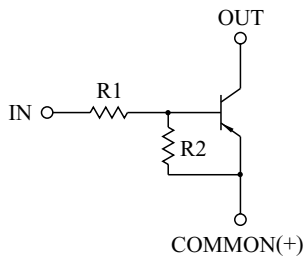


SWITCHING APPLICATION.  
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION

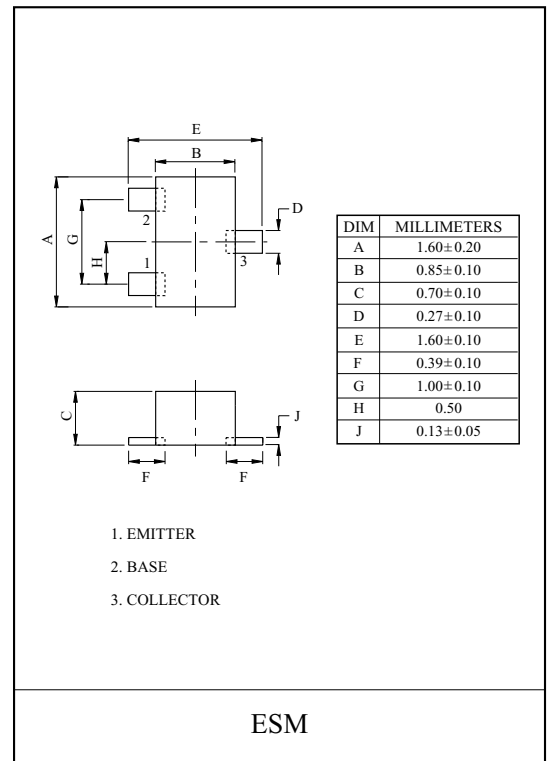
### FEATURES

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

### EQUIVALENT CIRCUIT



TYPE NO.	R1(k )	R2(k )
KRA316E	1	10
KRA317E	2.2	2.2
KRA318E	2.2	10
KRA319E	4.7	10
KRA320E	10	4.7
KRA321E	47	10
KRA322E	100	100



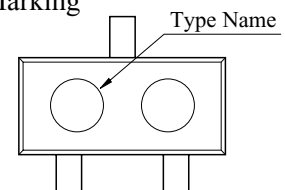
### MAXIMUM RATING (Ta=25 )

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRA316E 322E	$V_O$	-50	V
Input Voltage	KRA316E	$V_I$	-10, 5	V
	KRA317E		-12, 10	
	KRA318E		-12, 5	
	KRA319E		-20, 7	
	KRA320E		-30, 10	
	KRA321E		-40, 15	
	KRA322E		-40, 10	
Output Current	KRA316E 322E	$I_O$	-100	mA
Power Dissipation		$P_D$	100	mW
Junction Temperature		$T_j$	-55~150	
Storage Temperature Range		$T_{stg}$	-55~150	

