

SAMSUNG SEMICONDUCTOR INC T-35-114E D 7964142 0007077 4

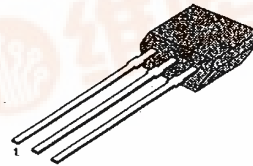
KSR1208**NPN EPITAXIAL SILICON TRANSISTOR****SWITCHING APPLICATION** (Bias Resistor Built In)

- Switching circuit, Inverter, Interface circuit Driver circuit
- Built in bias Resistor ($R_1=47K\Omega$, $R_2=22K\Omega$)
- Complement to KSR2208

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

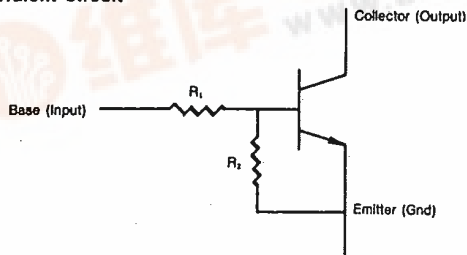


1. Emitter 2. Collector 3. Base

3

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

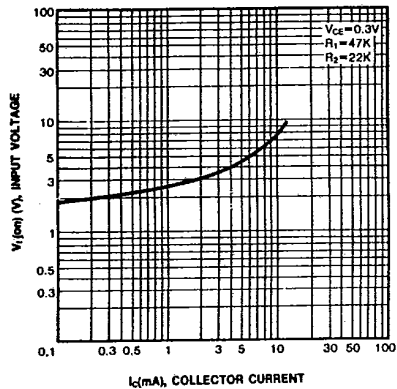
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CE0}	$I_C=10\mu\text{A}$, $I_E=0$	50			V
Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C=100\mu\text{A}$, $I_B=0$	50			V
Collector Cutoff Current	I_{CB0}	$V_{CB}=40\text{V}$, $I_E=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}$, $I_C=5\text{mA}$	56			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10\text{mA}$, $I_B=0.5\text{mA}$			0.3	V
Current Gain-Bandwidth Product	f_T	$V_{CE}=5\text{mA}$, $I_C=10\text{V}$		250		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$ $f=1.0\text{MHz}$		3.7		pF
Input Off Voltage	$V_i(\text{off})$	$V_{CE}=5\text{V}$, $I_C=100\mu\text{A}$	0.8			V
Input On Voltage	$V_i(\text{on})$	$V_{CE}=0.3\text{V}$, $I_C=2\text{mA}$			4	V
Input Resistor	R_1		32	47	62	$K\Omega$
Resistor Ratio	R_1/R_2		1.9	2.1	2.4	

Equivalent Circuit

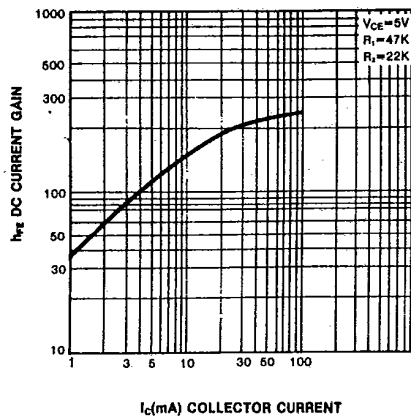
SAMSUNG SEMICONDUCTOR

347

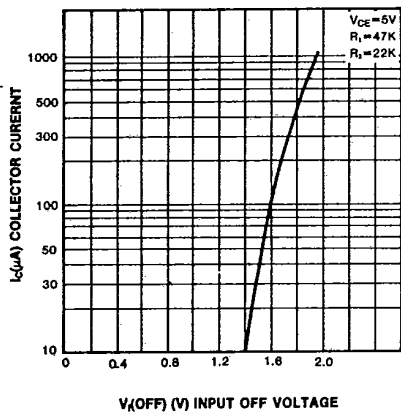
INPUT ON VOLTAGE



DC CURRENT GAIN



INPUT OFF VOLTAGE



POWER DERATING

