

SAMSUNG SEMICONDUCTOR INC

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KSR2011**PNP EPITAXIAL SILICON TRANSISTOR**

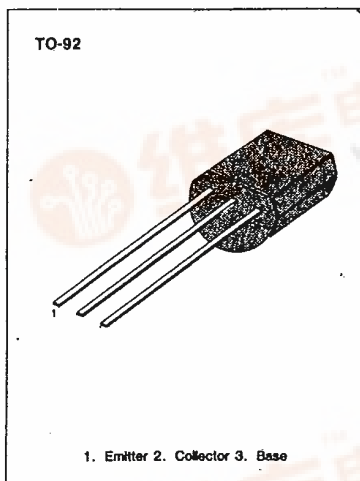
T-37-13

SWITCHING APPLICATION (Bias Resistor Built In)

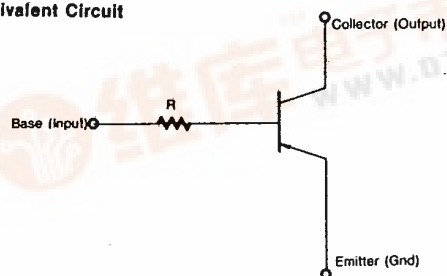
- Switching Circuit, Inverter, Interface circuit
Driver circuit
- Built in bias Resistor ($R=22K\Omega$)
- Complement to KSR1011

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}	$I_E=-1\text{mA}$, $I_B=0$	-40			V
Collector Cutoff Current	I_{CB0}	$V_{CB}=-30\text{V}$, $I_E=0$			-0.1	μA
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		15	22	29	K Ω

Equivalent Circuit

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377