

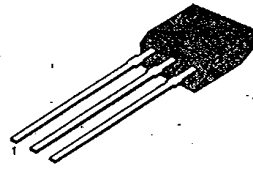
**KSR2204****PNP EPITAXIAL SILICON TRANSISTOR****SWITCHING APPLICATION (Bias Resistor Built In)**

- Switching circuit, Inverter, Interface circuit Driver circuit
- Built in bias Resistor ( $R_1=47K\Omega$ ,  $R_2=47K\Omega$ )
- Complement to KSR1204

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	-50	V
Collector-Emitter Voltage	$V_{CEO}$	-50	V
Emitter-Base Voltage	$V_{EBO}$	-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

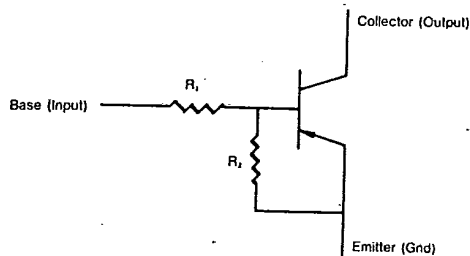


1. Emitter 2. Collector 3. Base

3

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

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=-10\mu\text{A}$ , $I_E=0$	-50			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=-100\mu\text{A}$ , $I_B=0$	-50			V
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=-40\text{V}$ , $I_E=0$			-0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=-5\text{V}$ , $I_C=-5\text{mA}$	68			
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	$V_i(\text{on})$	$V_{CE}=-0.3\text{V}$ , $I_C=-10\text{mA}$			-3	V
Input Resistor	$R_1$		32	47	62	$K\Omega$
Resistor Ratio	$R_1/R_2$		0.9	1	1.1	

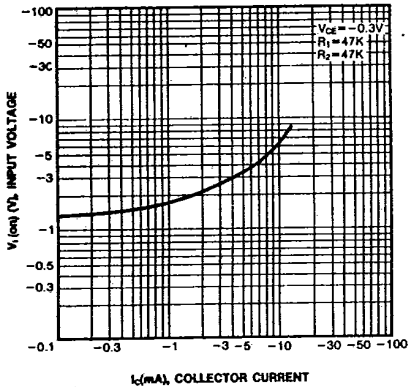
**Equivalent Circuit**

KSR2204

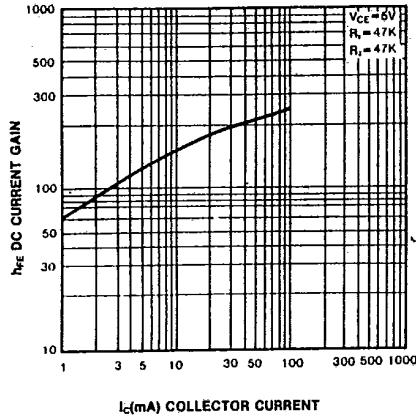
PNP EPITAXIAL SILICON TRANSISTOR

T-37-13

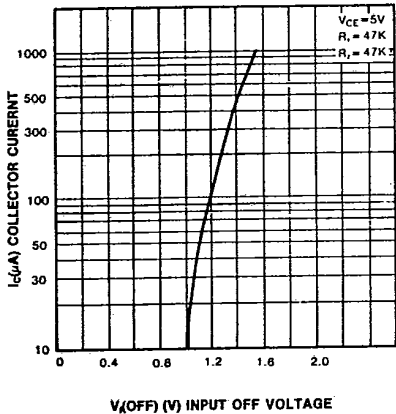
INPUT ON VOLTAGE



DC CURRENT GAIN



INPUT OFF VOLTAGE



POWER DERATING

