

**KSR2203****PNP EPITAXIAL SILICON TRANSISTOR**

T-37-13

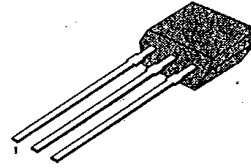
**SWITCHING APPLICATION (Bias Resistor Built In)**

- Switching circuit, Inverter, Interface circuit Driver circuit
- Built in bias Resistor ( $R = 22K\Omega$ ,  $R_1 = 22K\Omega$ )
- Complement to KSR1203

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CB0}$	-50	V
Collector-Emitter Voltage	$V_{CE0}$	-50	V
Emitter-Base Voltage	$V_{EB0}$	-10	V
Collector Current	$I_C$	-100	mA
Collector Dissipation	$P_C$	300	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$

TO-92S

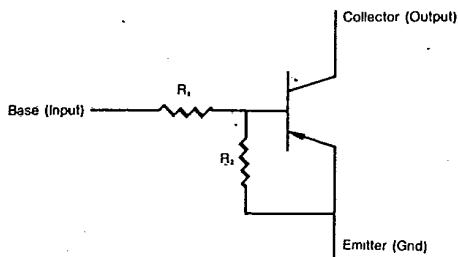


1. Emitter 2. Collector 3. Base

3

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

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CB0}$	$I_C = -10\mu\text{A}$ , $I_E = 0$	-50			V
Collector-Emitter Breakdown Voltage	$BV_{CE0}$	$I_C = -100\mu\text{A}$ , $I_B = 0$	-50			V
Collector Cutoff Current	$I_{CB0}$	$V_{CB} = -40\text{V}$ , $I_E = 0$			-0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = -5\text{V}$ , $I_C = -5\text{mA}$	56			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -10\text{mA}$ , $I_B = -0.5\text{mA}$			-0.3	V
Current Gain-Bandwidth Product	$f_T$	$V_{CE} = -5\text{mA}$ , $I_C = -10\text{V}$		200		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = -10\text{V}$ , $I_E = 0$ $f = 1.0\text{MHz}$		5.5		pF
Input Off Voltage	$V_I(\text{off})$	$V_{CE} = -5\text{V}$ , $I_C = -100\mu\text{A}$	-0.5			V
Input On Voltage	$V_I(\text{on})$	$V_{CE} = -0.2\text{V}$ , $I_C = -5\text{mA}$			-3.0	V
Input Resistor	$R_1$		15	22	29	K $\Omega$
Resistor Ratio	$R_1/R_2$		0.9	1	1.1	

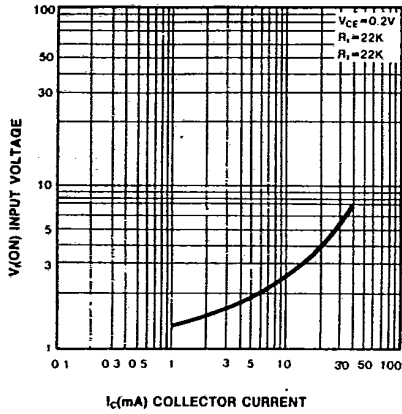
**Equivalent Circuit**

KSR2203

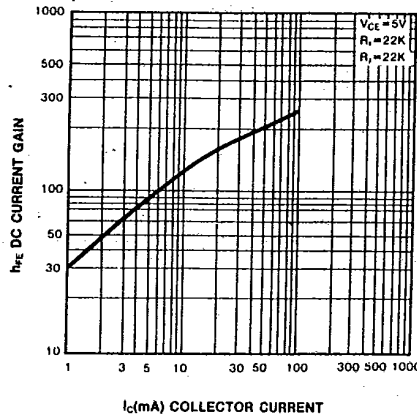
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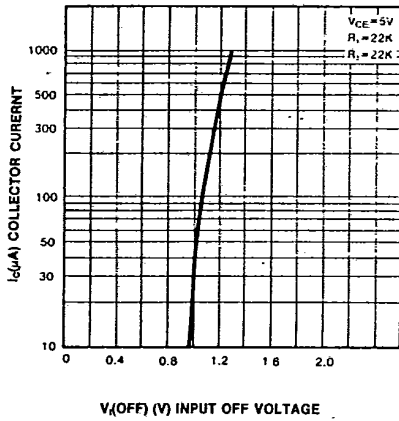
INPUT ON VOLTAGE



DC CURRENT GAIN



INPUT OFF VOLTAGE



POWER DERATING

