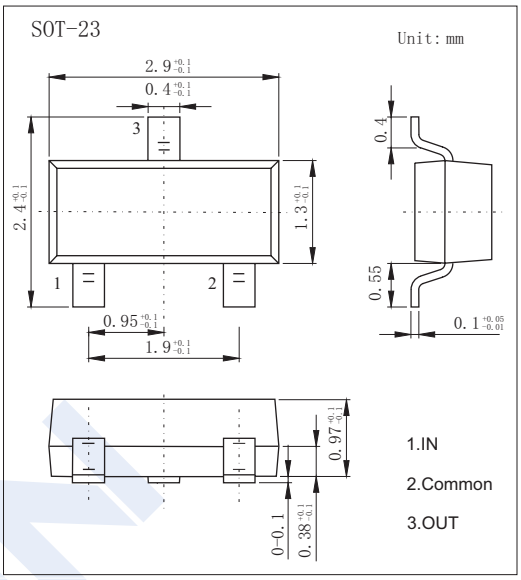
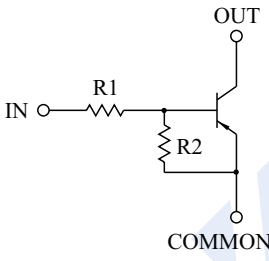
PNP Transistors

KRA116S ~ KRA122S



■ Features

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



TYPE NO.	R1(kΩ)	R2(kΩ)
KRA116S	1	10
KRA117S	2.2	2.2
KRA118S	2.2	10
KRA119S	4.7	10
KRA120S	10	4.7
KRA121S	47	10
KRA122S	100	100

■ Absolute Maximum Ratings (Ta = 25℃)

Parameter		Symbol	Rating	Unit
Output Voltage	KRA116S~122S	V_O	-50	V
Input Voltage	KRA116S	V_I	-10, 5	
	KRA117S		-12, 10	
	KRA118S		-12, 5	
	KRA119S		-20, 7	
	KRA120S		-30, 10	
	KRA121S		-40, 15	
	KRA122S		-40, 10	
Output Current	KRA116S~122S	I_O	-100	mA
Power Dissipation		P_D	200	mW
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{stg}	-55 to +150	

PNP Transistors

KRA116S ~ KRA122S

■ Electrical Characteristics (Ta = 25℃)

Parameter		Symbol	Test Conditions	Min	Typ	Max	Unit
Output Cut-off Current	KRA116S~122S	$I_{O(OFF)}$	V_O=-50V, V_I=0			-500	nA
DC Current Gain	KRA116S	G_I	V_O=-5V, V_I=-5mA	33			
	KRA117S		V_O=-5V, V_I=-20mA	20			
	KRA118S		V_O=-5V, V_I=-10mA	33			
	KRA119S		V_O=-5V, V_I=-10mA	30			
	KRA120S		V_O=-5V, V_I=-10mA	24			
	KRA121S		V_O=-5V, V_I=-5mA	33			
	KRA122S		V_O=-5V, V_I=-5mA	62			
Output Voltage	KRA116S	$V_{O(ON)}$	I_O=-10mA, I_I=-0.5mA			-0.3	V
	KRA117S		I_O=-10mA, I_I=-0.5mA			-0.3	
	KRA118S		I_O=-10mA, I_I=-0.5mA			-0.3	
	KRA119S		I_O=-10mA, I_I=-0.5mA			-0.3	
	KRA120S		I_O=-10mA, I_I=-0.5mA			-0.3	
	KRA121S		I_O=-10mA, I_I=-0.5mA			-0.3	
	KRA122S		I_O=-5mA, I_I=-0.25mA			-0.3	
Input Voltage (ON)	KRA116S	$V_{I(ON)}$	V_O=-0.3V, I_O=-20mA			-3	V
	KRA117S		V_O=-0.3V, I_O=-20mA			-3	
	KRA118S		V_O=-0.3V, I_O=-20mA			-3	
	KRA119S		V_O=-0.3V, I_O=-20mA			-2.5	
	KRA120S		V_O=-0.3V, I_O=-2mA			-3	
	KRA121S		V_O=-0.3V, I_O=-2mA			-5	
	KRA122S		V_O=-0.3V, I_O=-1mA			-3	
Input Voltage (OFF)	KRA116S	$V_{I(OFF)}$	V_{CC}=-5V, I_O=-100μA	-0.3			V
	KRA117S			-0.5			
	KRA118S			-0.3			
	KRA119S			-0.3			
	KRA120S			-0.8			
	KRA121S			-1			
	KRA122S			-0.5			
Transition Frequency	KRA116S~122S	f_T*	V_O=-10V, I_O= -5mA		250		MHz
Input Current	KRA116S	I_I	V_I=-5V,			-7.2	mA
	KRA117S					-3.8	
	KRA118S					-3.8	
	KRA119S					-1.8	
	KRA120S					-0.88	
	KRA121S					-0.16	
	KRA122S					-0.15	

Note: * Characteristic of Transistor Only.