### MARK SPEC

TYPE	KRA316E	KRA317E	KRA318E	KRA319E	KRA320E	KRA321E	KRA322E
MARK	P2	P4	P5	P6	P7	P8	P9

### Marking



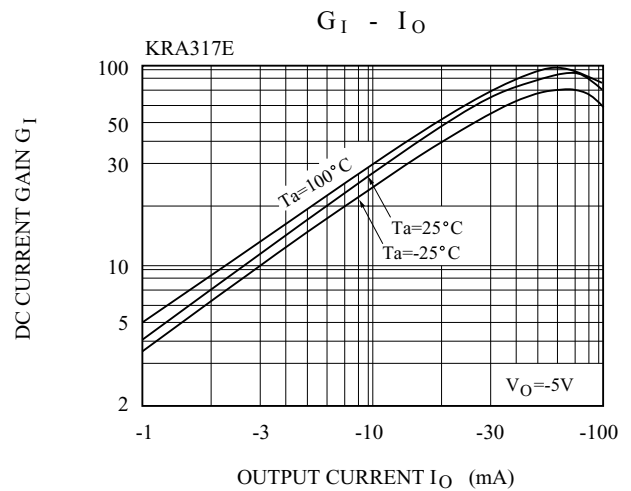
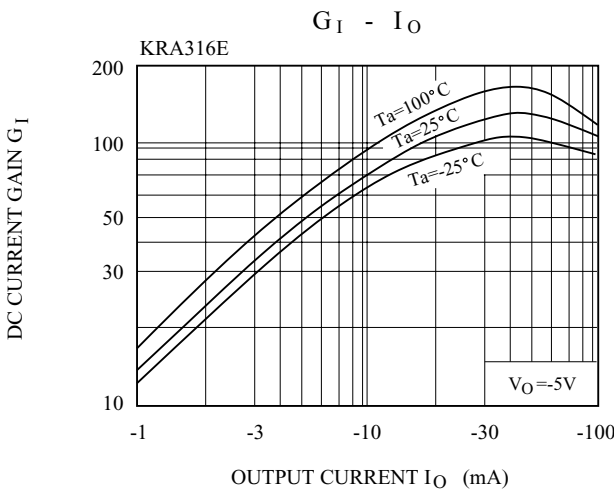
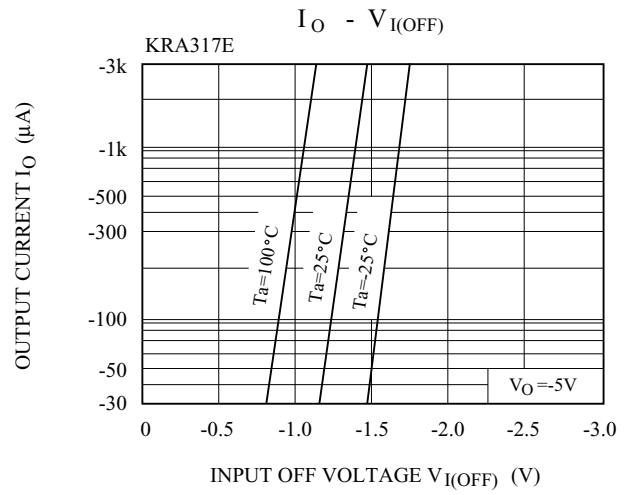
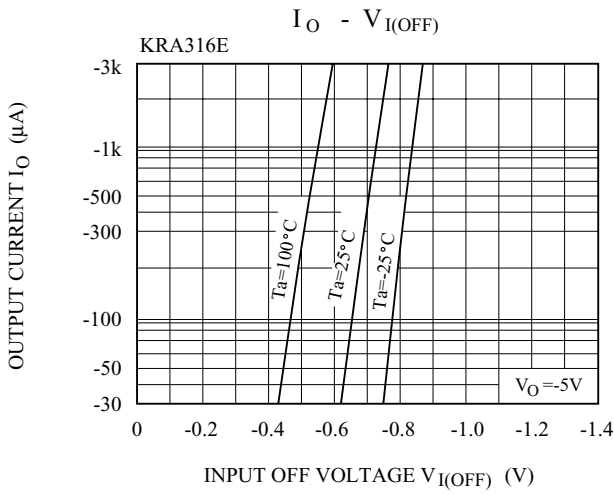
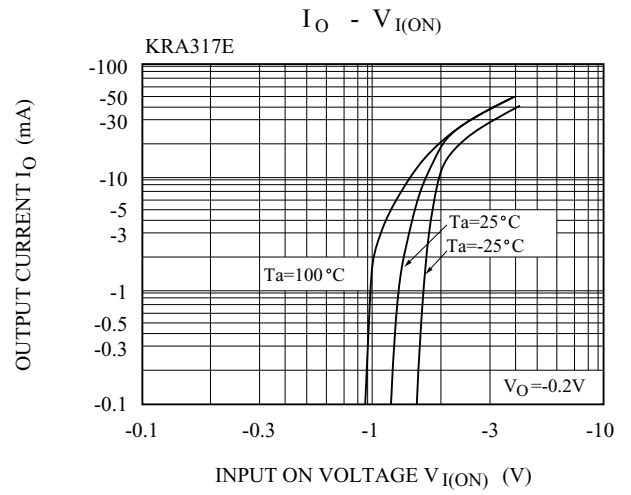
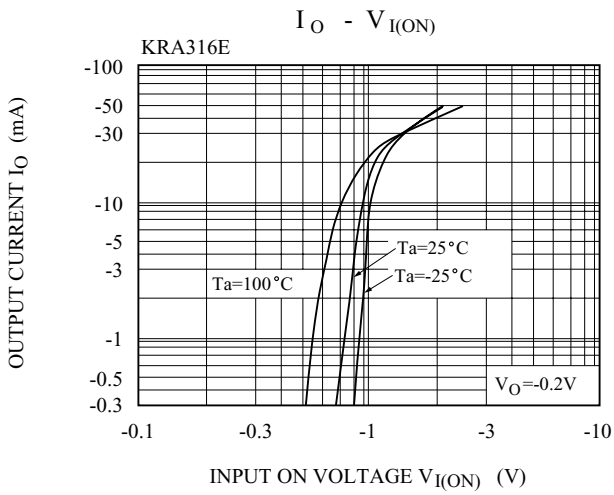
# KRA316E~KRA322E

