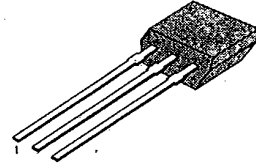


**KSR2209****PNP EPITAXIAL SILICON TRANSISTOR****SWITCHING APPLICATION (Bias Resistor Built In)**

- Switching Circuit, Inverter, Interface circuit  
Driver circuit
- Built in bias Resistor ( $R=4.7K\Omega$ )
- Complement to KSR1209

TO-92S



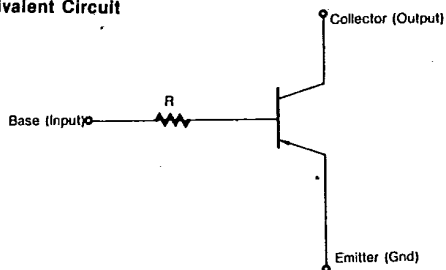
1. Emitter 2. Collector 3. Base

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CB0}$	-40	V
Collector-Emitter Voltage	$V_{CE0}$	-40	V
Emitter-Base Voltage	$V_{EB0}$	-5	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	$^\circ\text{C}$

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

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CB0}$	$I_c = -100\mu\text{A}, I_E = 0$	-40			V
Collector-Emitter Breakdown Voltage	$BV_{CE0}$	$I_c = -1\text{mA}, I_B = 0$	-40			V
Collector Cutoff Current	$I_{c0}$	$V_{CB} = -30\text{V}, I_E = 0$			-0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = -5\text{V}, I_c = -1\text{mA}$	100		600	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_c = -10\text{mA}, I_B = -1\text{mA}$			-0.3	V
Output Capacitance	$C_{ob}$	$V_{CB} = -10\text{V}, I_E = 0$ $f = 1\text{MHz}$		5.5		pF
Current Gain-Bandwidth Product	$f_T$	$V_{CE} = -10\text{V}, I_c = -5\text{mA}$		200		MHz
Input Resistor	$R_1$		3.2	4.7	6.2	$K\Omega$

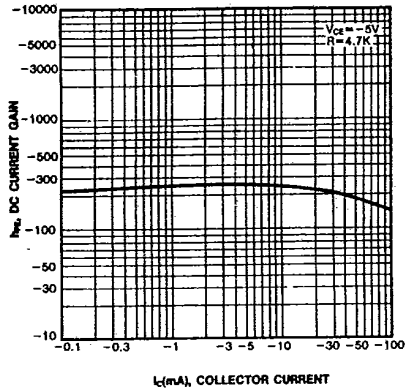
**Equivalent Circuit**

KSR2209

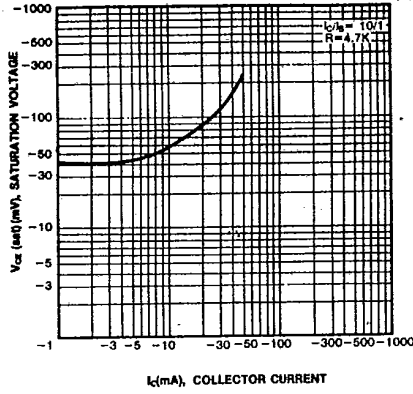
PNP EPITAXIAL SILICON TRANSISTOR

T-37-13

DC CURRENT GAIN



COLLECTOR-EMITTER SATURATION VOLTAGE



POWER DERATING

