

**KSR2109**

**PNP EPITAXIAL SILICON TRANSISTOR**

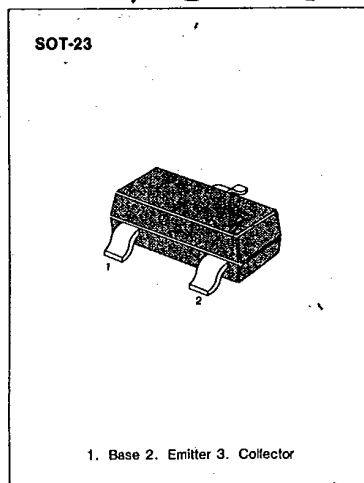
T-37-13

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

- Switching Circuit, Inverter, Interface circuit  
Driver circuit
- Built in bias Resistor (R=4.7KΩ)
- Complement to KSR1109

**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>CE0</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>	200	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ 150	°C

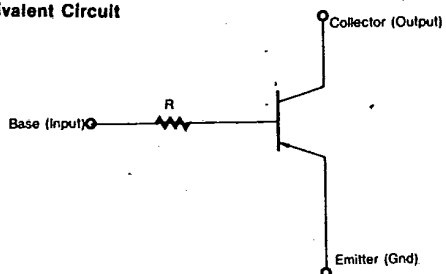


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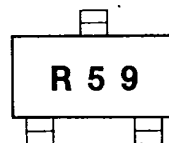
**ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C)**

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
Collector-Emitter Breakdown Voltage	BV <sub>CE0</sub>	I <sub>c</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		5.5		pF
Current Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>c</sub> = -5mA		200		MHz
Input Resistor	R <sub>i</sub>		3.2	4.7	6.2	KΩ

**Equivalent Circuit**



**Marking**

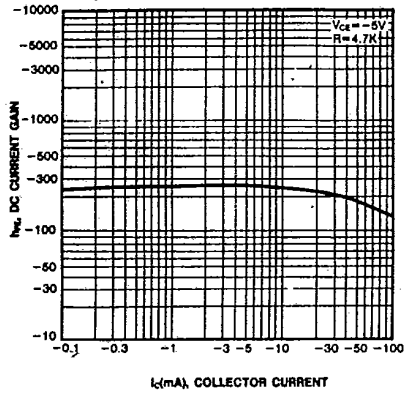


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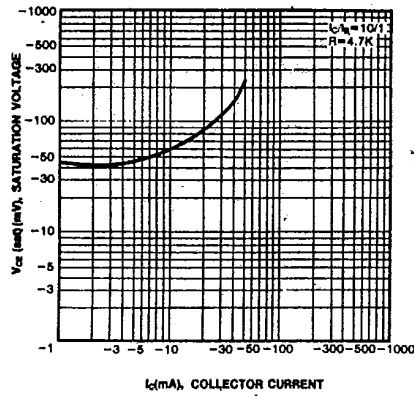
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DC CURRENT GAIN



COLLECTOR-EMITTER SATURATION VOLTAGE



POWER DERATING

