

Transistors

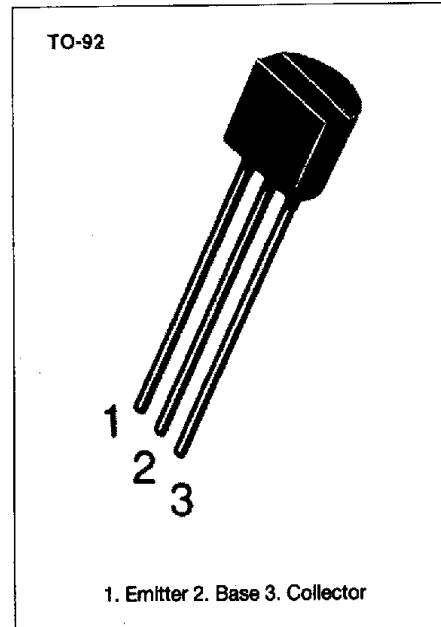
2SA1015

LOW FREQUENCY AMPLIFIER

• Collector-Base Voltage $V_{cbo} = -50V$

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

Characteristic	Symbol	Rating	Unit
Collector Base Voltage	V_{CBO}	-50	V
Collector Emitter Voltage	V_{CEO}	-50	V
Emitter Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-150	mA
Base Current	I_B	-50	mA
Collector Dissipation	P_C	400	mW
Junction Temperature	T_J	125	$^\circ C$
Storage Temperature	T_{STG}	-65~150	$^\circ C$



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

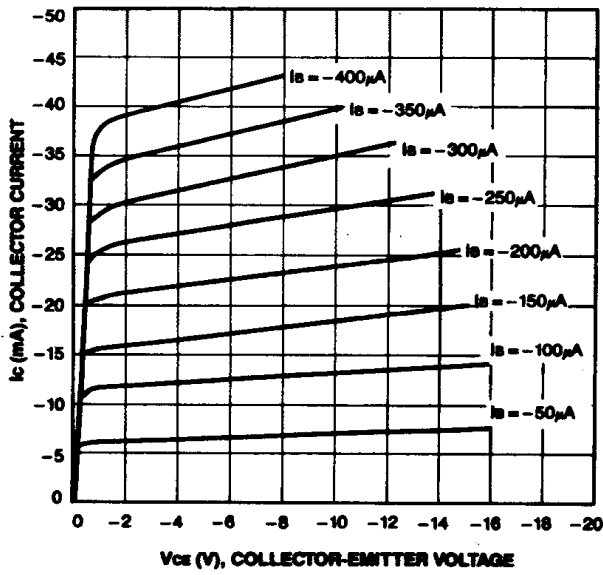
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -100\mu A, I_E = 0$	-50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -10mA, I_B = 0$	-50			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -10\mu A, I_C = 0$	-5			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -50V, I_E = 0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -5V, I_C = 0$			-0.1	μA
DC Current Gain	h_{FE1}	$V_{CE} = -6V, I_C = -2mA$	70		400	
	h_{FE2}	$V_{CE} = -6V, I_C = -150mA$	25			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -10mA$		-0.1	-0.3	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -100mA, I_B = -10mA$			-1.1	V
Current-Gain Bandwidth Product	f_T	$V_{CE} = -10V, I_C = 1mA$	80			MHz
Output Capacitance	C_{OB}	$V_{CB} = 10V, I_E = 0, f = 1MHz$		4	7	pF
Noise Figure	NF	$V_{CE} = -6V, I_C = -0.1mA$ $f = 100Hz, R_G = 10K\Omega$		0.5	6	dB

$h_{FE}(1)$ CLASSIFICATION

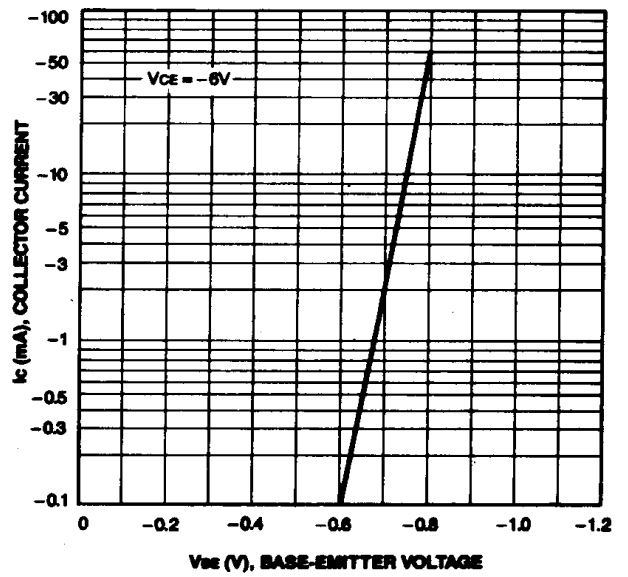
Classification	O	Y	G
h_{FE}	70~140	120~240	200~400



