

SAMSUNG SEMICONDUCTOR INC

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KSR2010**PNP EPITAXIAL SILICON TRANSISTOR**

T-37-13

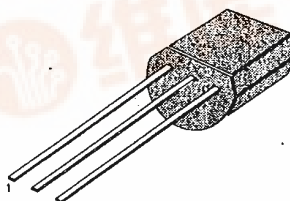
SWITCHING APPLICATION (Bias Resistor Built In)

- Switching Circuit, Inverter, Interface circuit Driver circuit
- Built in bias Resistor ($R=10K$)
- Complement to KSR1010

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	$^\circ\text{C}$

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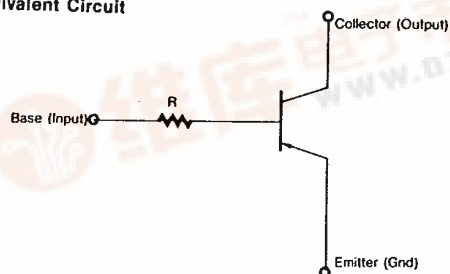


1. Emitter 2. Collector 3. Base

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}	$I_E=-1\text{mA}, I_B=0$	-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		7	10	13	K Ω

Equivalent Circuit

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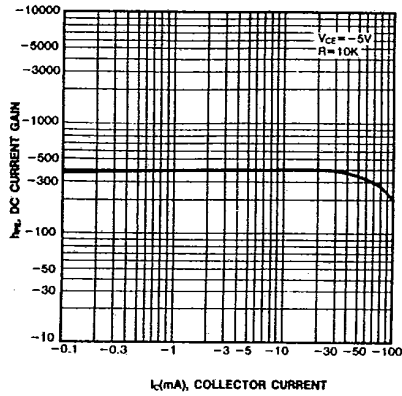
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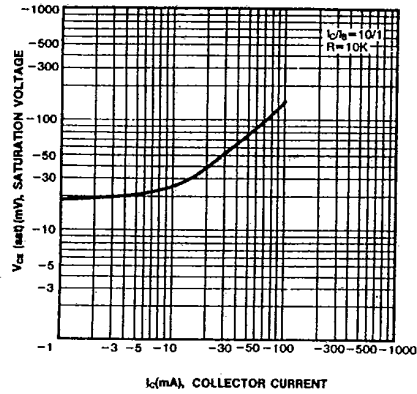
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DC CURRENT GAIN



COLLECTOR-EMITTER SATURATION VOLTAGE



POWER DERATING

