

KSR2005**PNP EPITAXIAL SILICON TRANSISTOR**

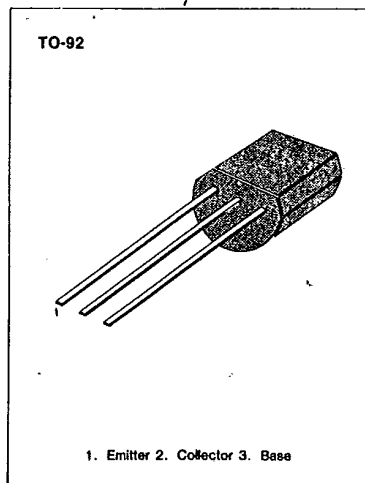
T-37-13

SWITCHING APPLICATION (Bias Resistor Built In)

- Switching Circuit, Inverter, Interface circuit
Driver circuit
- Built in bias Resistor ($R_1=4.7K\Omega$, $R_2=10K\Omega$)
- Complement to KSR1005

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

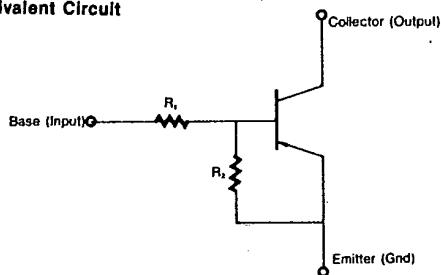
Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EB0}	-10	V
Collector Current	I_C	-100	mA
Collector Dissipation	P_C	300	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 - 150	$^\circ\text{C}$



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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	μA
DC Current Gain	h_{FE}	$V_{CE}=-5\text{V}$, $I_C=-5\text{mA}$	30			
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	Cob	$V_{CB}=-10\text{V}$, $I_E=0$ $f=1\text{MHz}$		5.5		pF
Current Gain-Bandwidth Product	f_T	$V_{CE}=-10\text{V}$, $I_C=-5\text{mA}$		200		MHz
Input Off Voltage	$V_i(\text{off})$	$V_{CE}=-5\text{V}$, $I_C=-100\mu\text{A}$	-0.3			V
Input On Voltage	$V_i(\text{on})$	$V_{CE}=-0.3\text{V}$, $I_C=-20\text{mA}$			-2.5	V
Input Resistor	R_1		3.2	4.7	6.2	$K\Omega$
Resistor Ratio	R_1/R_2		0.42	0.47	0.52	

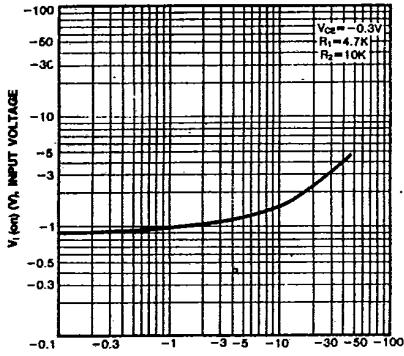
Equivalent Circuit

KSR2005

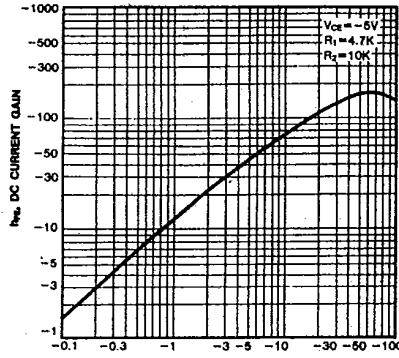
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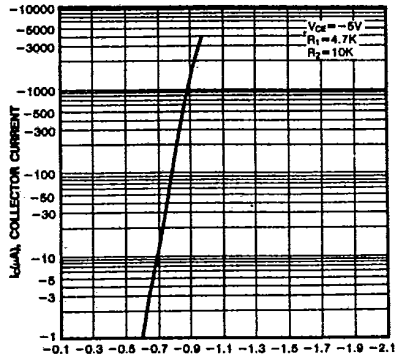
INPUT ON VOLTAGE



DC CURRENT GAIN



INPUT OFF VOLTAGE



POWER DERATING

