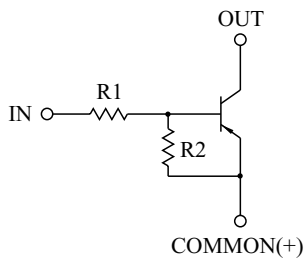


SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION

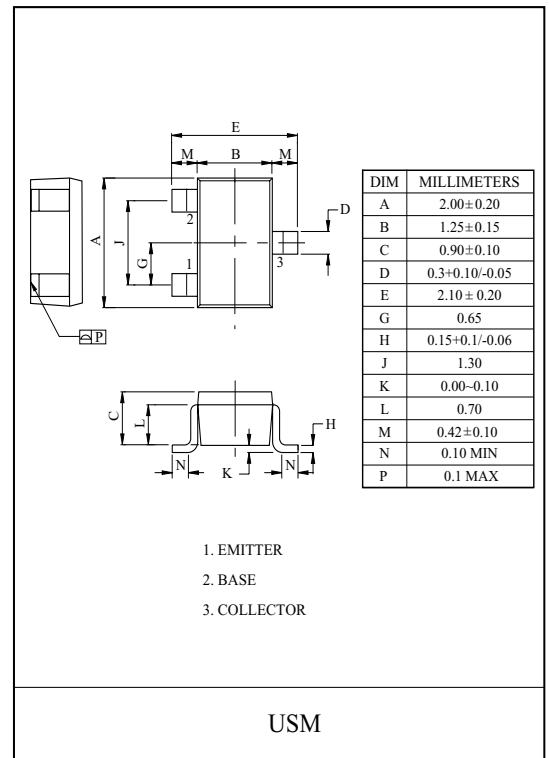
FEATURES

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

EQUIVALENT CIRCUIT



TYPE NO.	R1(k)	R2(k)
KRA316	1	10
KRA317	2.2	2.2
KRA318	2.2	10
KRA319	4.7	10
KRA320	10	4.7
KRA321	47	10
KRA322	100	100



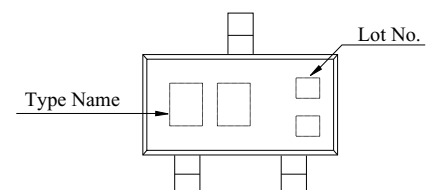
MAXIMUM RATING (Ta=25)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRA316 322	V_O	-50	V
Input Voltage	KRA316	V_I	-10, 5	V
	KRA317		-12, 10	
	KRA318		-12, 5	
	KRA319		-20, 7	
	KRA320		-30, 10	
	KRA321		-40, 15	
	KRA322		-40, 10	
Output Current	KRA316 322	I_O	-100	mA
Power Dissipation		P_D	100	mW
Junction Temperature		T_j	150	
Storage Temperature Range		T_{stg}	-55 150	

