

**KSC2734**

**NPN EPITAXIAL SILICON TRANSISTOR**

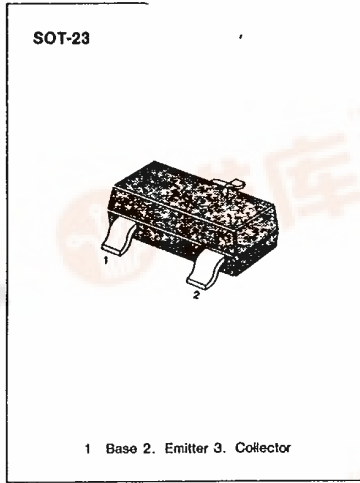
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**MIXER, OSC. FOR UHF TV TUNER**

High  $f_T$ : 3.5GHz (TYP)

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

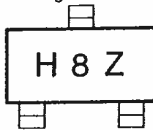
Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CB0}$	20	V
Collector-Emitter Voltage	$V_{CE0}$	12	V
Emitter-Base Voltage	$V_{EB0}$	3	V
Collector Current (DC)	$I_C$	50	mA
Collector Dissipation	$P_C$	150	mW
Junction Temperature	$T_J$	125	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55~125	$^\circ\text{C}$



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

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CB0}$	$I_C = 10\mu\text{A}, I_E = 0$	20			V
Collector-Emitter Breakdown Voltage	$BV_{CE0}$	$I_C = 1\text{mA}, R_{BE} = \infty$	12			V
Emitter-Base Breakdown Voltage	$BV_{EB0}$	$I_E = 10\mu\text{A}, I_C = 0$	3			V
Collector Cutoff Current	$I_{CB0}$	$V_{CB} = 15\text{V}, I_E = 0$			700	nA
DC Current Gain	$h_{FE}$	$V_{CE} = 10\text{V}, I_C = 5\text{mA}$	20	90	200	
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 5\text{mA}$			0.7	V
Current Gain Bandwidth Product	$f_T$	$V_{CE} = 10\text{V}, I_C = 10\text{mA}$	1.4	3.5		GHz
Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$		0.9	1.5	pF

Marking

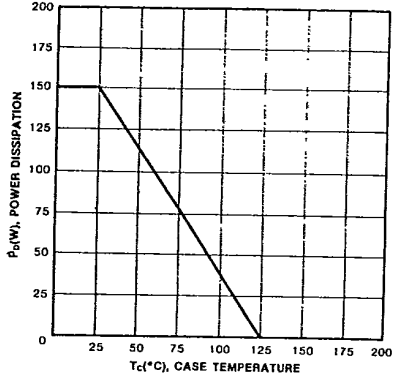


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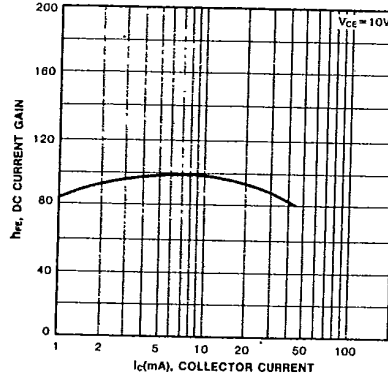


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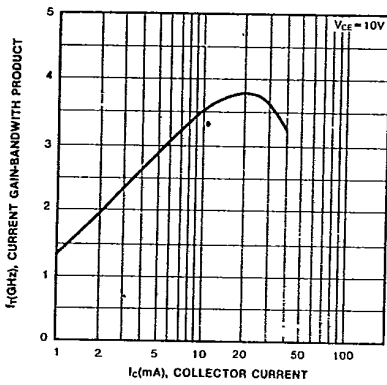
POWER DERATING



