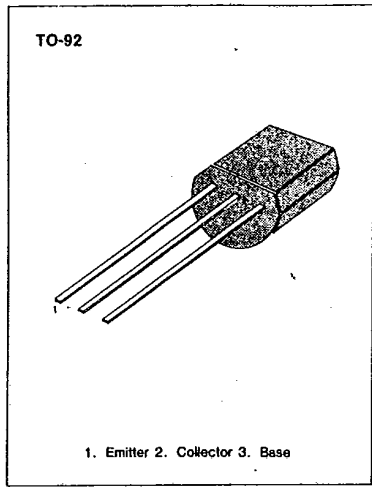


**KSR1012**

**NPN EPITAXIAL SILICON TRANSISTOR**

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

- Switching Circuit, Inverter, Interface circuit  
Driver circuit
- Built in bias Resistor (R=47KΩ)
- Complement to KSR2012



**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	40	V
Collector-Emitter Voltage	V <sub>CEO</sub>	40	V
Emitter-Base Voltage	V <sub>EB0</sub>	5	V
Collector Current	I <sub>C</sub>	100	mA
Collector Dissipation	P <sub>C</sub>	300	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ 150	°C

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV <sub>CB0</sub>	I <sub>C</sub> = 100μA, I <sub>E</sub> = 0	40			V
Emitter-Base Breakdown Voltage	BV <sub>CE0</sub>	I <sub>E</sub> = 1mA, I <sub>B</sub> = 0	40			V
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = 30V, I <sub>E</sub> = 0			0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1mA	100		600	
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 1mA			0.3	V
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0 f = 1MHz		3.7		pF
Current Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 5mA		250		MHz
Input Resistor	R		32	47	62	KΩ

**Equivalent Circuit**