MARK SPEC

TYPE	KRA316	KRA317	KRA318	KRA319	KRA320	KRA321	KRA322
MARK	P2	P4	P5	P6	P7	P8	P9

Marking



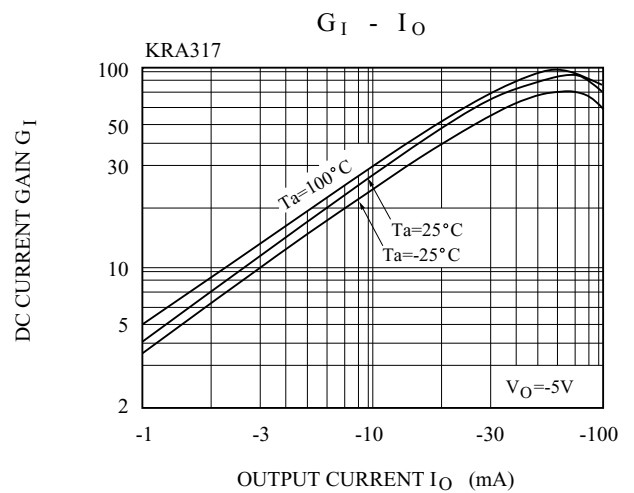
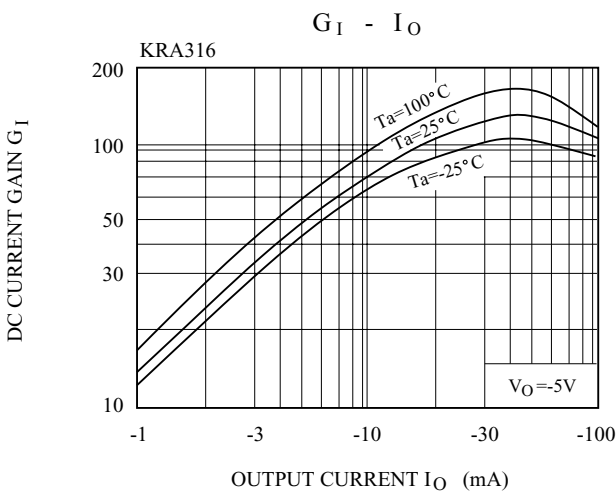
