

KSR1206

NPN EPITAXIAL SILICON TRANSISTOR

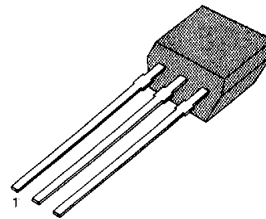
SWITCHING APPLICATION (Bias Resistor Built In)

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor ($R_1 = 10k\Omega$, $R_2 = 47k\Omega$)
- Complement to KSR2206

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

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	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ 150	$^\circ\text{C}$

TO-92S

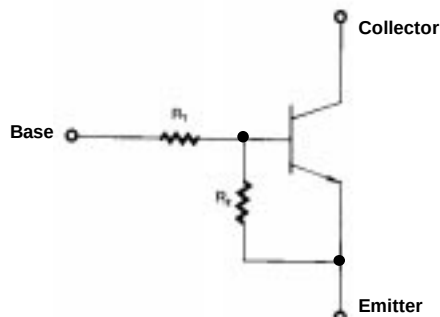


1. Emitter 2. Collector 3. Base

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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 10\mu\text{A}$, $I_E = 0$	50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 100\mu\text{A}$, $I_B = 0$	50			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 40\text{V}$, $I_E = 0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}$, $I_C = 5\text{mA}$	68			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}$, $I_B = 0.5\text{mA}$			0.3	V
Output Capacitance	C_{OB}	$V_{CB} = 10\text{V}$, $I_E = 0$ $f = 1.0\text{MHz}$		3.7		pF
Current Gain-Bandwidth Product	f_T	$V_{CE} = 10\text{mA}$, $I_C = 5\text{mA}$		250		MHz
Input Off Voltage	$V_i(\text{off})$	$V_{CE} = 5\text{V}$, $I_C = 100\mu\text{A}$	0.3			V
Input On Voltage	$V_i(\text{on})$	$V_{CE} = 0.3\text{V}$, $I_C = 1\text{A}$			1.4	V
Input Resistor	R_1		7	10	13	$k\Omega$
Resistor Ratio	R_1/R_2		0.19	0.21	0.24	

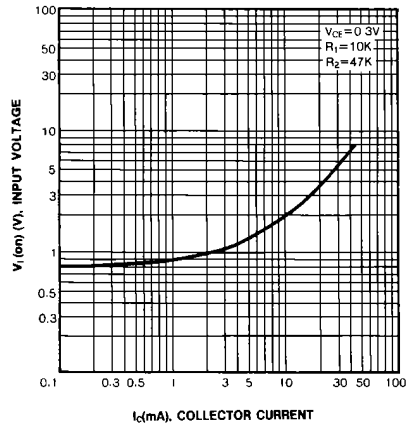
Equivalent Circuit



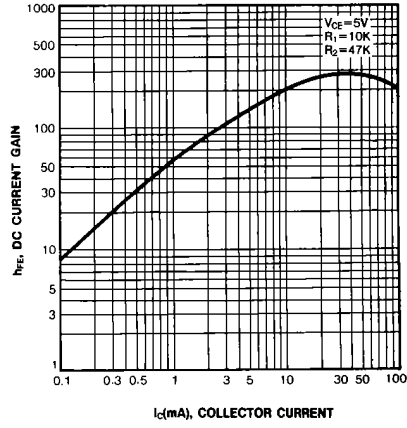
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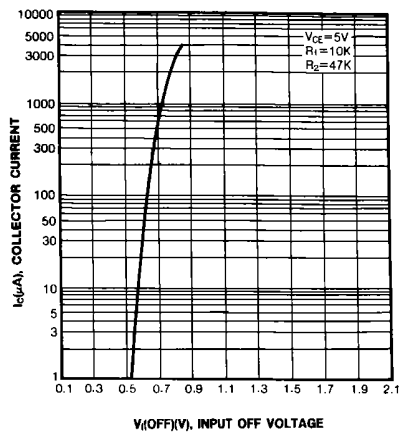
INPUT ON VOLTAGE



DC CURRENT GAIN



INPUT OFF VOLTAGE



POWER DERATING

