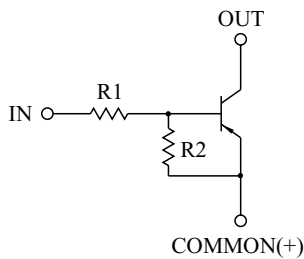


SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION

FEATURES

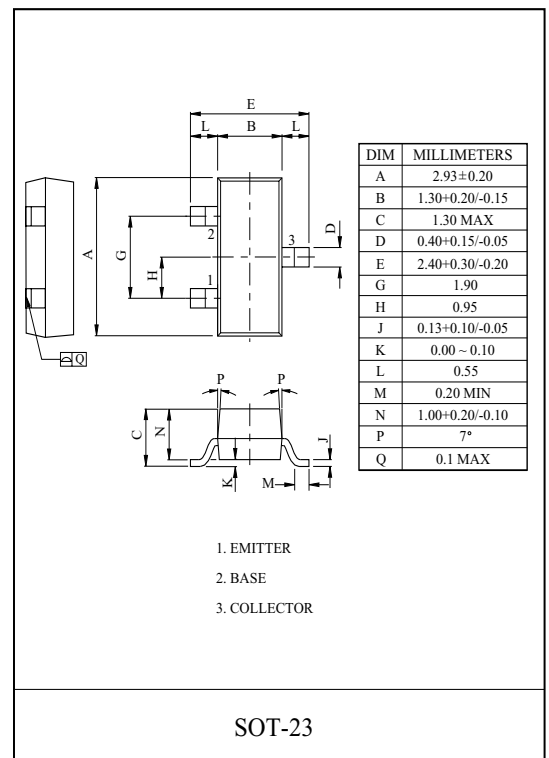
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.

EQUIVALENT CIRCUIT



BIAS RESISTOR VALUES

TYPE NO.	R1(k Ω)	R2(k Ω)
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



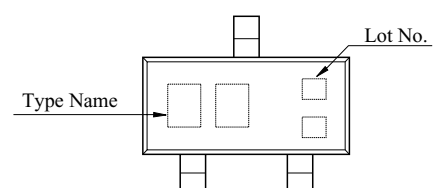
MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRA116S 122S	V _O	-50	V
Input Voltage	KRA116S	V _I	-10, 5	V
	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}	-55 150	

MAXIMUM RATING (Ta=25 °C)