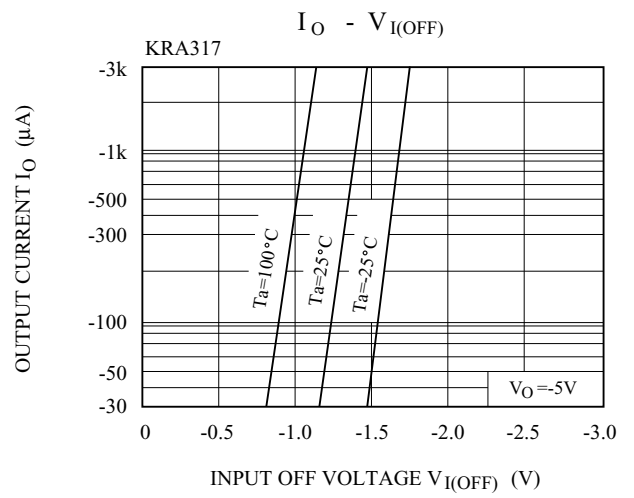
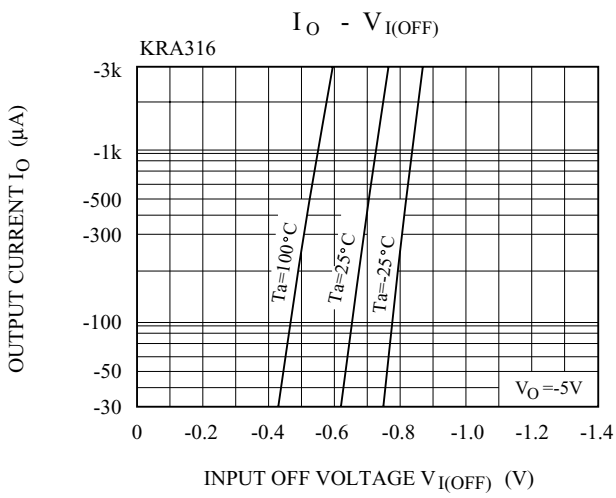
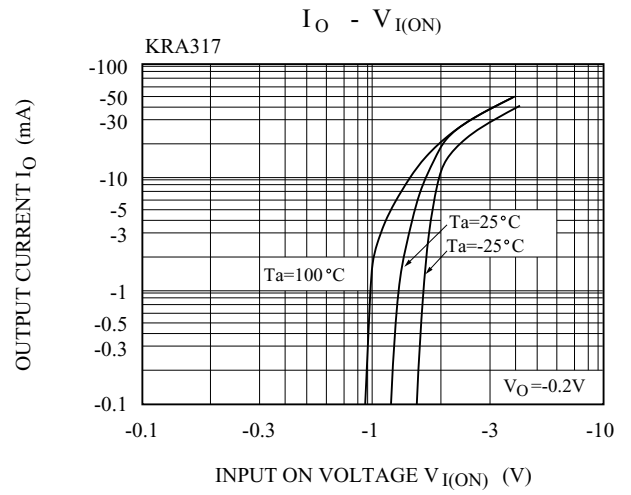
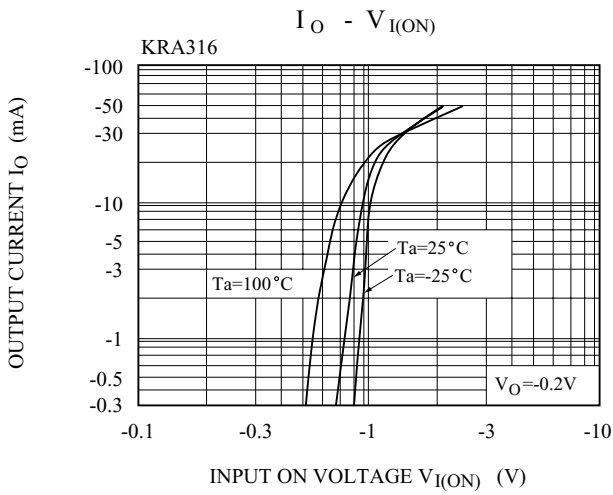
KRA316~KRA322