■ Marking

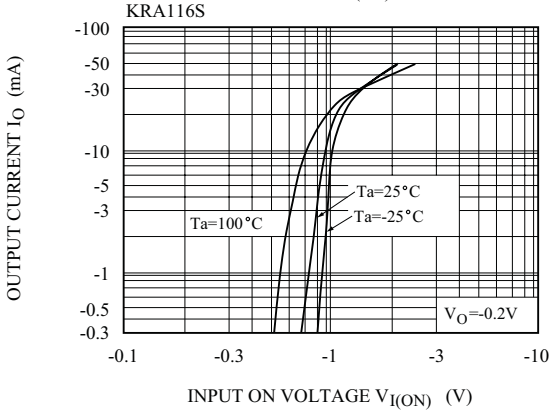
Type	KRA116S	KRA117S	KRA118S	KRA119S	KRA120S	KRA121S	KRA122S
Mark	P2	P4	P5	P6	P7	P8	P9

PNP Transistors

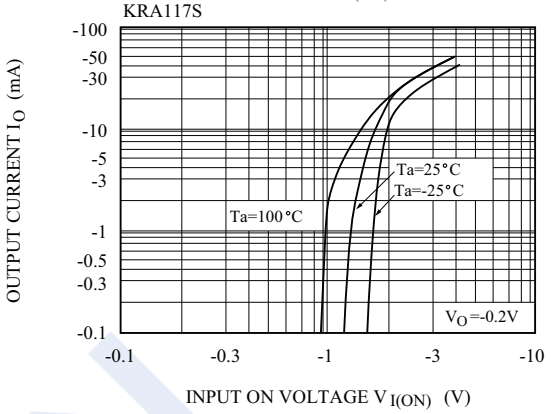
KRA116S ~ KRA122S

■ Typical Characterisitics

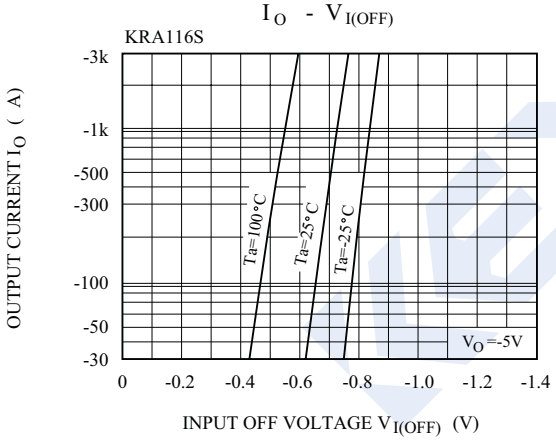
I_O - $V_{I(ON)}$



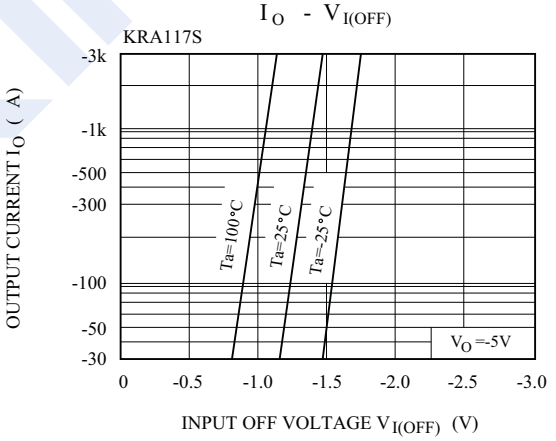
