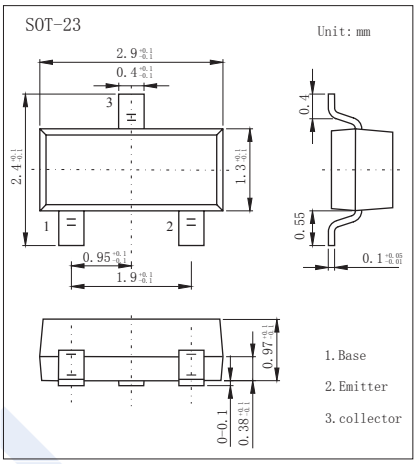
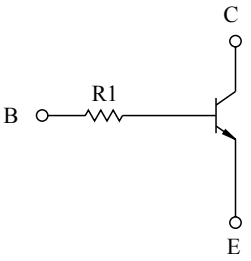
NPN Transistors

KRC110S ~ KRC114S



■ Features

- With Built in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufaturing Process
- Digital Transistors



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	50	V
Collector - Emitter Voltage	V_{CEO}	50	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	100	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

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■ Electrical Characteristics Ta = 25℃

Parameter		Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage		V_{CBO}	I_C= 100 μA, I_E= 0	50			V
Collector- emitter breakdown voltage		V_{CEO}	I_C= 1 mA, I_B= 0	50			
Emitter - base breakdown voltage		V_{EBO}	I_E= 100 μ A, I_C= 0	5			
Collector-base cut-off current		I_{CBO}	V_{CB}= 50 V , I_E= 0			100	nA
Emitter cut-off current		I_{EBO}	V_{EB}= 5V , I_C=0			100	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=10 mA, I_B=0.5mA			0.3	V
Base - emitter saturation voltage		$V_{BE(sat)}$	I_C=10 mA, I_B=0.5mA			1.2	
DC current gain		h_{FE}	V_{CE}= 5V, I_C= 1mA	120			
Input Resistor	KRC110S	R1			4.7		KΩ
	KRC111S				10		
	KRC112S				100		
	KRC113S				22		
	KRC114S				47		
Rise Time	KRC110S	t_{rr}	V_O=5V,V_{IN}=5V,R_L=1KΩ		0.025		us
	KRC111S				0.03		
	KRC112S				0.3		
	KRC113S				0.06		
	KRC114S				0.11		
Storage Time	KRC110S	t_{stg}			3		
	KRC111S				2		
	KRC112S				6		
	KRC113S				4		
	KRC114S				5		
Fall Time	KRC110S	t_f			0.2		
	KRC111S				0.12		
	KRC112S				2		
	KRC113S				0.9		
	KRC114S				1.4		
Transition frequency		f_T	V_{CE}= 10V, I_C= 5mA		250		MHz

■ Marking

NO	KRC110S	KRC111S	KRC112S	KRC113S	KRC114S
Marking	NK	NM	NN	NO	NP