

SAMSUNG SEMICONDUCTOR INC. 14E D 7964142 0007089 0

**KSR2002 PNP EPITAXIAL SILICON TRANSISTOR**

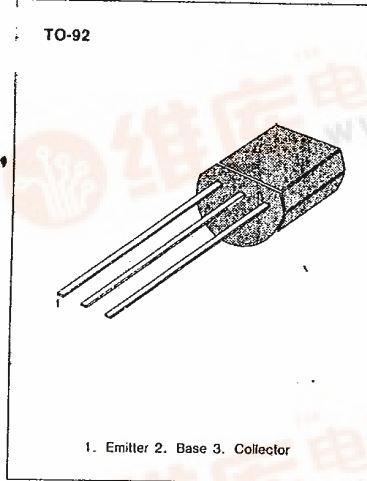
T-37-13

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

- Switching circuit, Inverter, Interface circuit Driver circuit
- Built in bias Resistor( $R_1 = 10K\Omega$ ,  $R_2 = 10K\Omega$ )
- Complement to KSR1002

**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	$^\circ C$

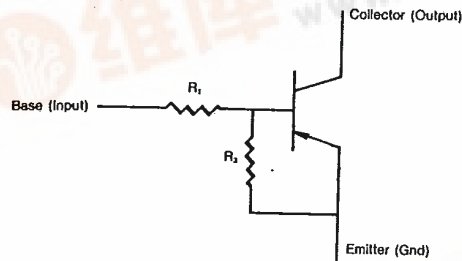


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**ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )**

Characteristic	Symbol	Test Condition	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 Cutoff Current	$I_{CBO}$	$V_{CB} = -40V, I_E = 0$			-0.1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE} = -5V, I_C = -5mA$	30			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -10mA, I_B = -0.5mA$			-0.3	V
Current Gain-Bandwidth Product	$f_T$	$V_{CE} = -5mA, I_C = -10V$		200		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0$ $f = 1.0MHz$		5.5		pF
Input Off Voltage	$V_{i(off)}$	$V_{CE} = -5V, I_C = -100\mu A$	-0.5			V
Input On Voltage	$V_{i(on)}$	$V_{CE} = -0.3V, I_C = -10mA$			-3	V
Input Resistor	$R_1$		7	10	13	$K\Omega$
Resistor Ratio	$R_1/R_2$		0.9	1	1.1	

**Equivalent Circuit**

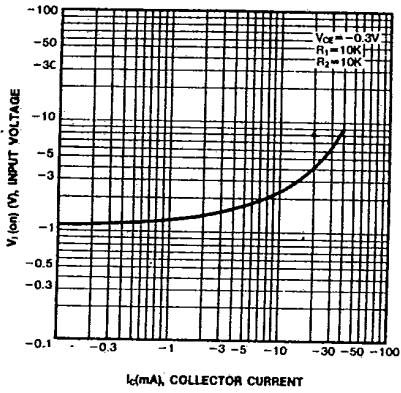


KSR2002

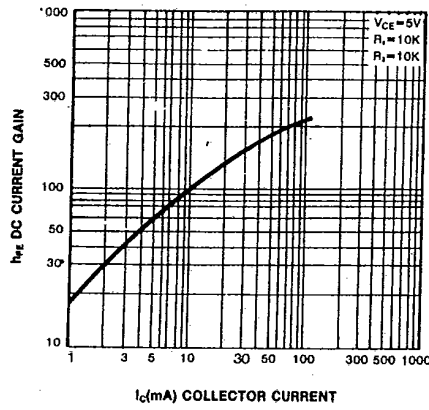
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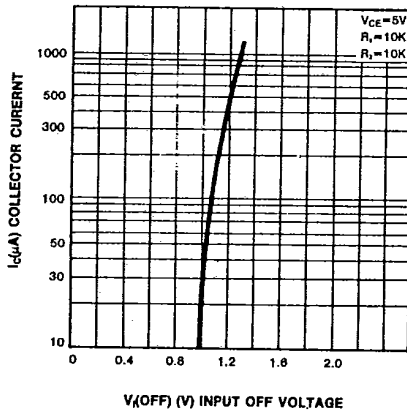
INPUT ON VOLTAGE



DC CURRENT GAIN



INPUT OFF VOLTAGE



POWER DERATING

