

SAMSUNG SEMICONDUCTOR INC T-35-114E D 7964142 0007071 3

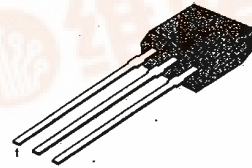
KSR1205**NPN EPITAXIAL SILICON TRANSISTOR****SWITCHING APPLICATION** (Bias Resistor Built In)

- Switching Circuit, Inverter, Interface circuit
Driver circuit
- Built In bias Resistor ($R_1=4.7K\Omega$, $R_2=10K\Omega$)
- Complement to KSR2205

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	50	V
Collector-Emitter Voltage	V_{CE0}	50	V
Emitter-Base Voltage	V_{EB0}	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

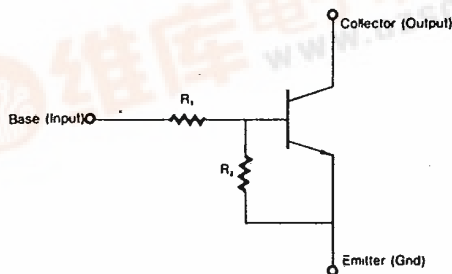


1. Emitter 2. Collector 3. Base

3

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

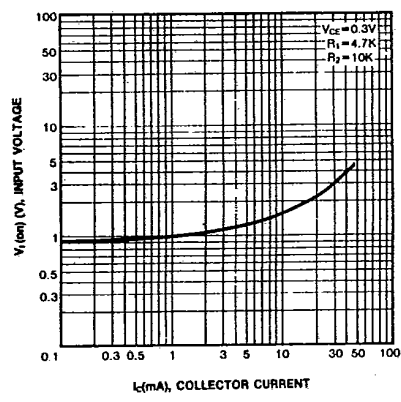
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CE0}	$I_C=10\mu\text{A}$, $I_E=0$	50			V
Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C=100\mu\text{A}$, $I_B=0$	50			V
Collector Cutoff Current	I_{CBO}	$V_{CB}=40\text{V}$, $I_E=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}$, $I_C=5\text{mA}$	30			
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}	$V_{CB}=10\text{V}$, $I_E=0$ $f=1\text{MHz}$		3.7		pF
Current Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}$, $I_C=5\text{mA}$		250		MHz
Input Off Voltage	$V_{i(off)}$	$V_{CE}=5\text{V}$, $I_C=100\mu\text{A}$	0.3			V
Input On Voltage	$V_{i(on)}$	$V_{CE}=0.3\text{V}$, $I_C=20\text{mA}$			2.5	V
Input Resistor	R_1		32	4.7	6.2	$K\Omega$
Resistor Ratio	R_1/R_2		0.42	0.47	0.52	

Equivalent Circuit

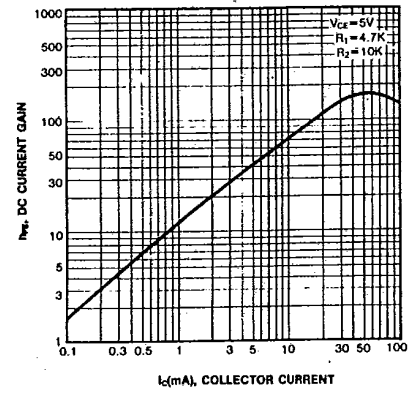
KSR1205

NPN EPITAXIAL SILICON TRANSISTOR

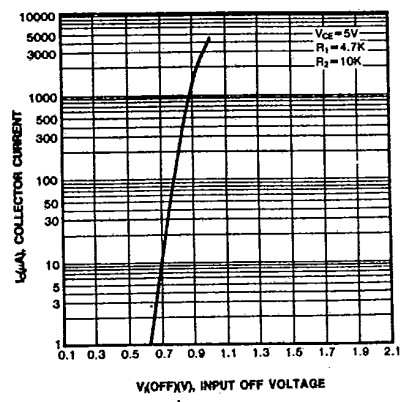
INPUT ON VOLTAGE



DC CURRENT GAIN



INPUT OFF VOLTAGE



POWER DERATING

