KSC1222 NPN EPITAXIAL SILICON TRANSISTOR

LOW FREQUENCY LOW NOISE AMPLIFIER

- Collector-Base Voltage V_{CBO}=50V
- Low Noise Level NL=40mV (Max)

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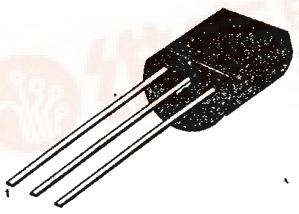

1. Emitter 2. Base 3. Collector

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	50	mA
Collector Dissipation	P_C	250	mW
Junction Temperature	TJ	150	°C
Storage Temperature	Tstg	−55~150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=100μA, I_E=0	50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=10mA, I_B=0	45			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=−10μA, I_C=0	5			V
Collector Cut-off Current	I_{CBO}	V_{CB}=50V, I_E=0			50	nA
Emitter Cut-off Current	I_{EBO}	V_{EB}=5V, 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	50	100		MHz
Noise Level	NL	V_{CE}=12V, I_E=−0.1mA R_S=25KΩ A_V=80dB, (f=1KHz)		27	40	mV

h_{FE} CLASSIFICATION

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

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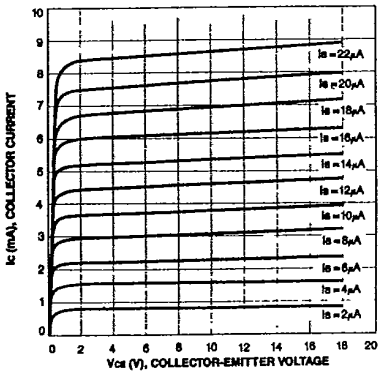
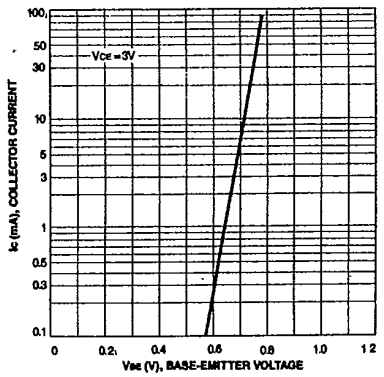
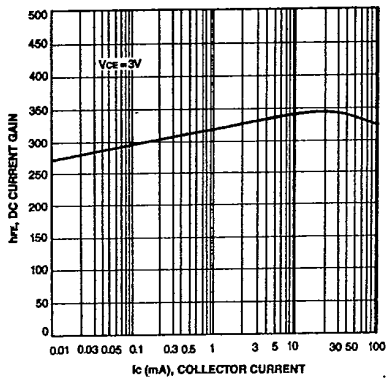
STATIC CHARACTERISTIC



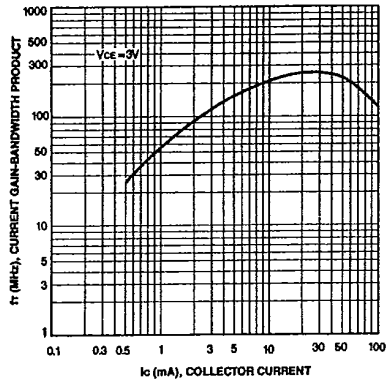
BASE-EMITTER ON VOLTAGE



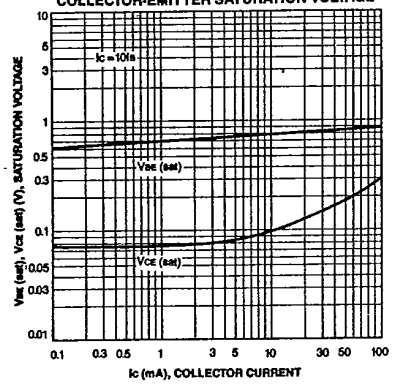
DC CURRENT GAIN



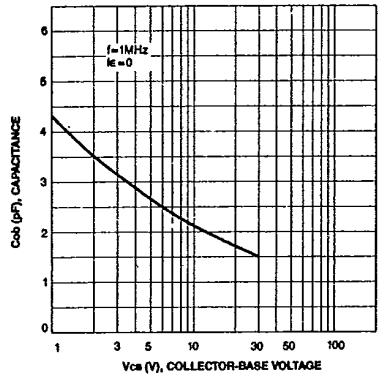
CURRENT GAIN-BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



OUTPUT CAPACITANCE



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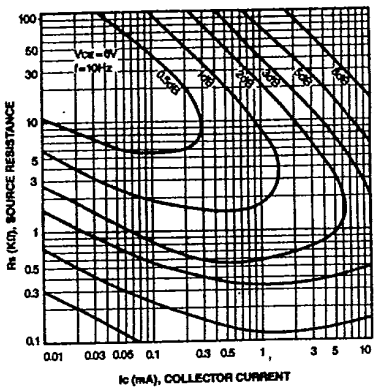
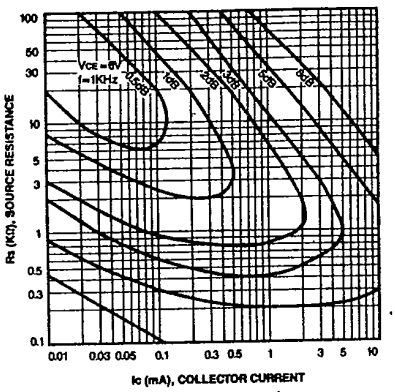
NOISE FIGURE



NOISE FIGURE



NOISE FIGURE