

KSC2223**NPN EPITAXIAL SILICON TRANSISTOR****HIGH FREQUENCY AMPLIFIER**

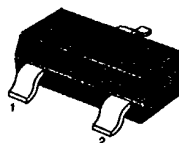
Very small size to assure good space factor in hybrid IC applications

- $f_T = 800\text{MHz}$ Typ. ($I_E = -1\text{mA}$)
- $C_{ob} = 1\text{pF}$ Typ ($V_{CE} = 6\text{V}$)
- $NF = 3\text{dB}$ Typ ($f = 100\text{MHz}$)

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	30	V
Collector-Emitter Voltage	V_{CE0}	20	V
Emitter-Base Voltage	V_{EB0}	4	V
Collector Current	I_C	20	mA
Collector Dissipation	P_C	150	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ\text{C}$

SOT-23



1. Base 2. Emitter 3. Collector

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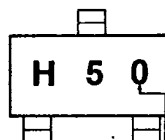
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 30\text{V}$, $I_E = 0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 6\text{V}$, $I_C = 1\text{mA}$	40	90	180	
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$		0.1	0.3	V
Output Capacitance	C_{ob}	$V_{CB} = 6\text{V}$, $I_E = 0$, $f = 1\text{MHz}$		1		pF
Current Gain Bandwidth Product	f_T	$V_{CE} = 6\text{V}$, $I_C = -1\text{mA}$	400	600		MHz
Time Constant	$C_c \cdot r_{bb'}$	$V_{CB} = 6\text{V}$, $I_E = -1\text{mA}$ $f = 31.9\text{MHz}$		12		ps
Noise Figure	NF	$V_{CE} = 6\text{V}$, $I_E = -1\text{mA}$ $f = 100\text{MHz}$, $R_s = 50\Omega$		3		dB

 h_{FE} CLASSIFICATION

Classification	R	O	Y
h_{FE}	40-80	80-120	90-180

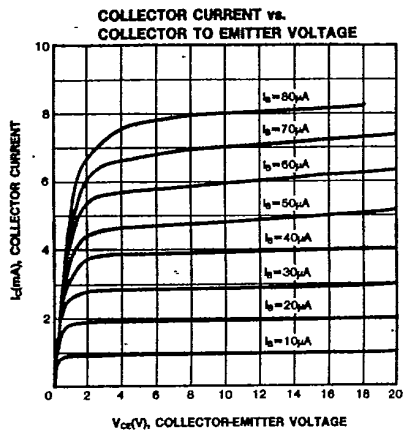
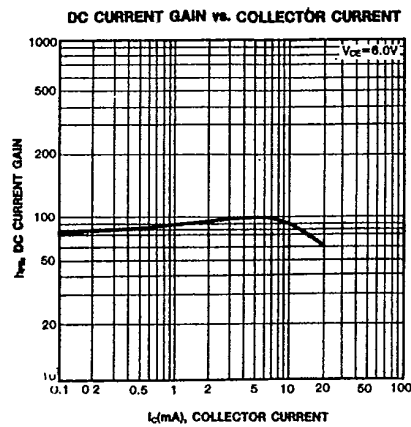
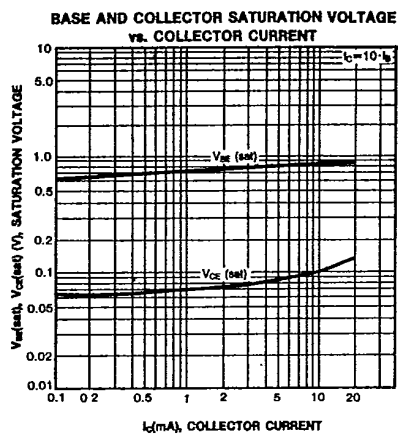
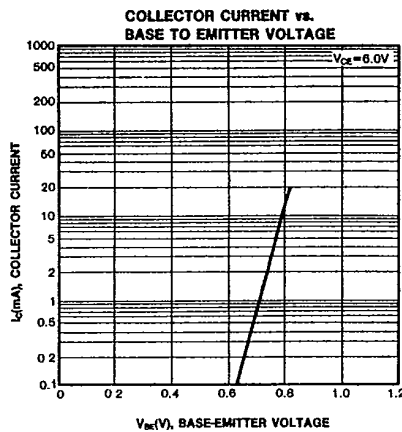
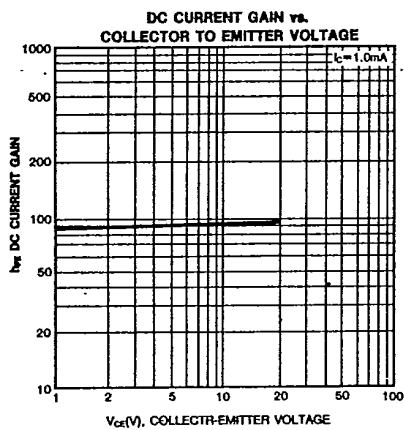
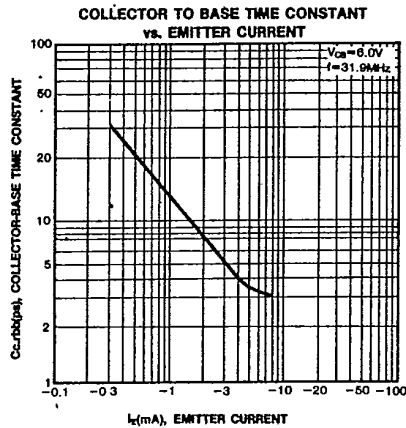
Marking