TYPE	KRA116S	KRA117S	KRA118S	KRA119S	KRA120S	KRA121S	KRA122S
MARK	P2	P4	P5	P6	P7	P8	P9

Marking



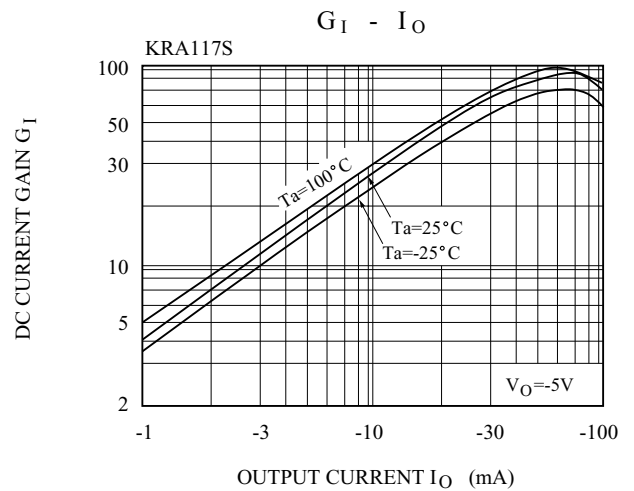
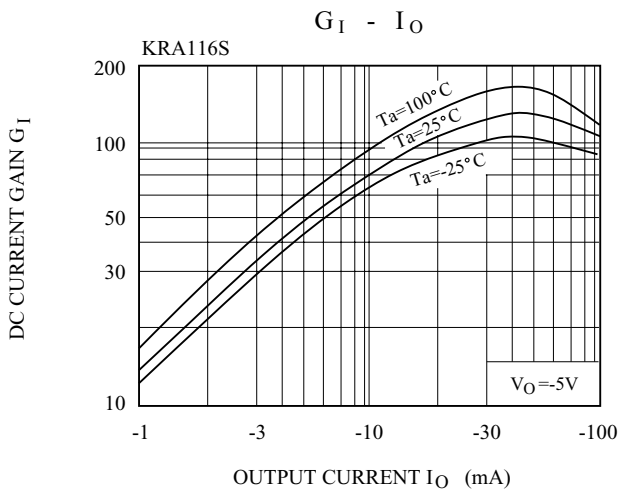
