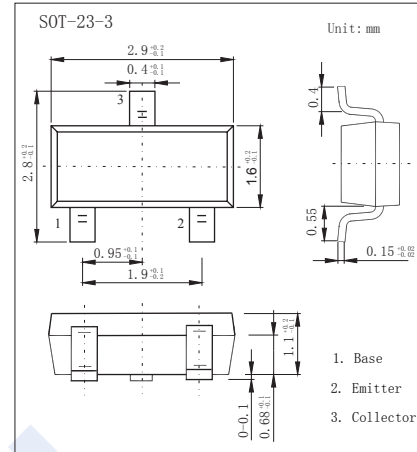
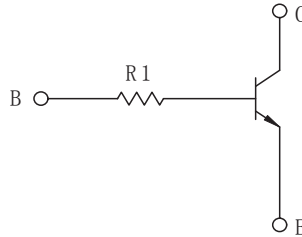


NPN Transistors

KRC231S ~ KRC235S

■ Features

- With Built-in Bias Resistors.
- Simplify Circuit Design.



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	30	V
Collector - Emitter Voltage	V_{CE0}	15	
Emitter - Base Voltage	V_{EB0}	5	
Collector Current - Continuous	I_C	600	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_C = 100 \mu\text{A}$, $I_E = 0$	30			V
Collector- emitter breakdown voltage	V_{CE0}	$I_C = 1 \text{ mA}$, $I_B = 0$	15			
Emitter - base breakdown voltage	V_{EB0}	$I_E = 100 \mu\text{A}$, $I_C = 0$	5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 30 \text{ V}$, $I_E = 0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5 \text{ V}$, $I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50 \text{ mA}$, $I_B = 2.5 \text{ mA}$			0.08	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 50 \text{ mA}$, $I_B = 2.5 \text{ mA}$			1.2	
DC current gain	h_{FE}	$V_{CE} = 5 \text{ V}$, $I_C = 50 \text{ mA}$	200		800	
Input Resistor	KRC231S	R_i		2.2		K Ω
	KRC232S			5.6		
	KRC233S			10		
	KRC234S			4.7		
	KRC235S			6.8		
On Resistance	R_{on}	$I_B = 1 \text{ mA}$, $V_{IN} = 300 \text{ mV}$, $f = 1 \text{ KHz}$		0.6		Ω
Transition frequency	f_T	$V_{CE} = 10 \text{ V}$, $I_E = -50 \text{ mA}$, $f = 100 \text{ MHz}$		200		MHz

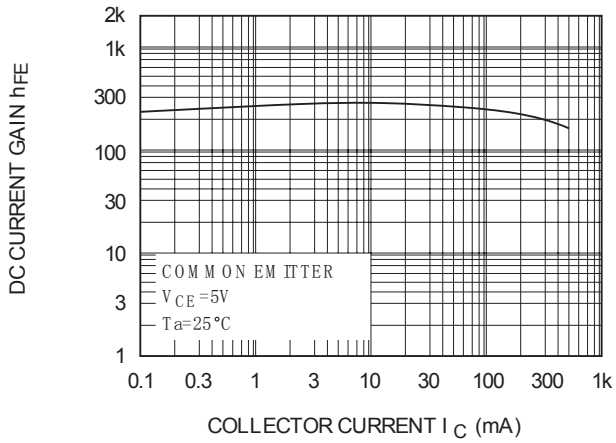
■ Marking

Type	KRC231S	KRC232S	KRC233S	KRC234S	KRC235S
Marking	NW	NY	NZ	NNA	NNB

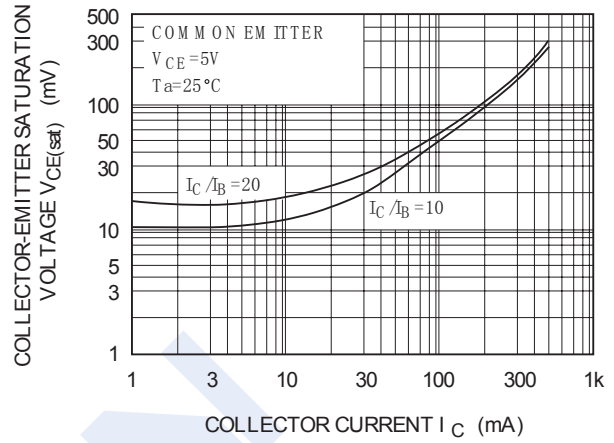
NPN Transistors KRC231S ~ KRC235S

■ Typical Characteristics

$h_{FE} - I_C$



$V_{CE(sat)} - I_C$



$R_{on} - I_B$