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

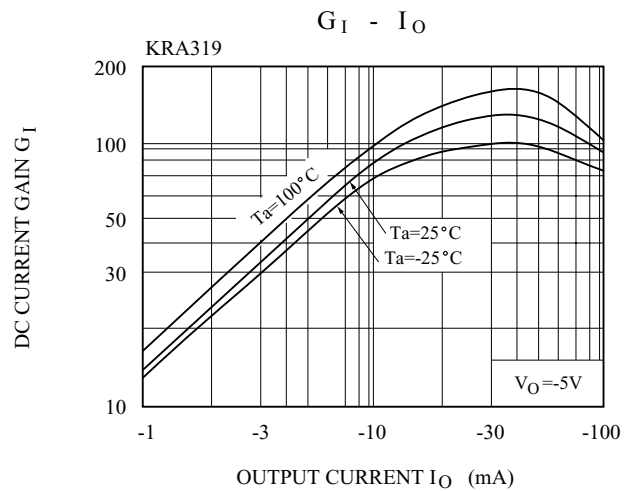
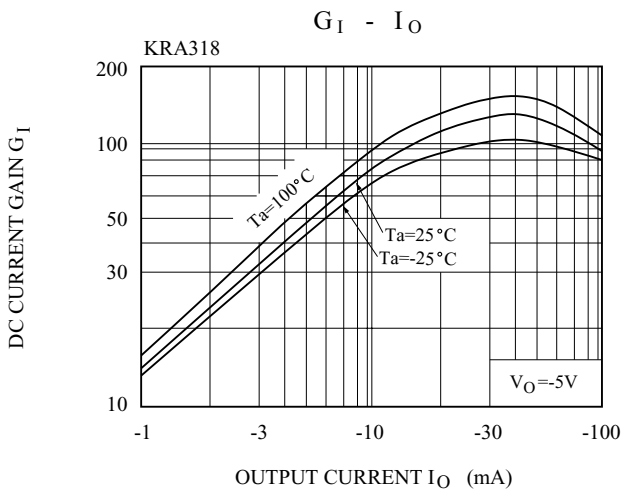
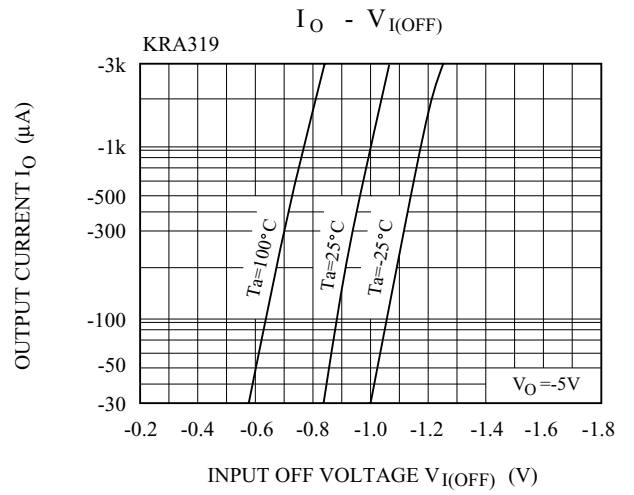
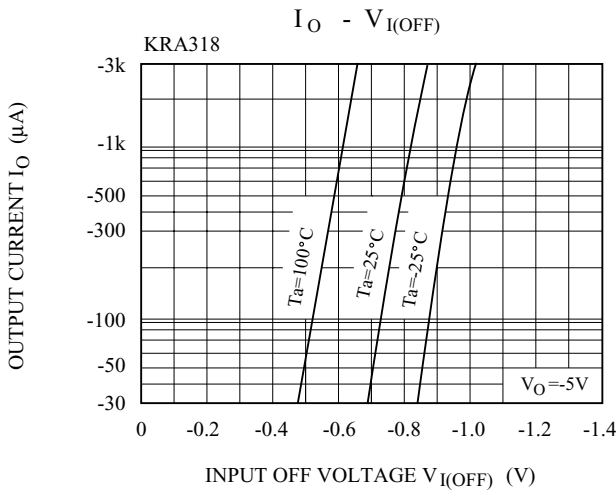
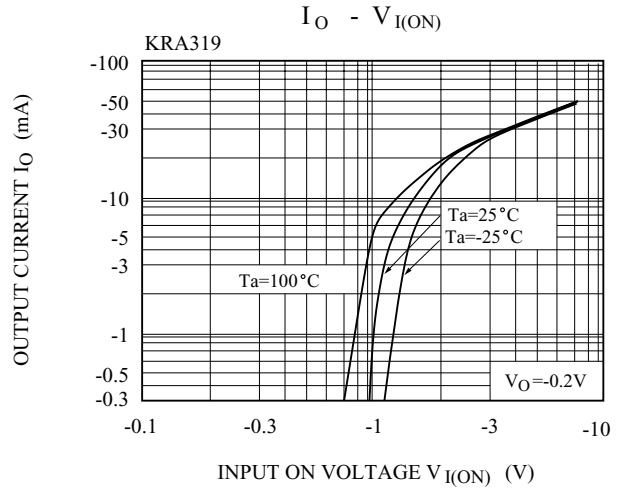
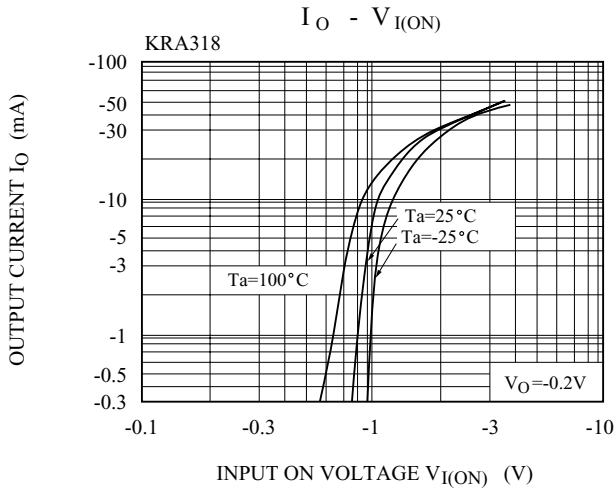
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current	KRA316 322	$I_{O(OFF)}$	$V_O=-50V, V_I=0$	-	-	-500	nA
DC Current Gain	KRA316	G_I	$V_O=-5V, I_O=-5mA$	33	-	-	
	KRA317		$V_O=-5V, I_O=-20mA$	20	-	-	
	KRA318		$V_O=-5V, I_O=-10mA$	33	-	-	
	KRA319		$V_O=-5V, I_O=-10mA$	30	-	-	
	KRA320		$V_O=-5V, I_O=-10mA$	24	-	-	
	KRA321		$V_O=-5V, I_O=-5mA$	33	-	-	
	KRA322		$V_O=-5V, I_O=-5mA$	62	-	-	
Output Voltage	KRA316	$V_{O(ON)}$	$I_O=-10mA, I_I=-0.5mA$	-	-	-0.3	V
	KRA317		$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	
	KRA318		$I_O=-10mA, I_I=-0.5mA$	-	-	-0.3	
	KRA319		$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	
	KRA320		$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	
	KRA321		$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	
	KRA322		$I_O=-5mA, I_I=-0.25mA$	-	-0.1	-0.3	
