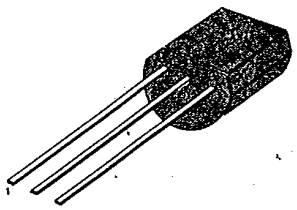
KSR1013 NPN EPITAXIAL SILICON TRANSISTOR

SWITCHING APPLICATION (Bias Resistor Built In)

- Switching circuit, Inverter, Interface circuit Driver circuit
- Built in bias Resistor(R_1 = 2.2KΩ, R_2 = 47KΩ)
- Complement to KSR2013

TO-92



1. Emitter 2. Collector 3. Base

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ABSOLUTE MAXIMUM RATINGS (T_a = 25°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	Tj	150	°C
Storage Temperature	Tstg	−55~150	°C

ELECTRICAL CHARACTERISTICS (T_a = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CEO}	I_C=10μA, I_E=0	50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=100μA, I_B=0	50			V
Collector Cutoff 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		250		MHz
Output Capacitance	Cob	V_{CB}=10V, I_E=0 f=1.0MHz		3.7		pF
Input Off Voltage	Vi(off)	V_{CE}=5V, I_C=100μA	0.5			V
Input On Voltage	Vi(on)	V_{CE}=0.2V, I_C=5mA			1.1	V
Input Resistor	R_1		1.5	2.2	2.9	KΩ
Resistor Ratio	R_1/R_2		0.042	0.047	0.052	

Equivalent Circuit