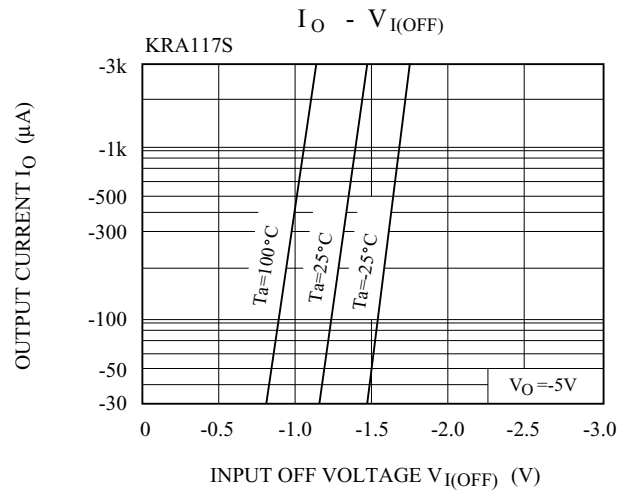
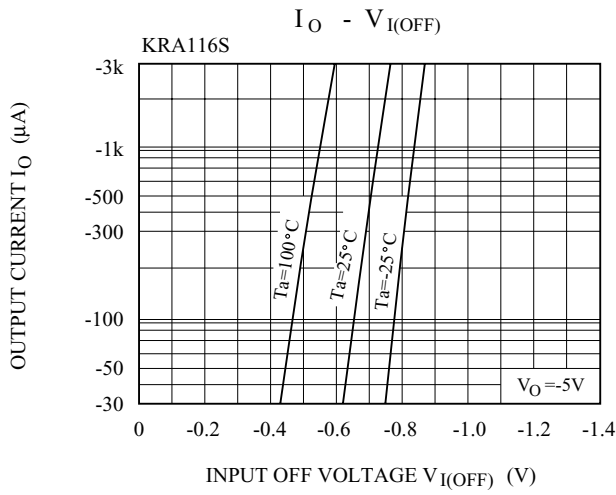
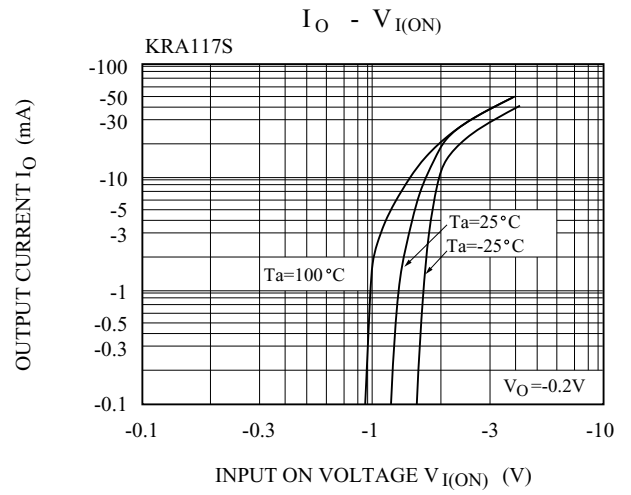
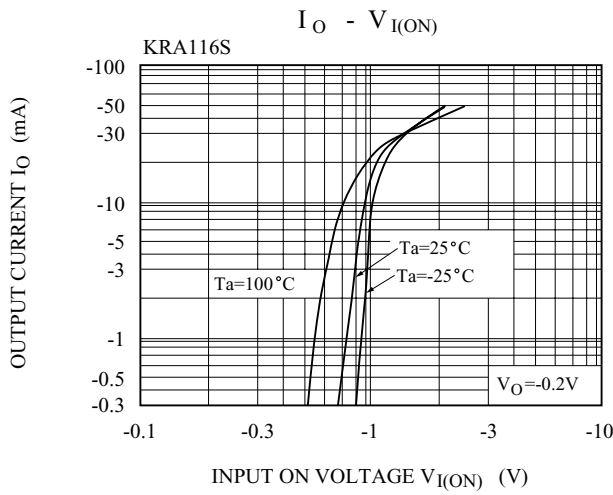
KRA116S~KRA122S