Input Voltage (ON)	KRA316	$V_{I(ON)}$	$V_O=-0.3V, I_O=-20mA$	-	-0.98	-3	V
	KRA317		$V_O=-0.3V, I_O=-20mA$	-	-1.83	-3	
	KRA318		$V_O=-0.3V, I_O=-20mA$	-	-1.22	-3	
	KRA319		$V_O=-0.3V, I_O=-20mA$	-	-1.76	-2.5	
	KRA320		$V_O=-0.3V, I_O=-2mA$	-	-2	-3	
	KRA321		$V_O=-0.3V, I_O=-2mA$	-	-3.9	-5	
	KRA322		$V_O=-0.3V, I_O=-1mA$	-	-1.64	-3	
Input Voltage (OFF)	KRA316	$V_{I(OFF)}$	$V_{CC}=-5V, I_O=-100\mu A$	-0.3	-0.63	-	V
	KRA317			-0.5	-1.15	-	
	KRA318			-0.3	-0.67	-	
	KRA319			-0.3	-0.82	-	
	KRA320			-0.8	-1.68	-	
	KRA321			-1	-3.09	-	
	KRA322			-0.5	-1.17	-	
Transition Frequency	KRA316 322	f_T^*	$V_O=-10V, I_O=-5mA$	-	250	-	MHz
Input Current	KRA316	I_I	$V_I=-5V$	-	-	-7.2	mA
	KRA317			-	-	-3.8	
	KRA318			-	-	-3.8	
	KRA319			-	-	-1.8	
	KRA320			-	-	-0.88	
	KRA321			-	-	-0.16	
	KRA322			-	-	-0.15	
Input Resistor	KRA316	R1	-	0.7	1	1.3	k
	KRA317			1.54	2.2	2.86	
	KRA318			1.54	2.2	2.86	
	KRA319			3.29	4.7	6.11	
	KRA320			7	10	13	
	KRA321			32.9	47	61.1	
	KRA322			70	100	130	
Resistor Ratio	KRA316	R2/R1	-	8	10	12	
	KRA317			0.8	1.0	1.2	
	KRA318			3.6	4.5	5.5	
	KRA319			1.7	2.1	2.6	
	KRA320			0.37	0.47	0.57	
	KRA321			0.17	0.21	0.26	
	KRA322			0.8	1.0	1.2	

