

KSC900

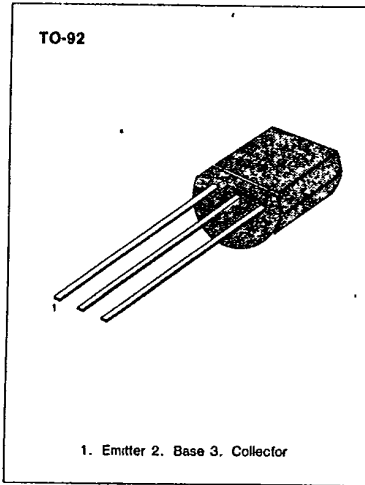
NPN EPITAXIAL SILICON TRANSISTOR

LOW FREQUENCY, LOW NOISE AMPLIFIER

- Collector-Base Voltage $V_{CBO} = 30V$
- Low Noise Level $NL = 50mV$ (Max)

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	50	mA
Collector Dissipation	P_C	250	mW
Junction Temperature	TJ	150	$^\circ C$
Storage Temperature	Tstg	-55 ~ 150	$^\circ C$



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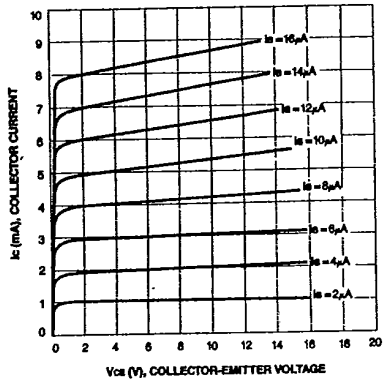
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	30			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 10mA, I_B = 0$	25			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = 10\mu A, I_C = 0$	5			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 25V, I_E = 0$			50	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 3V, I_C = 0$			100	nA
DC Current Gain	h_{FE}	$V_{CE} = 3V, I_C = 0.5mA$	120		1000	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 20mA, I_B = 2mA$		0.1	0.2	V
Base-Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 3V, I_C = 0.5mA$		0.62	0.7	V
Current Gain-Bandwidth Product	f_T	$V_{CE} = 3V, I_C = 1mA$		100		MHz
Noise Level	NL	$V_{CC} = 12V, I_C = 0.1mA$ $R_S = 25K\Omega$ $A_v = 80dB, (f = 1KHz)$		30	50	mV

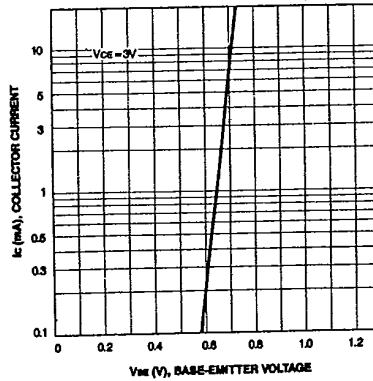
h_{FE} CLASSIFICATION

Classification	Y	G	L	V
h_{FE}	120-240	200-400	350-700	600-1000

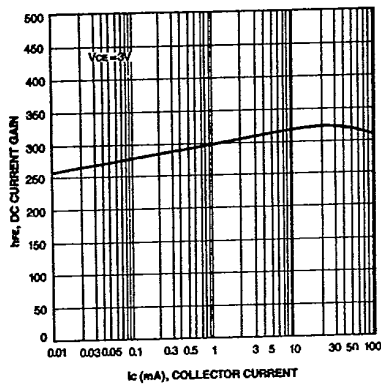
STATIC CHARACTERISTIC



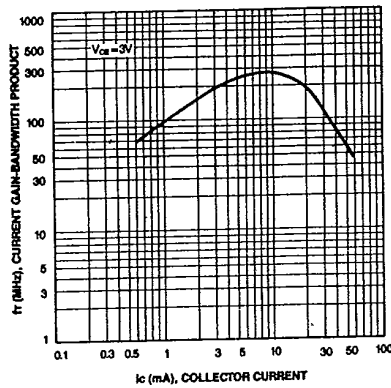
BASE-EMITTER ON VOLTAGE



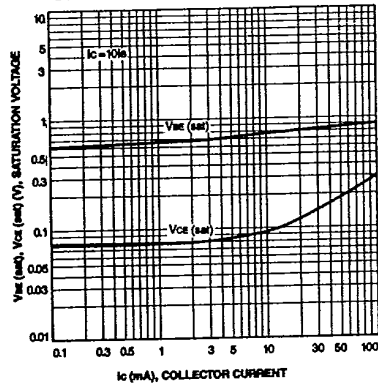
DC CURRENT GAIN



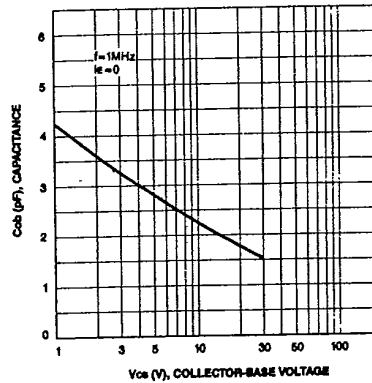
CURRENT GAIN-BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



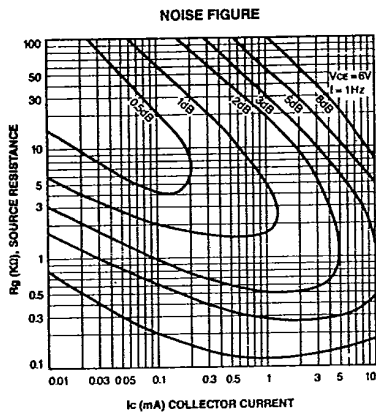
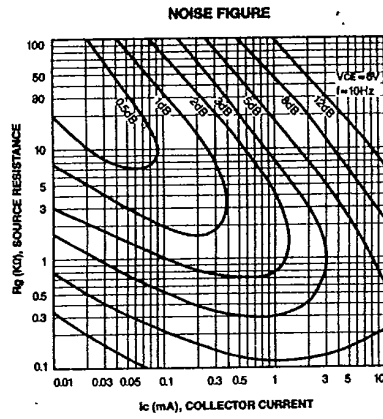
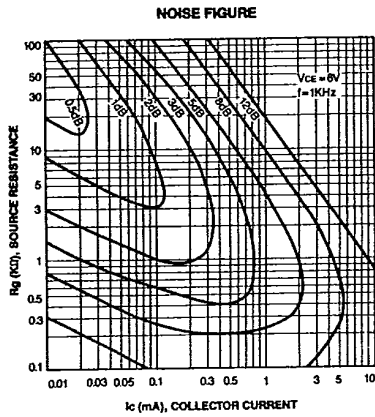
COLLECTOR OUTPUT CAPACITANCE



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T-29-17



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