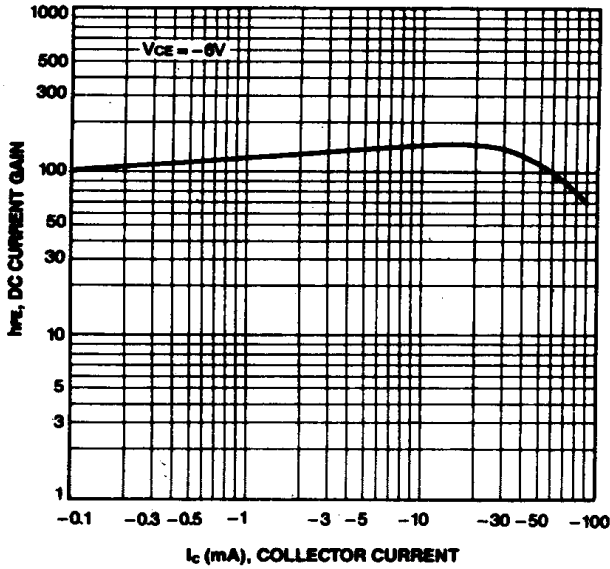
STATIC CHARACTERISTIC



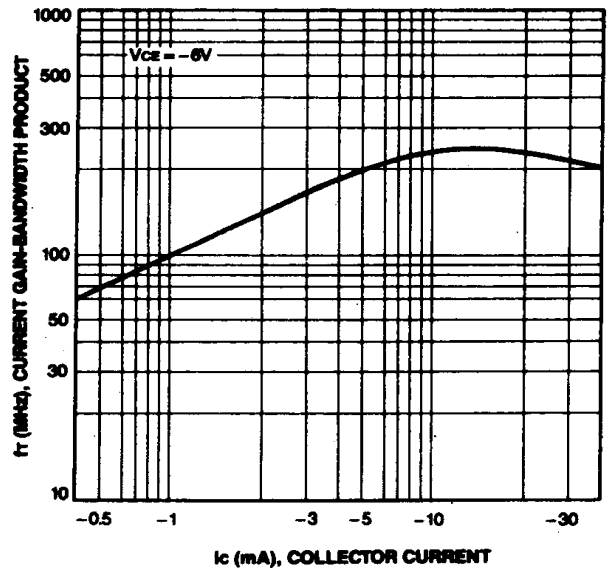
BASE-EMITTER ON VOLTAGE



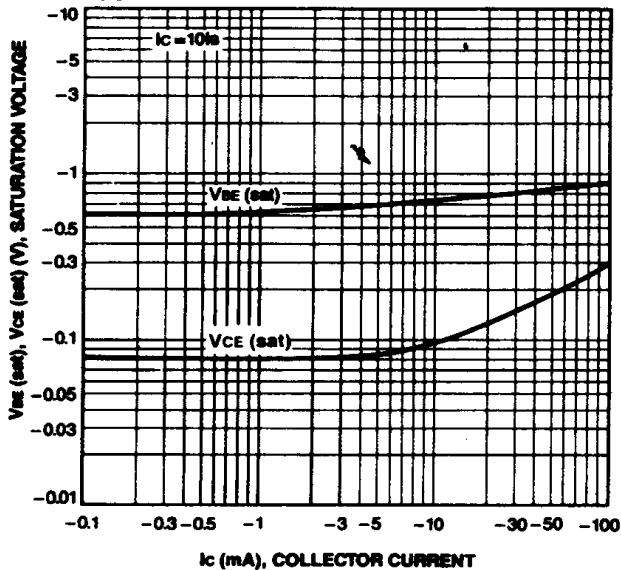
DC CURRENT GAIN



CURRENT GAIN-BANDWIDTH PRODUCT



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



COLLECTOR OUTPUT CAPACITANCE

