

KSR2004

PNP EPITAXIAL SILICON TRANSISTOR

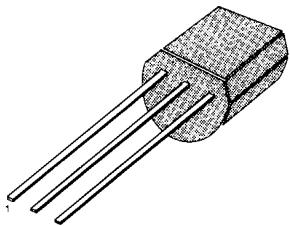
SWITCHING APPLICATION (Bias Resistor Built In)

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor ($R_1=47k\Omega$, $R_2=47k\Omega$)
- Complement to KSR1004

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-10	V
Collector Current	I_C	-100	mA
Collector Dissipation	P_C	300	mW
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 ~ 150	$^{\circ}C$

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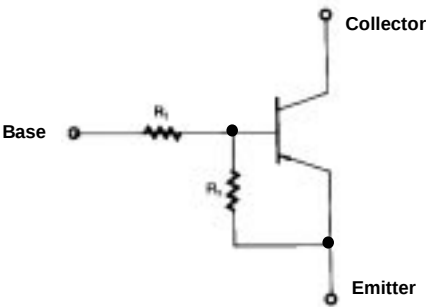


1. Emitter 2. Collector 3. Base

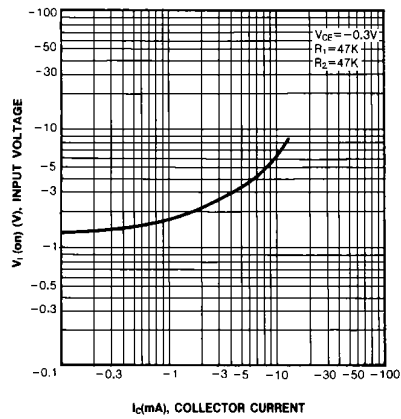
ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}C$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -10\mu A$, $I_E = 0$	-50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -100\mu A$, $I_B = 0$	-50			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -40V$, $I_E = 0$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -5V$, $I_C = -5mA$	68			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -10mA$, $I_B = -0.5mA$			-0.3	V
Current Gain-Bandwidth Product	f_T	$V_{CE} = -5mA$, $I_C = -10V$		200		MHz
Output Capacitance	C_{OB}	$V_{CB} = -10V$, $I_E = 0$ $f = 1.0MHz$		5.5		pF
Input Off Voltage	$V_I(off)$	$V_{CE} = -5V$, $I_C = -100\mu A$	-0.5			V
Input On Voltage	$V_I(on)$	$V_{CE} = -0.3V$, $I_C = -2mA$			-3	V
Input Resistor	R_1		32	47	62	$k\Omega$
Resistor Ratio	R_1/R_2		0.9	1	1.1	

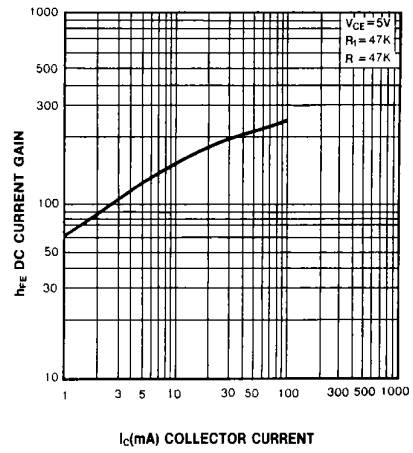
Equivalent Circuit



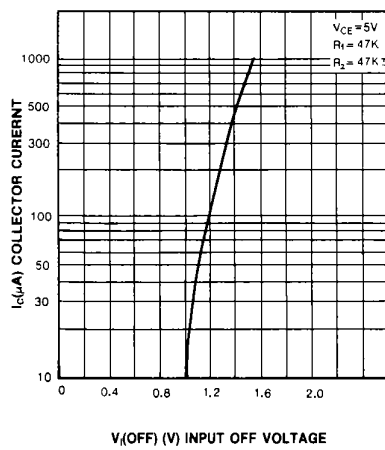
INPUT ON VOLTAGE



DC CURRENT GAIN



INPUT OFF VOLTAGE



POWER DERATING