I_O - $V_{I(ON)}$



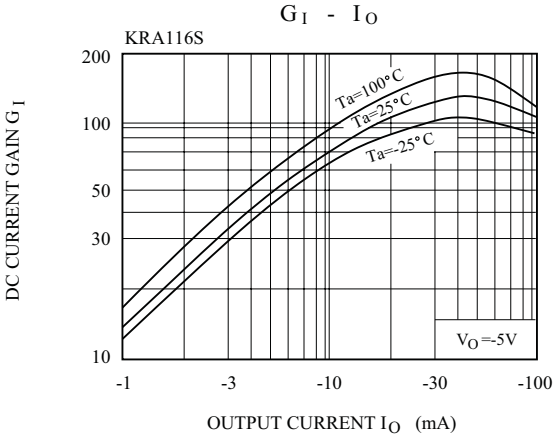
I_O - $V_{I(OFF)}$



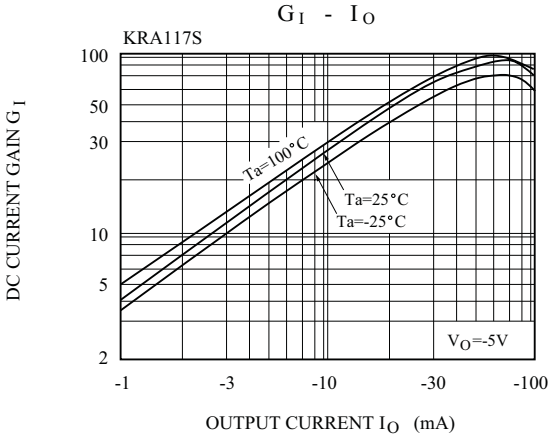
I_O - $V_{I(OFF)}$



G_I - I_O



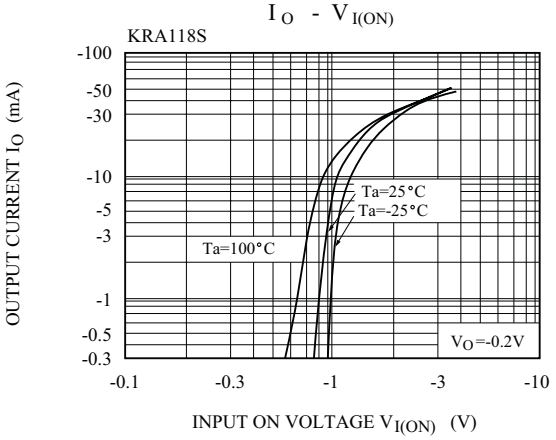
G_I - I_O



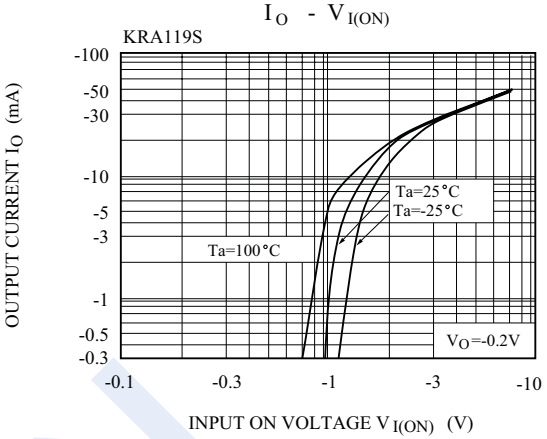
PNP Transistors

KRA116S ~ KRA122S

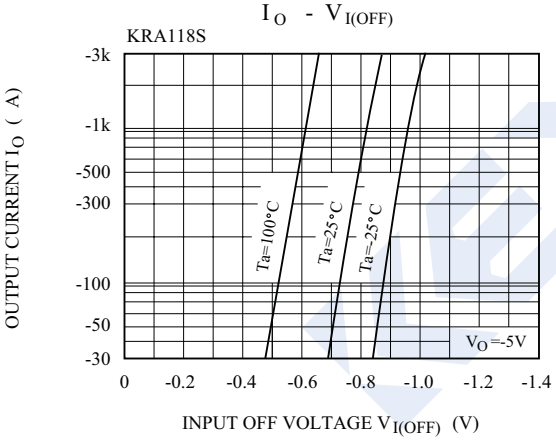
