

Transistors

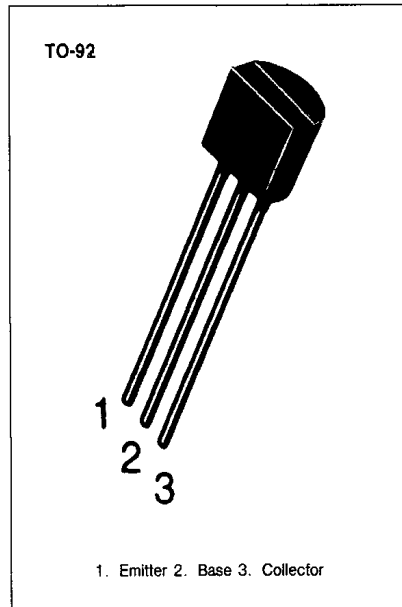
2SC815

LOW FREQUENCY AMPLIFIER HIGH FREQUENCY OSCILLATOR

- Complement to KSA539
- Collector-Base Voltage $V_{CBO} = 60V$

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	200	mA
Collector Dissipation	P_C	400	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ C$



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

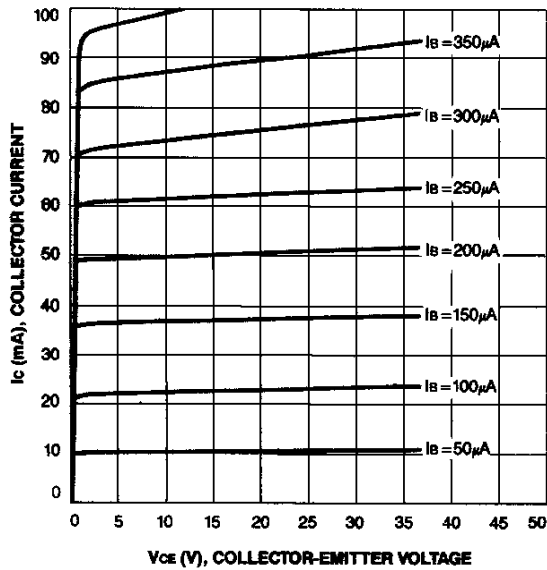
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	60			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 10mA, I_B = 0$	45			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = 10\mu A, I_C = 0$	5			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 45V, I_E = 0$			0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 3V, I_C = 0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 1V, I_C = 50mA$	40		400	
Base-Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 10V, I_C = 10mA$	0.6	0.65	0.9	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 150mA, I_B = 15mA$		0.15	0.4	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 150mA, I_B = 15mA$		0.83	1.1	V
Current Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 10mA$	100	200		MHz
Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0$ $f = 1MHz$		4		pF

h_{FE} CLASSIFICATION

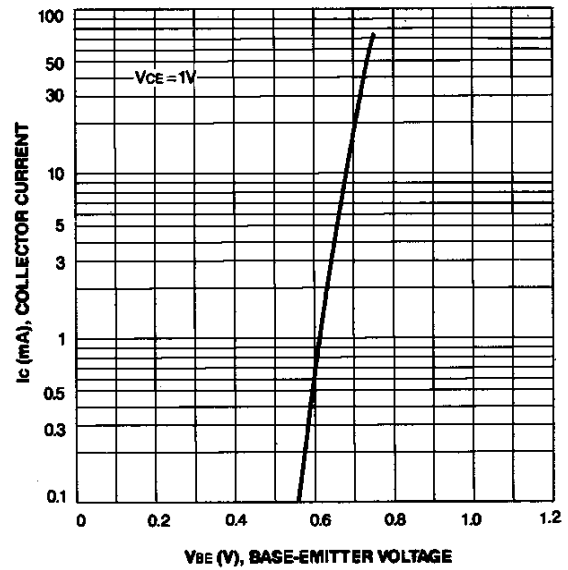
Classification	R	O	Y	G
h_{FE}	40-80	70-140	120-240	200-400



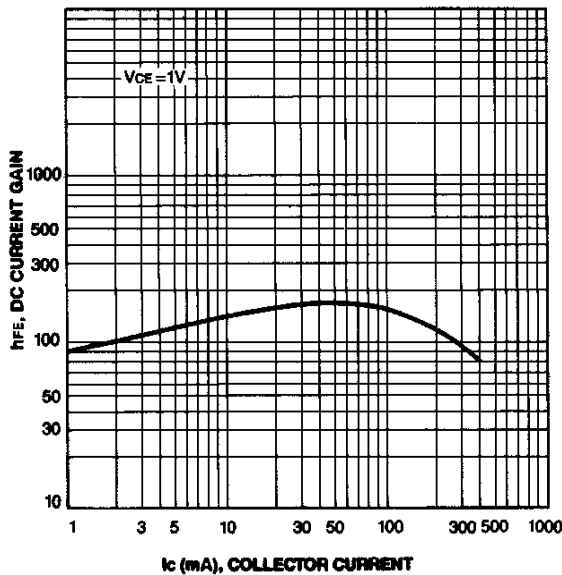
STATIC CHARACTERISTIC



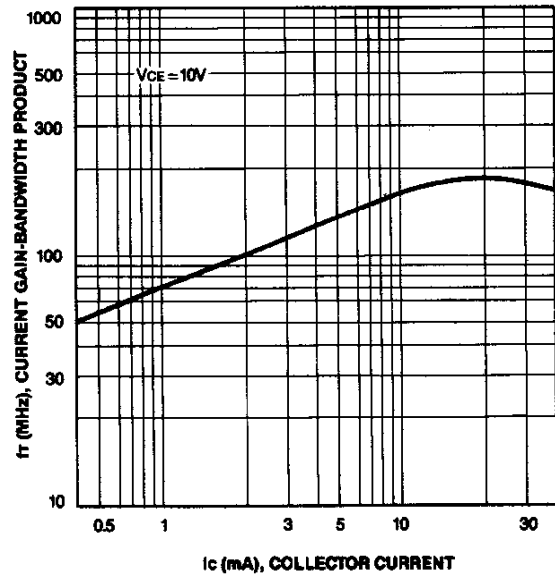
BASE-EMITTER ON VOLTAGE



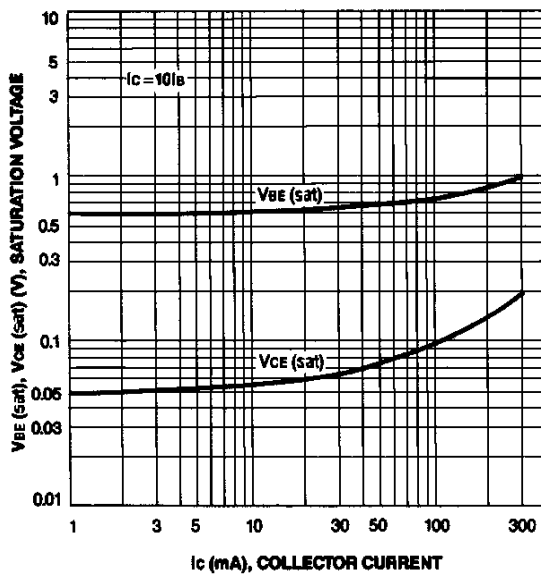
DC CURRENT GAIN



CURRENT GAIN-BANDWIDTH PRODUCT



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



COLLECTOR OUTPUT CAPACITANCE

