

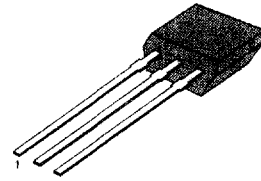
**SWITCHING APPLICATION (Bias Resistor Built In)**

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor ( $R_1 = 10k\Omega$ ,  $R_2 = 47k\Omega$ )
- Complement to KSR2206

**ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ C$ )**

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	$^\circ C$
Storage Temperature	$T_{STG}$	-55 ~ 150	$^\circ C$

TO-92S



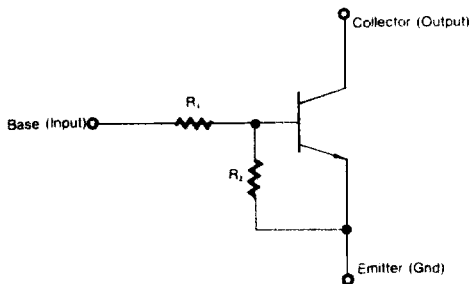
1. Emitter 2. Collector 3. Base

3

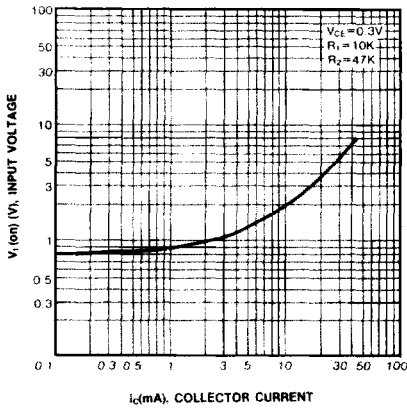
**ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ C$ )**

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C = 10\mu A, I_E = 0$	50			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = 100\mu A, I_B = 0$	50			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 40V, I_E = 0$			0.1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE} = 5V, I_C = 5mA$	68			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10mA, I_B = 0.5mA$			0.3	V
Output Capacitance	$C_{OB}$	$V_{CB} = 10V, I_E = 0$ $f = 1.0MHz$		3.7		pF
Current Gain-Bandwidth Product	$f_T$	$V_{CE} = 10mA, I_C = 5mA$		250		MHz
Input Off Voltage	$V_{I(off)}$	$V_{CE} = 5V, I_C = 100\mu A$	0.3			V
Input On Voltage	$V_{I(on)}$	$V_{CE} = 0.3V, I_C = 1A$			1.4	V
Input Resistor	$R_1$		7	10	13	$k\Omega$
Resistor Ratio	$R_1/R_2$		0.19	0.21	0.24	

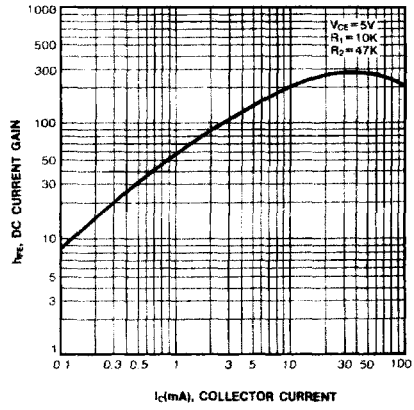
**Equivalent Circuit**



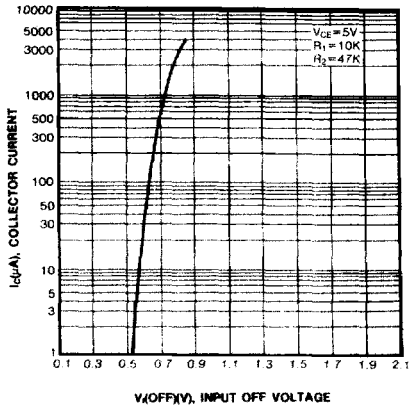
INPUT ON VOLTAGE



DC CURRENT GAIN



INPUT OFF VOLTAGE



POWER DERATING

