

KSR2109**PNP EPITAXIAL SILICON TRANSISTOR**

T-37-13

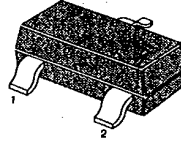
SWITCHING APPLICATION (Bias Resistor Built In)

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

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-100	mA
Collector Dissipation	P_C	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$

SOT-23

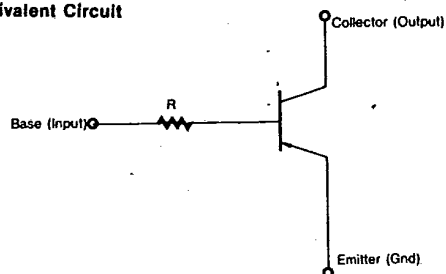
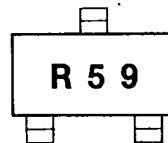


1. Base 2. Emitter 3. Collector

3

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -100\mu\text{A}, I_E = 0$	-40			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -1\text{mA}, I_B = 0$	-40			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = -30\text{V}, I_E = 0$			-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_i		3.2	4.7	6.2	$K\Omega$

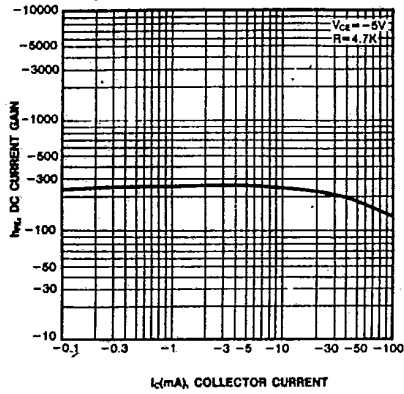
Equivalent Circuit**Marking**

KSR2109

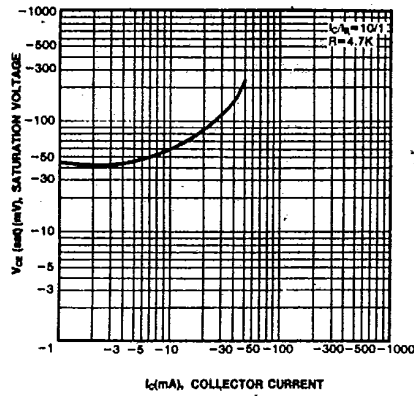
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DC CURRENT GAIN



COLLECTOR-EMITTER SATURATION VOLTAGE



POWER DERATING