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

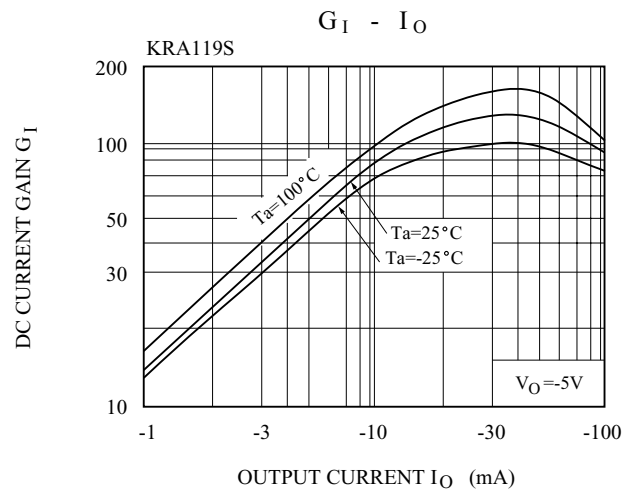
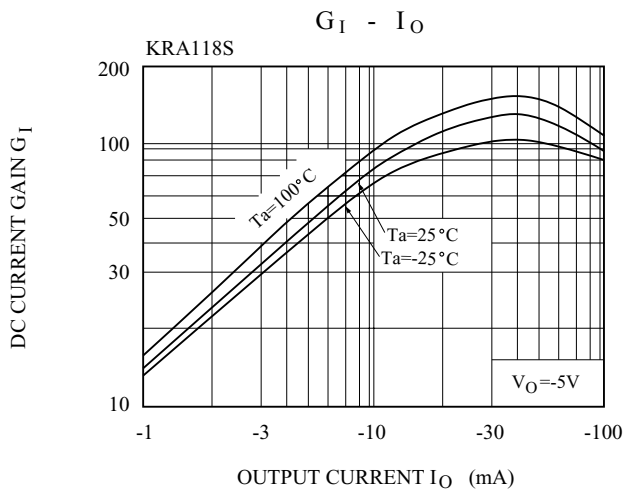
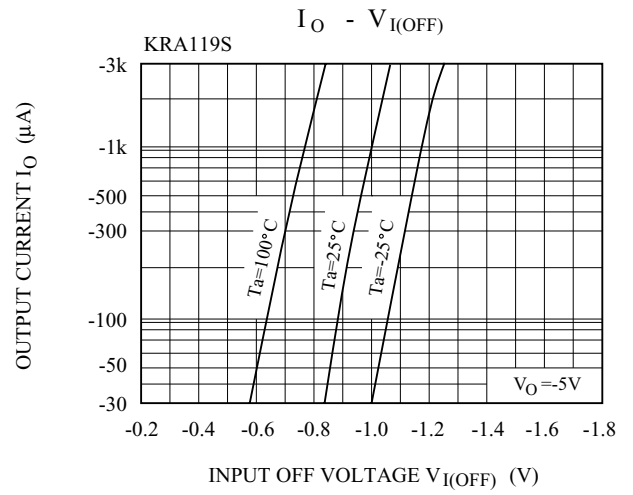
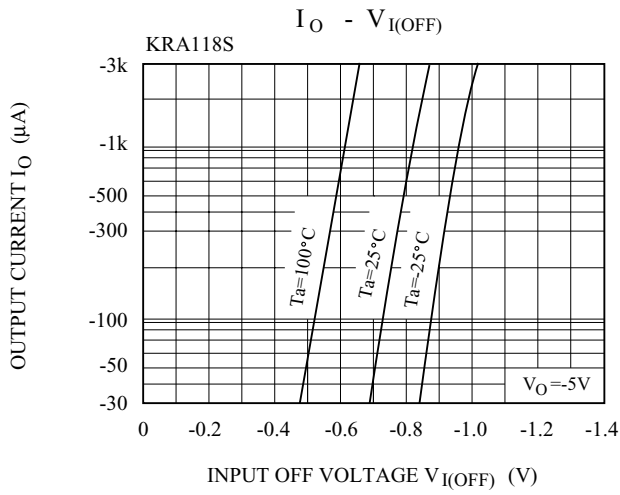
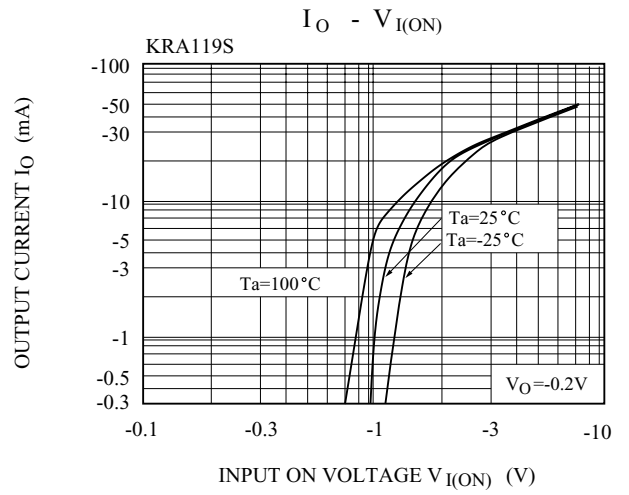
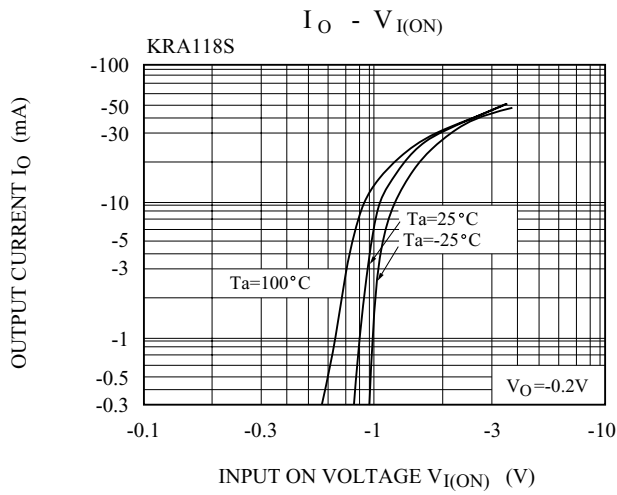
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current	KRA116S 122S	$I_{O(OFF)}$	$V_O = -50V, V_I = 0$	-	-	-500	nA
DC Current Gain	KRA116S	G_I	$V_O = -5V, I_O = -5mA$	33	-	-	
	KRA117S		$V_O = -5V, I_O = -20mA$	20	-	-	
	KRA118S		$V_O = -5V, I_O = -10mA$	33	-	-	
	KRA119S		$V_O = -5V, I_O = -10mA$	30	-	-	
	KRA120S		$V_O = -5V, I_O = -10mA$	24	-	-	
	KRA121S		$V_O = -5V, I_O = -5mA$	33	-	-	
	KRA122S		$V_O = -5V, I_O = -5mA$	62	-	-	
Output Voltage	KRA116S	$V_{O(ON)}$	$I_O = -10mA, I_I = -0.5mA$	-	-	-0.3	V
	KRA117S		$I_O = -10mA, I_I = -0.5mA$	-	-0.1	-0.3	
	KRA118S		$I_O = -10mA, I_I = -0.5mA$	-	-	-0.3	
	KRA119S		$I_O = -10mA, I_I = -0.5mA$	-	-0.1	-0.3	
	KRA120S		$I_O = -10mA, I_I = -0.5mA$	-	-0.1	-0.3	
	KRA121S		$I_O = -10mA, I_I = -0.5mA$	-	-0.1	-0.3	