## ELECTRICAL CHARACTERISTICS (Ta=25 °C)

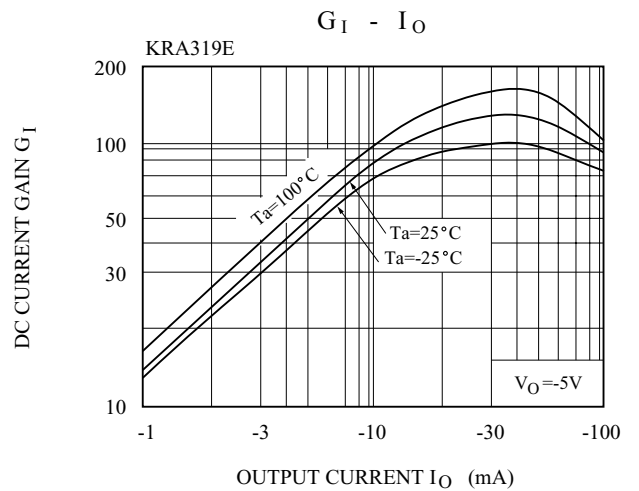
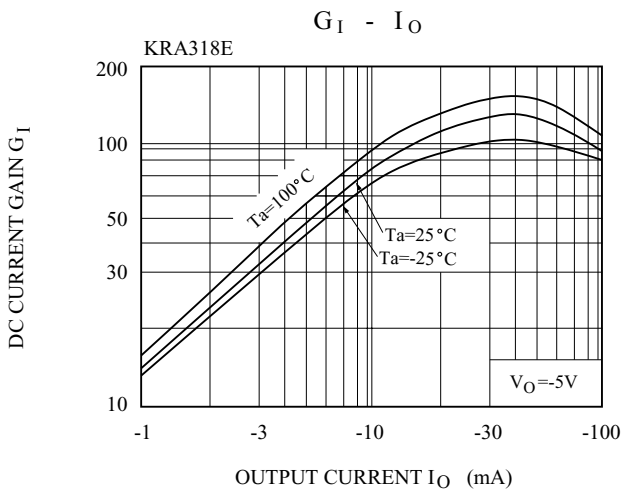
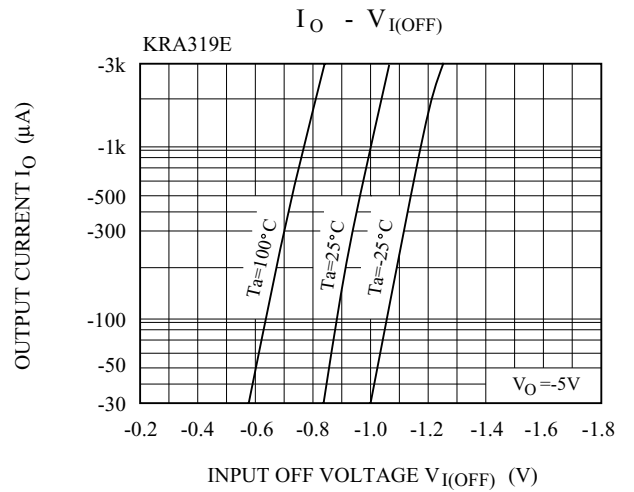
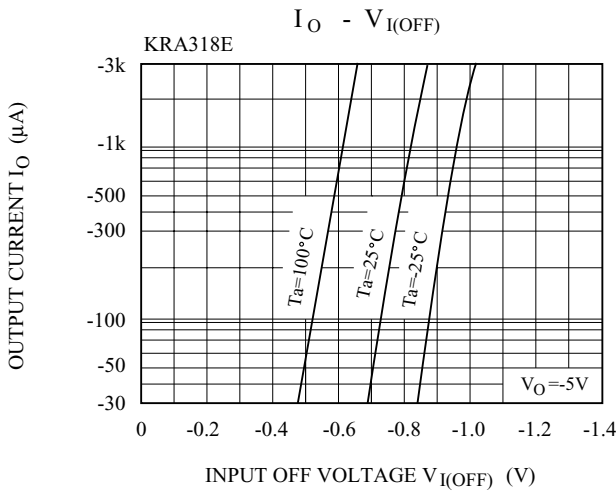
