER, LOW LEVEL & LOW NOISE

- High total power dissipation. (PT=450mW)
- High h_{FE} and good linearity
- Complementary to SS9015

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	100	mA
Collector Dissipation	P_C	450	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$

TO-92



1. Emitter 2. Base 3. Collector

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

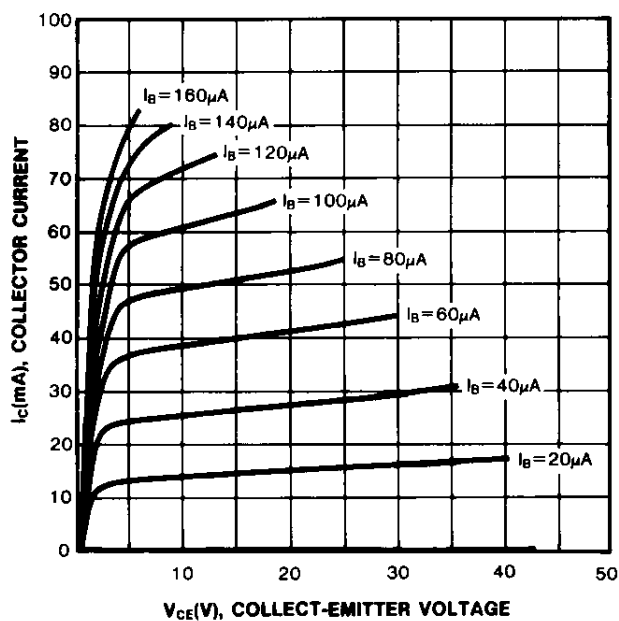
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 100\mu\text{A}$, $I_E = 0$	50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 1\text{mA}$, $I_B = 0$	45			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = 100\mu\text{A}$, $I_C = 0$	5			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 50\text{V}$, $I_E = 0$			50	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$			50	nA
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}$, $I_C = 1\text{mA}$	60	280	1000	
Collector-Base Saturation Voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}$, $I_B = 5\text{mA}$		0.14	0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}$, $I_B = 5\text{mA}$		0.84	1.0	V
Base-Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 5\text{V}$, $I_C = 2\text{mA}$	0.58	0.63	0.7	V
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $I_E = 0$ $f = 1\text{MHz}$		2.2	3.5	pF
Current Gain-Bandwidth Product	f_T	$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$	150	270		MHz
Noise Figure	NF	$V_{CE} = 5\text{V}$, $I_C = 0.2\text{mA}$ $f = 1\text{KHz}$, $R_s = 2\text{K}\Omega$		0.9	10	dB

h_{FE} CLASSIFICATION

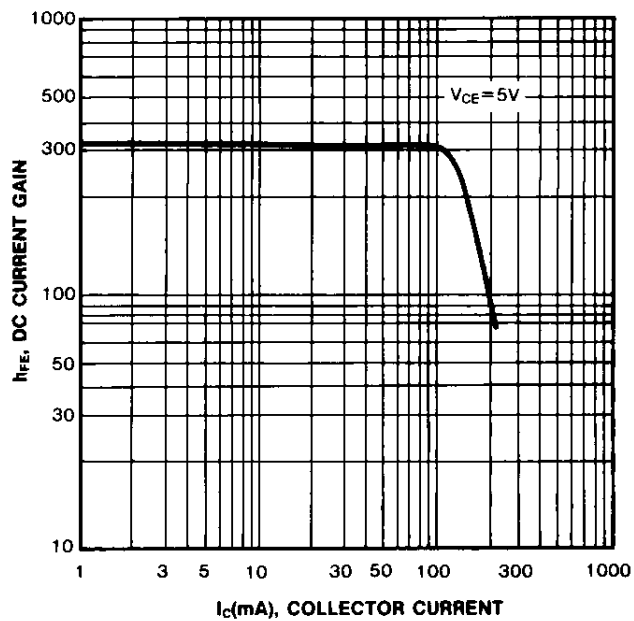
Classification	A	B	C	D
h_{FE}	60-150	100-300	200-600	400-1000



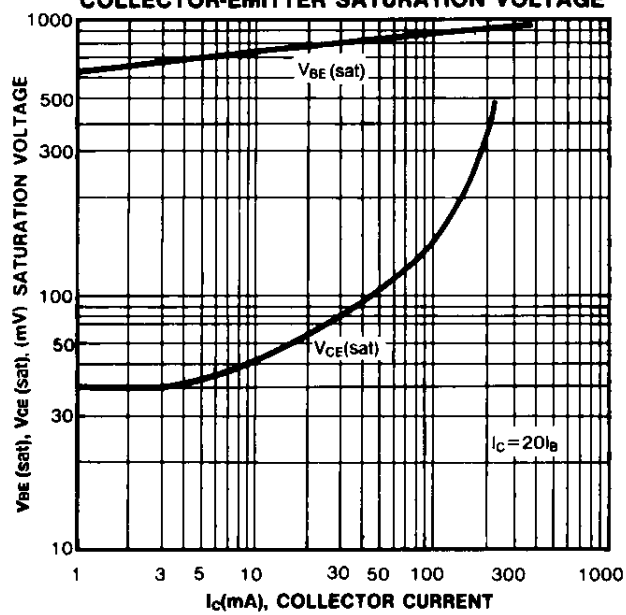
STATIC CHARACTERISTIC



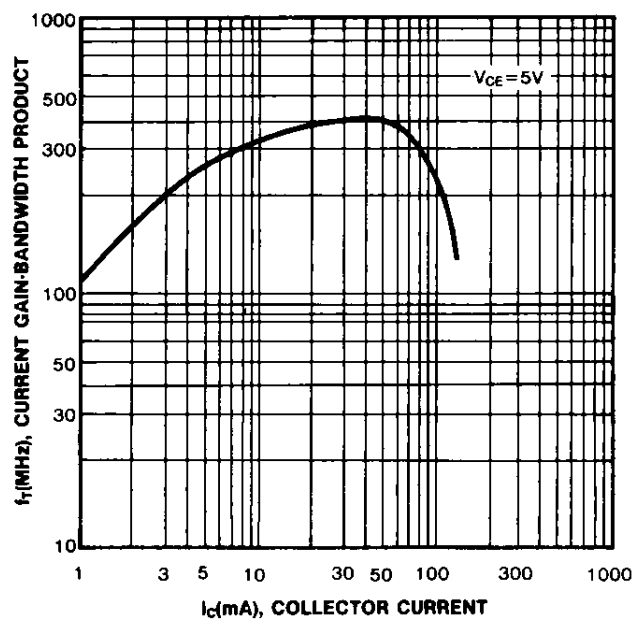
DC CURRENT GAIN



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



CURRENT GAIN-BANDWIDTH PRODUCT



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