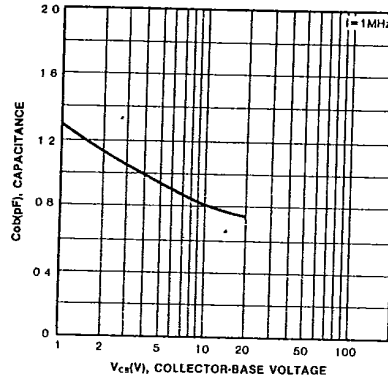
DC CURRENT GAIN



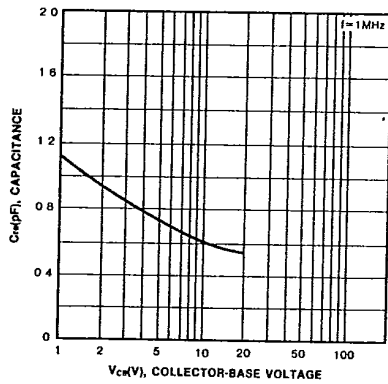
CURRENT GAIN BANDWIDTH PRODUCT



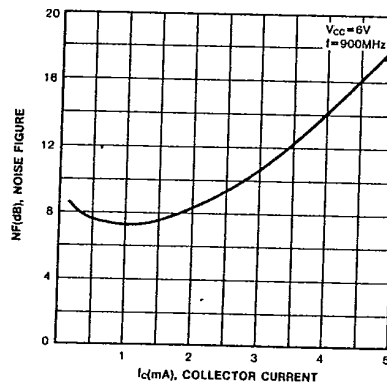
COLLECTOR OUTPUT CAPACITANCE



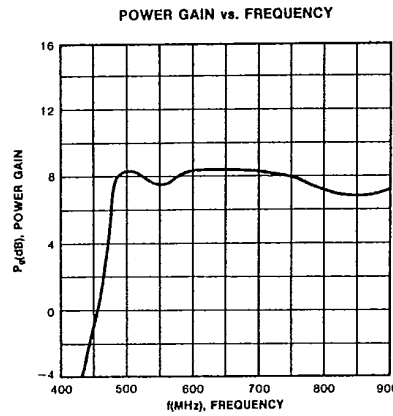
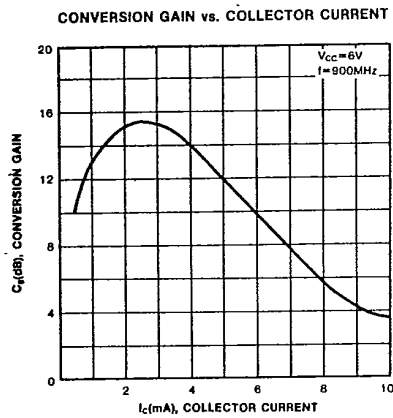
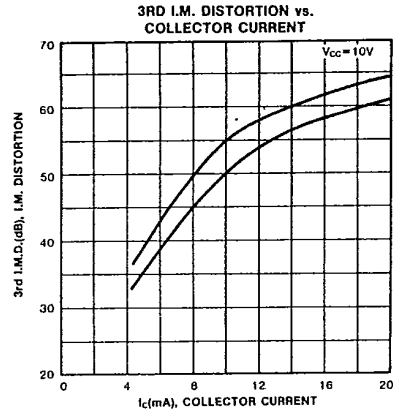
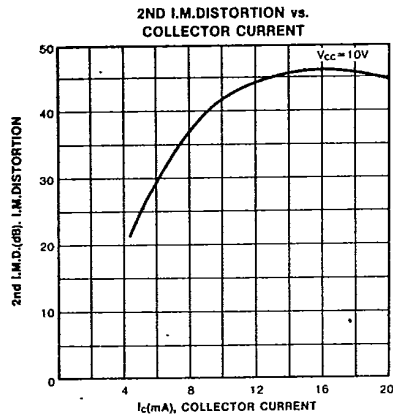
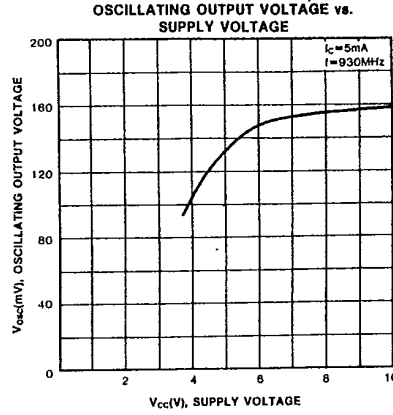
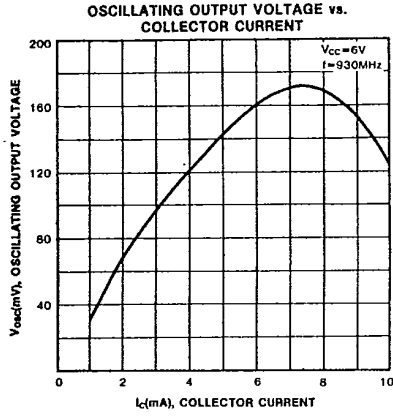
REVERSE TRANSFER CAPACITANCE



NOISE FIGURE vs. COLLECTOR CURRENT



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