	KRA122S		$I_O = -5mA, I_I = -0.25mA$	-	-0.1	-0.3	
Input Voltage (ON)	KRA116S	$V_{I(ON)}$	$V_O = -0.3V, I_O = -20mA$	-	-0.98	-3	V
	KRA117S		$V_O = -0.3V, I_O = -20mA$	-	-1.83	-3	
	KRA118S		$V_O = -0.3V, I_O = -20mA$	-	-1.22	-3	
	KRA119S		$V_O = -0.3V, I_O = -20mA$	-	-1.76	-2.5	
	KRA120S		$V_O = -0.3V, I_O = -2mA$	-	-2	-3	
	KRA121S		$V_O = -0.3V, I_O = -2mA$	-	-3.9	-5	
	KRA122S		$V_O = -0.3V, I_O = -1mA$	-	-1.64	-3	
Input Voltage (OFF)	KRA116S	$V_{I(OFF)}$	$V_{CC} = -5V, I_O = -100\mu A$	-0.3	-0.63	-	V
	KRA117S			-0.5	-1.15	-	
	KRA118S			-0.3	-0.67	-	
	KRA119S			-0.3	-0.82	-	
	KRA120S			-0.8	-1.68	-	
	KRA121S			-1	-3.09	-	
	KRA122S			-0.5	-1.17	-	
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	
Input Resistor	KRA116S	R1	-	0.7	1	1.3	kΩ
	KRA117S			1.54	2.2	2.86	
	KRA118S			1.54	2.2	2.86	
	KRA119S			3.29	4.7	6.11	
	KRA120S			7	10	13	
	KRA121S			32.9	47	61.1	
	KRA122S			70	100	130	
Resistor Ratio	KRA116S	R2/R1	-	8	10	12	
	KRA117S			0.8	1.0	1.2	
	KRA118S			3.6	4.5	5.5	
	KRA119S			1.7	2.1	2.6	
	KRA120S			0.37	0.47	0.57	
	KRA121S			0.17	0.21	0.26	
	KRA122S			0.8	1.0	1.2	