 h_{FE} grade

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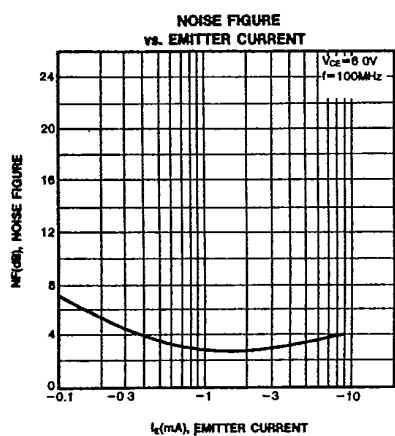
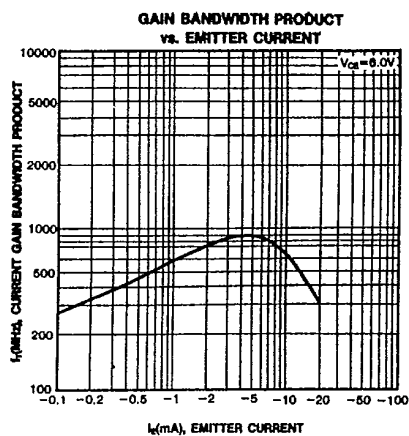
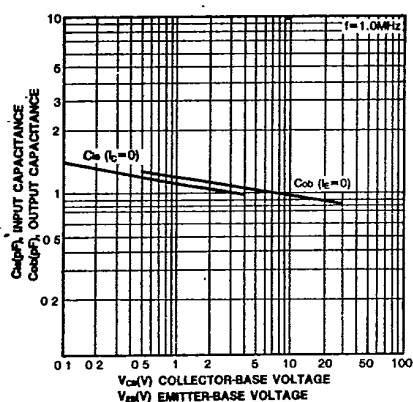
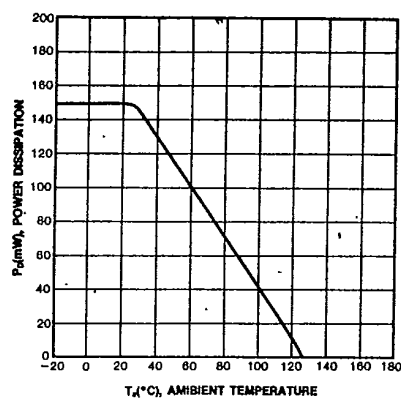
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