

Transistors

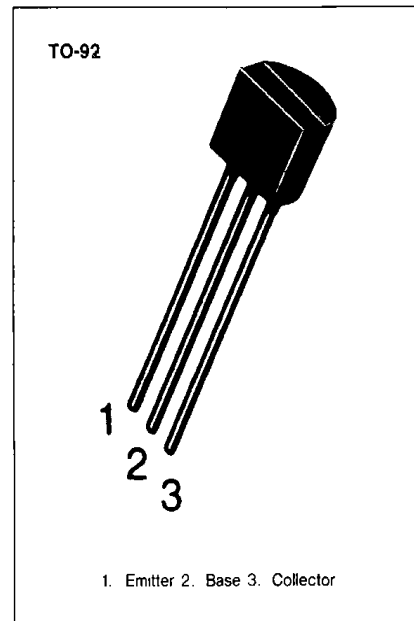
2SC1009

HIGH VOLTAGE AMPLIFIER

- High Collector-Base Voltage $V_{CBO} = 160V$
- Collector Current $I_C = 700mA$
- Collector Dissipation $P_C = 800mW$
- Complement to KSA709

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	160	V
Collector-Emitter Voltage	V_{CEO}	140	V
Emitter-Base Voltage	V_{EBO}	8	V
Collector Current	I_C	700	mA
Collector Dissipation	P_C	800	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ C$



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

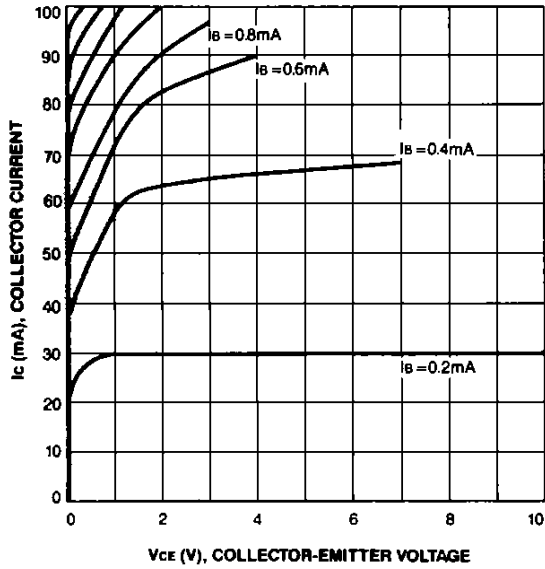
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	160			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 10mA, I_B = 0$	140			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = 10\mu A, I_C = 0$	8			V
Collector Cut-off Current (Continuous)	I_{CBO}	$V_{CB} = 60V, I_E = 0$			0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 2V, I_C = 50mA$	40		400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 200mA, I_B = 20mA$		0.2	0.7	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 200mA, I_B = 20mA$		0.86	1.0	V
Current Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 50mA$	30	50		MHz
Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0$ $f = 1MHz$		8		pF

h_{FE} CLASSIFICATION

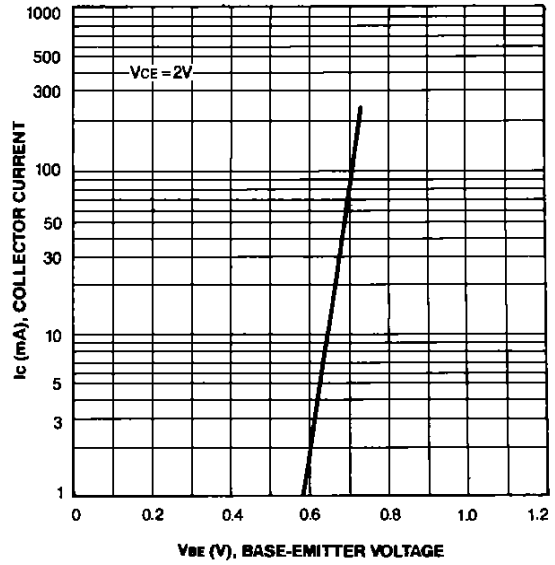
Classification	R	O	Y	G
h_{FE}	40-80	70-140	120-240	200-400



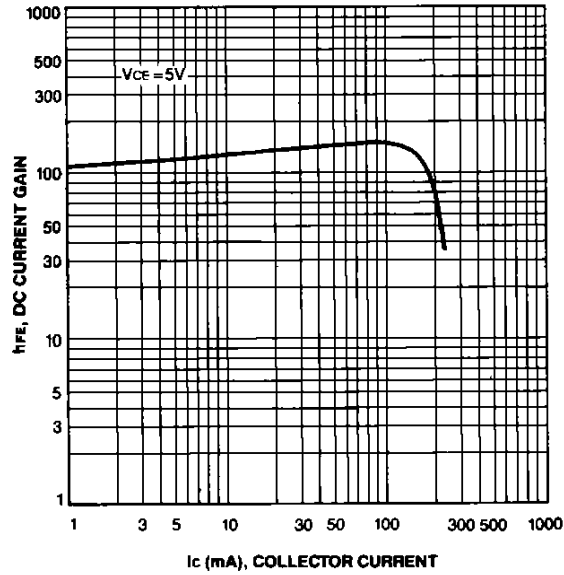
STATIC CHARACTERISTIC



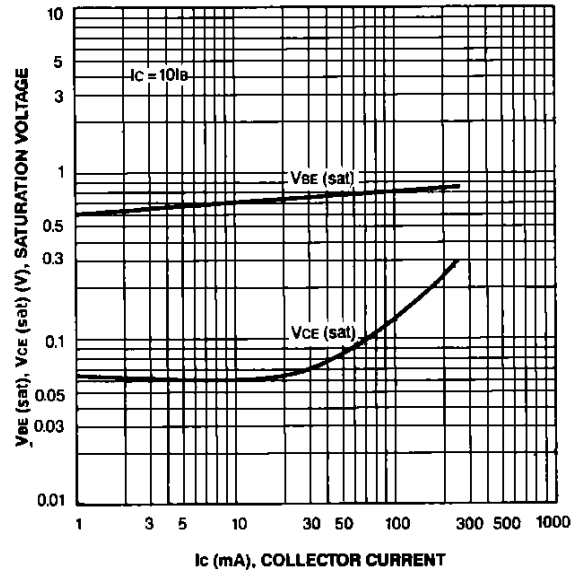
BASE-EMITTER ON VOLTAGE



DC CURRENT GAIN



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



COLLECTOR OUTPUT CAPACITANCE