Note : * Characteristic of Transistor Only.

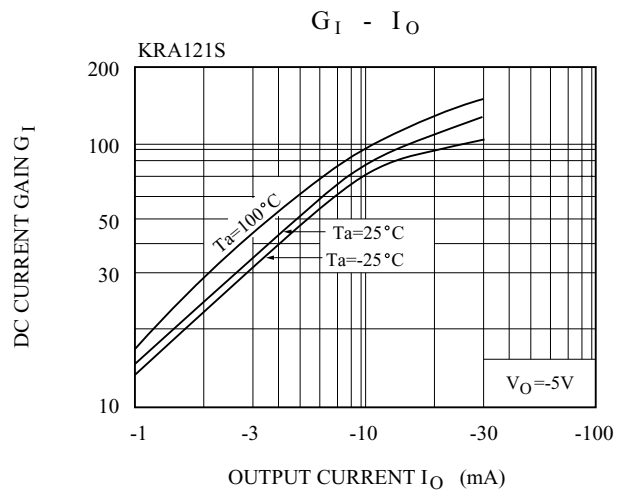
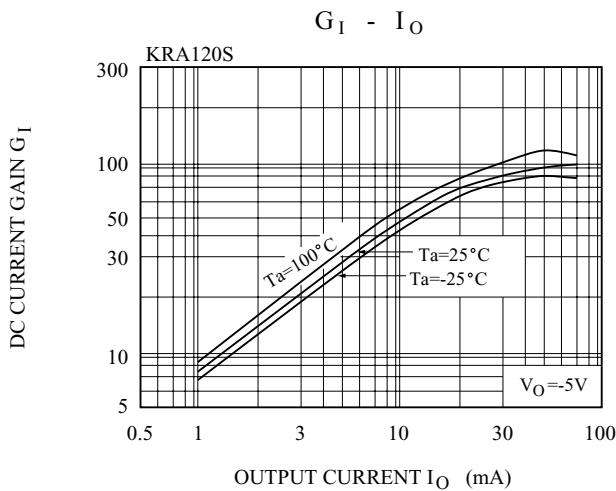
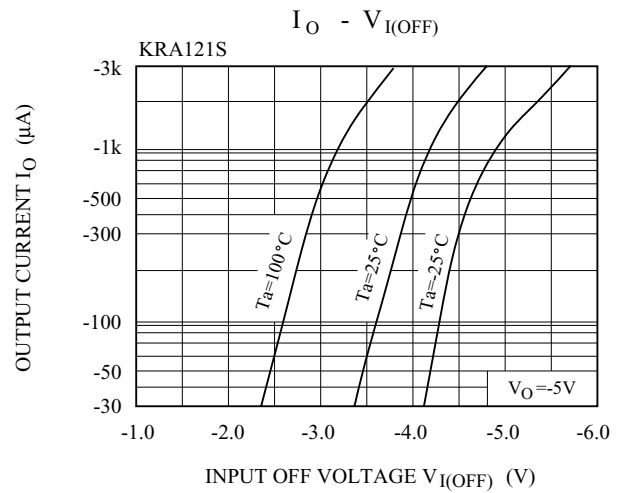
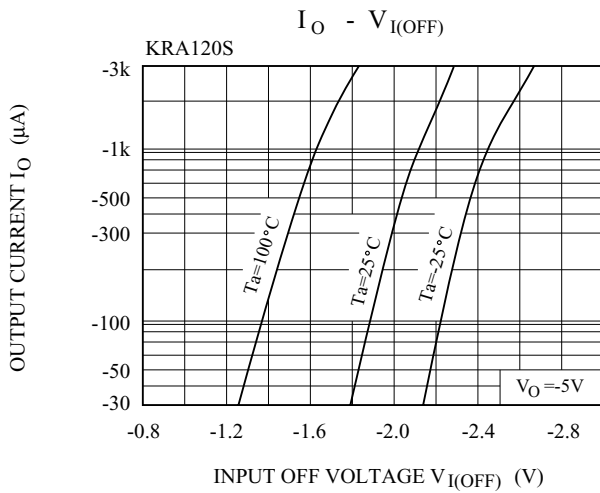
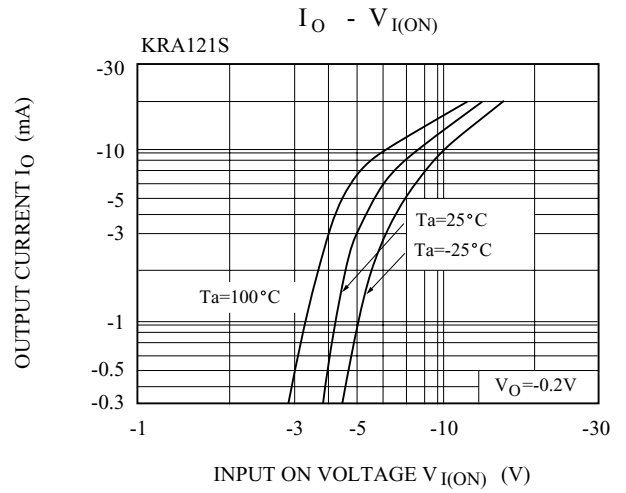
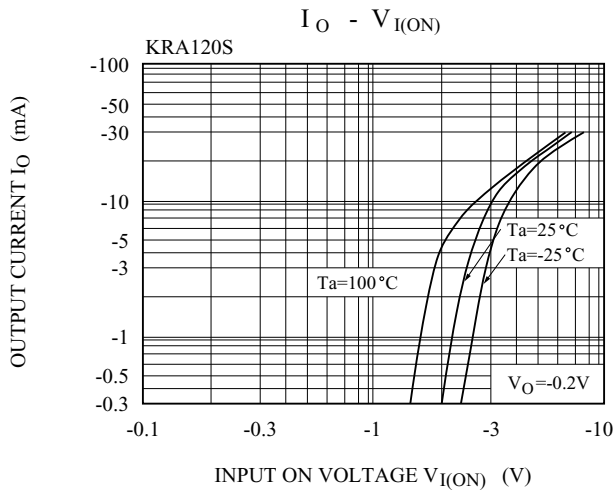
KRA116S~KRA122S



KRA116S~KRA122S



KRA116S~KRA122S



KRA116S~KRA122S