I_O - $V_{I(ON)}$



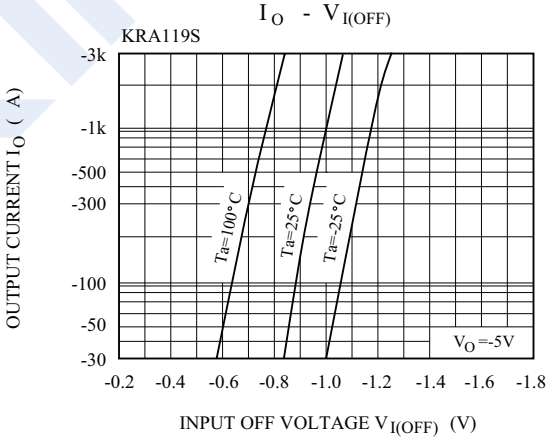
I_O - $V_{I(ON)}$



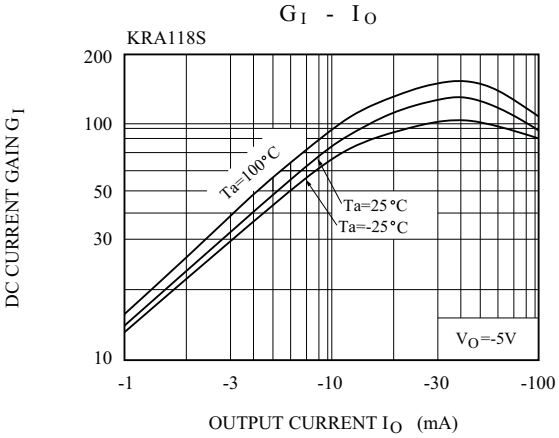
I_O - $V_{I(OFF)}$



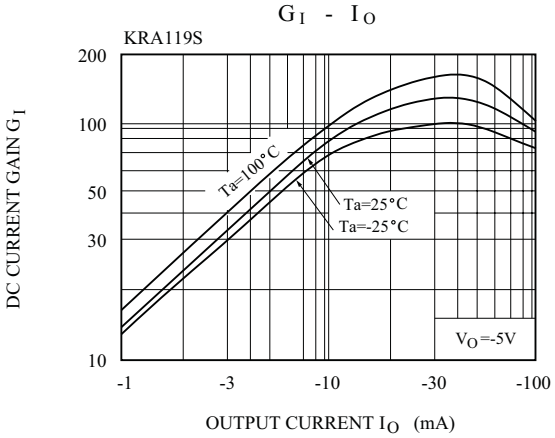
I_O - $V_{I(OFF)}$



G_I - I_O

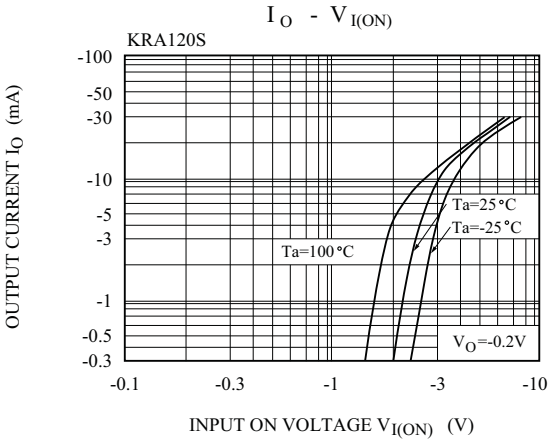


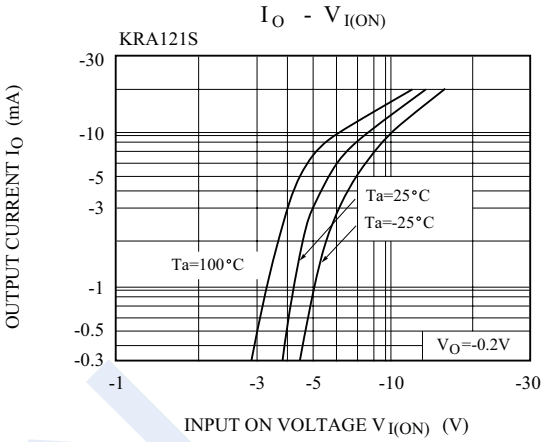
G_I - I_O

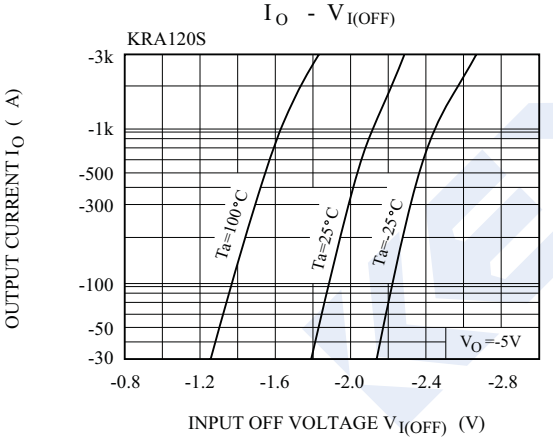


