

SAMSUNG SEMICONDUCTOR INC T-35 11 14E D 7964142 0007053 1

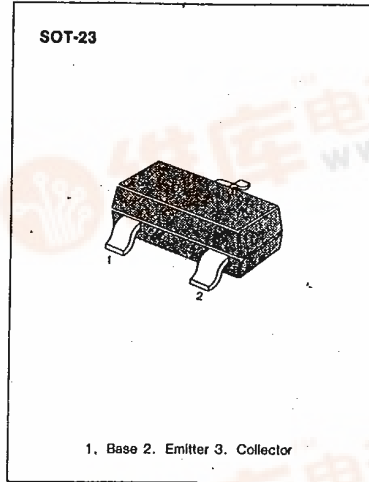
## KSR1108 NPN EPITAXIAL SILICON TRANSISTOR

### 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 KSR2108

### 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	$P_C$	200	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$

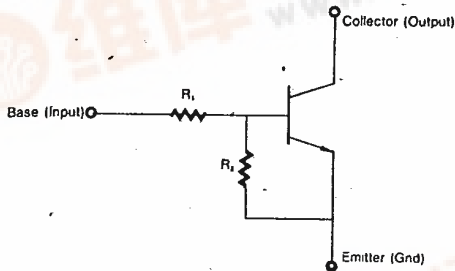


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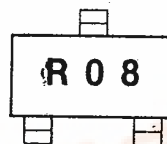
### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ )

Characteristic	Symbol	Test Condition	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 Cutoff Current	$I_{CBO}$	$V_{CB}=40\text{V}$ , $I_E=0$			0.1	$\mu\text{A}$
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	$V_{I(off)}$	$V_{CE}=5\text{V}$ , $I_C=100\mu\text{A}$	0.8			V
Input On Voltage	$V_{I(on)}$	$V_{CE}=0.3\text{V}$ , $I_C=2\text{mA}$			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

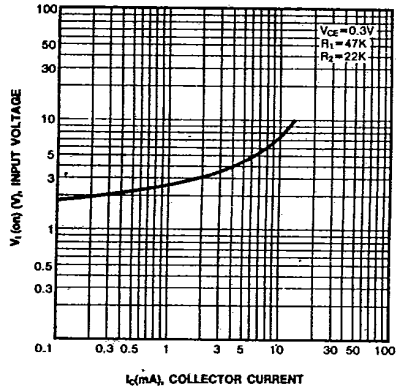


### Marking

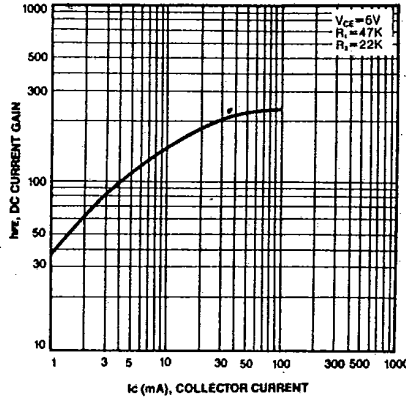


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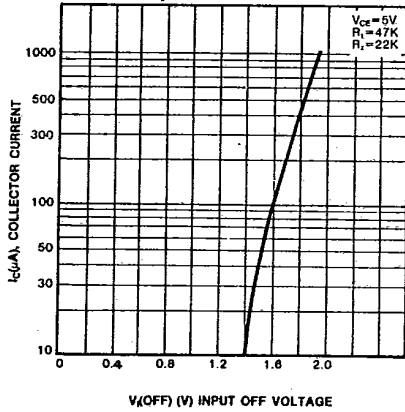
INPUT ON VOLTAGE



DC CURRENT GAIN



INPUT OFF VOLTAGE



POWER DERATING