Note : * Characteristic of Transistor Only.

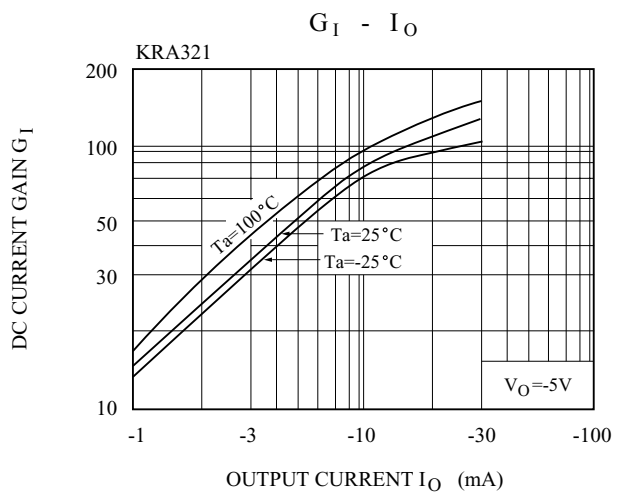
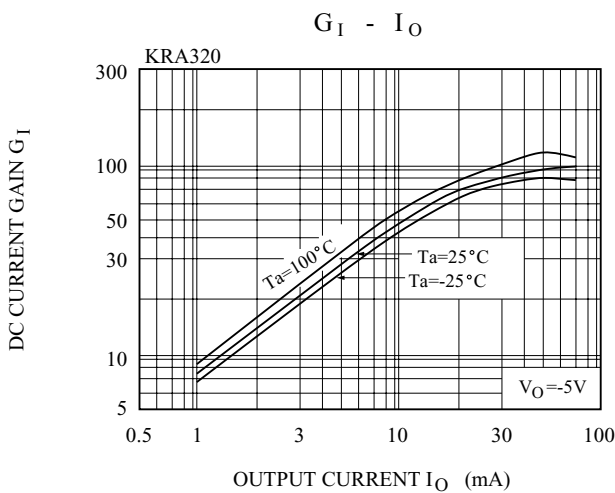
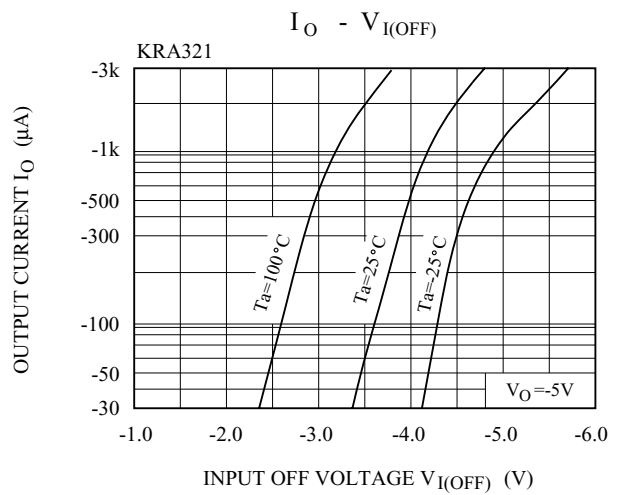
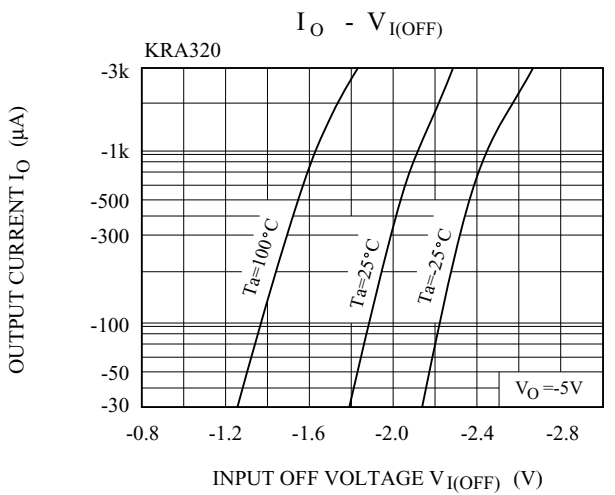
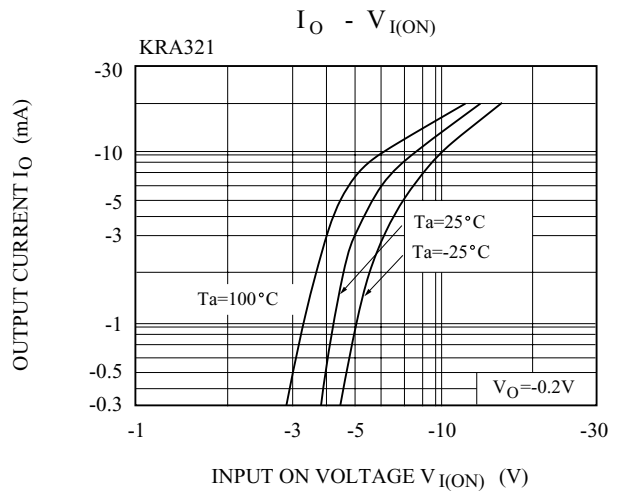
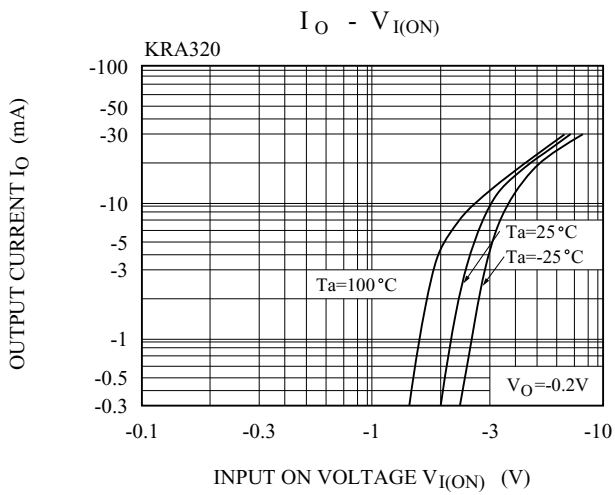
KRA316~KRA322



KRA316~KRA322



KRA316~KRA322



KRA316~KRA322