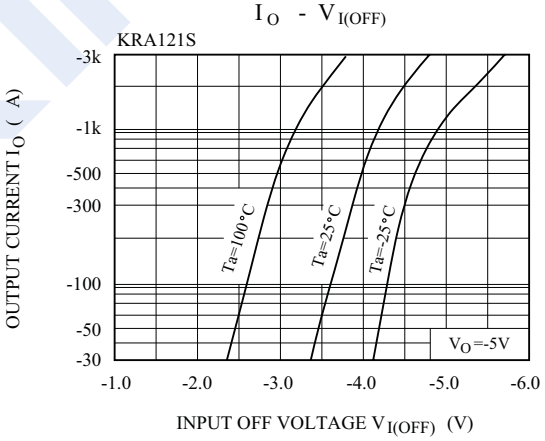
PNP Transistors

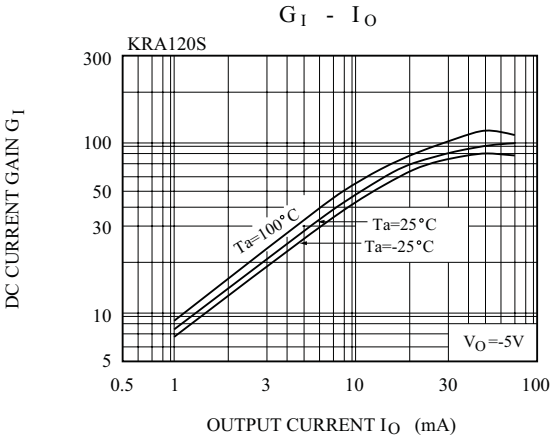
KRA116S ~ KRA122S

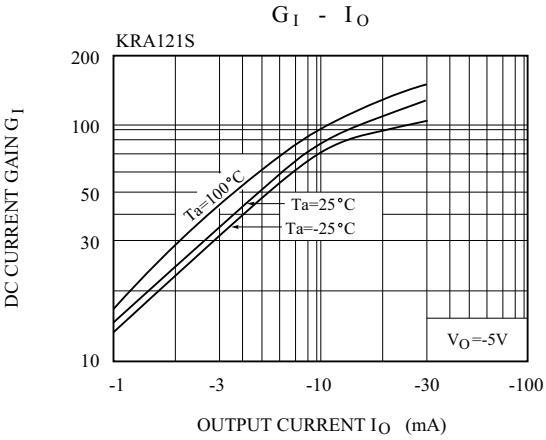








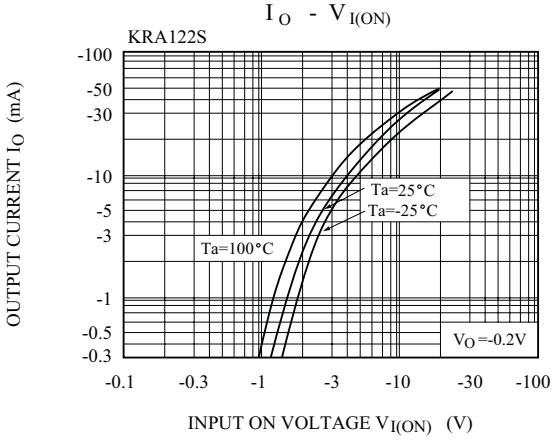




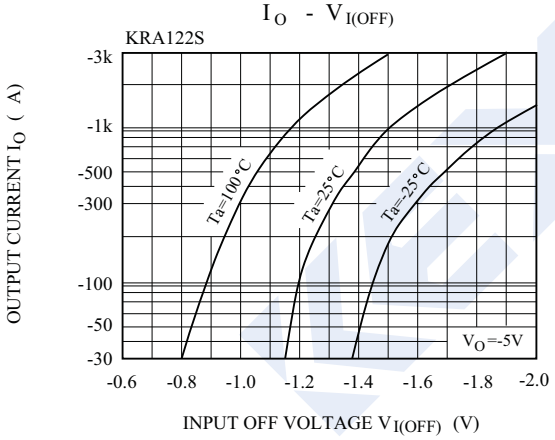
PNP Transistors

KRA116S ~ KRA122S

I_O - $V_{I(ON)}$



I_O - $V_{I(OFF)}$



G_I - I_O