

Transistors

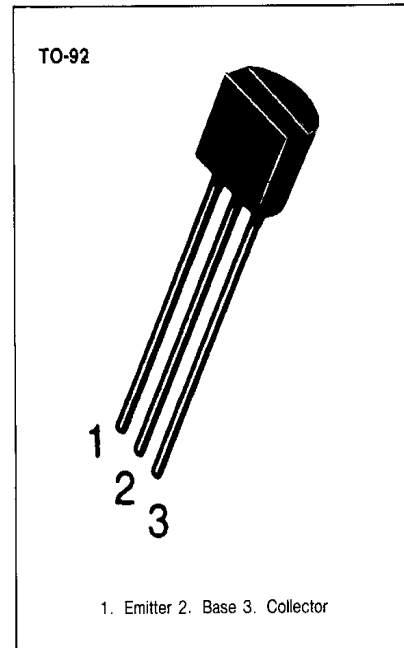
2SA539

LOW FREQUENCY AMPLIFIER

- Collector-Base Voltage $V_{CBO} = -60V$
- Collector Dissipation $P_C = 400mW$

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 ($T_a = 25^\circ C$)

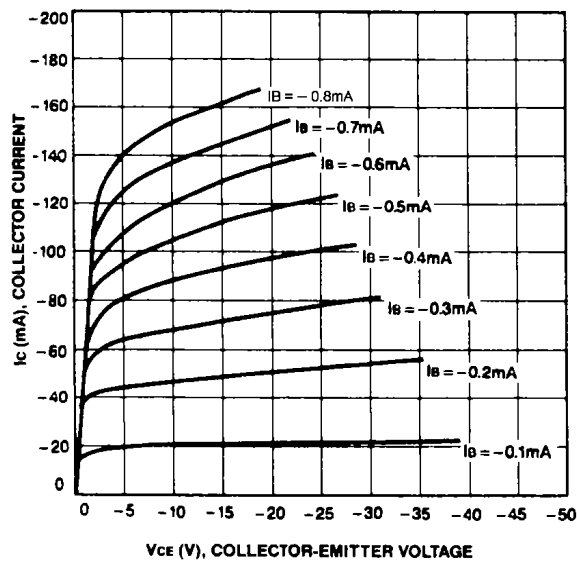
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -100\mu A, I_E = 0$	-60			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -10mA, I_B = 0$	-45			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -10\mu A, I_C = 0$	-5			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -45V, I_E = 0$			-100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -3V, I_C = 0$			-100	nA
DC Current Gain	h_{FE}	$V_{CE} = -1V, I_C = -50mA$	40		240	
Base-Emitter On Voltage	$V_{BE} (on)$	$V_{CE} = -1V, I_C = -10mA$	-0.60	-0.65	-0.90	V
Collector-Emitter Saturation Voltage	$V_{CE} (sat)$	$I_C = -150mA, I_B = -15mA$		-0.25	-0.5	V
Base-Emitter Saturation Voltage	$V_{BE} (sat)$	$I_C = -150mA, I_B = -15mA$		-0.9	-1.2	V

h_{FE} CLASSIFICATION

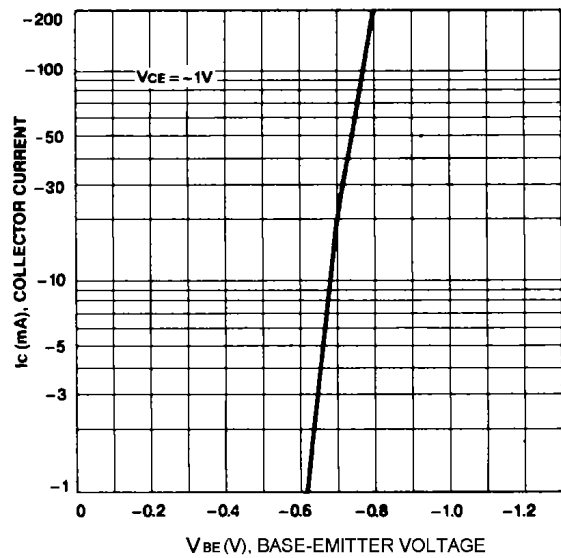
Classification	R	O	Y
h_{FE}	40-80	70-140	120-240



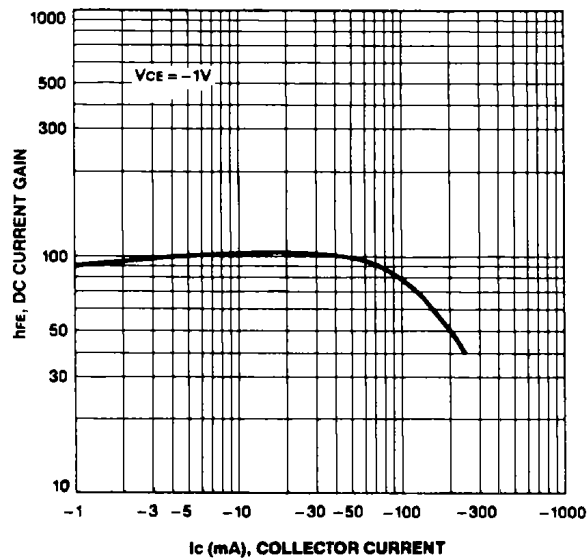
STATIC CHARACTERISTIC



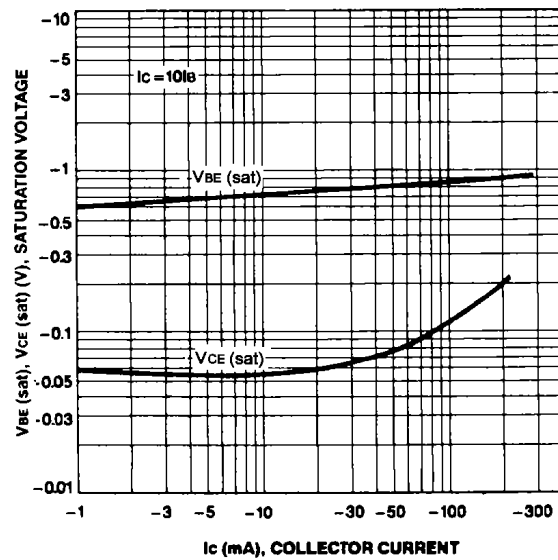
BASE-EMITTER ON VOLTAGE



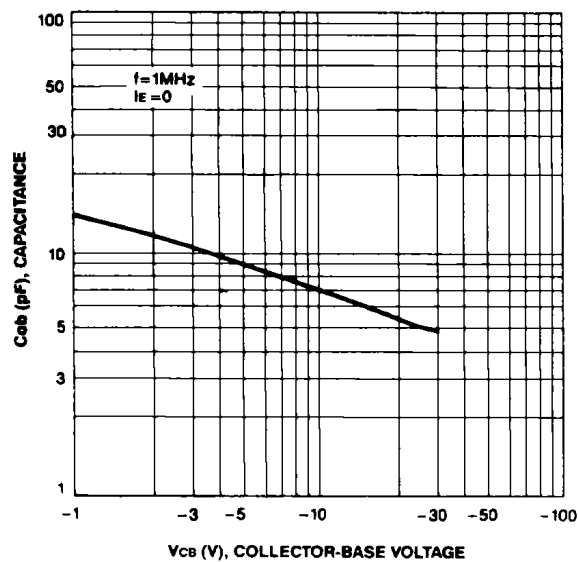
DC CURRENT GAIN



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



COLLECTOR OUTPUT CAPACITANCE



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