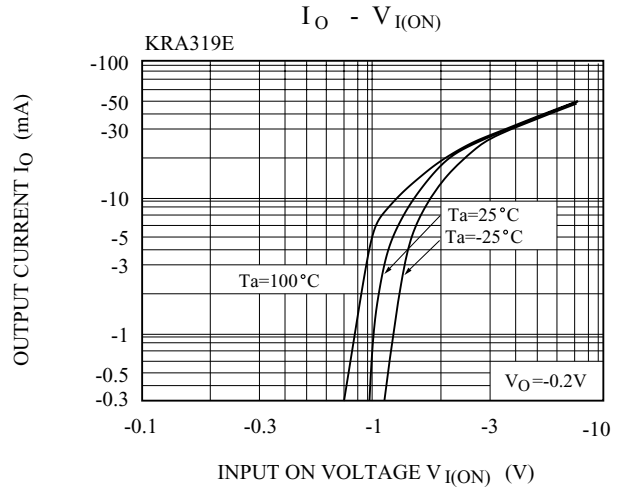
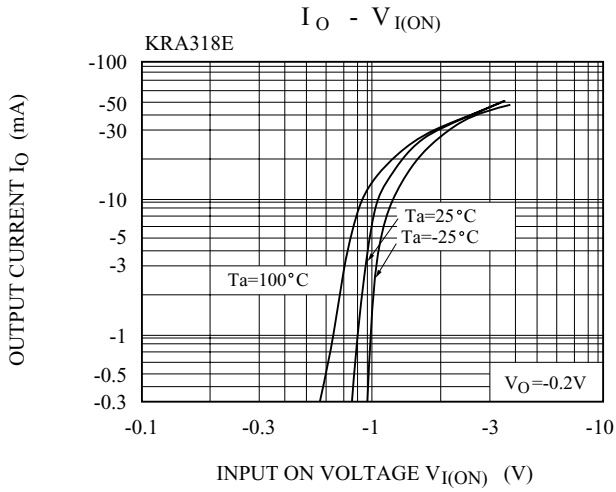
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current	KRA316E 322E	$I_{O(OFF)}$	$V_O=-50V, V_I=0$	-	-	-500	nA
DC Current Gain	KRA316E	$G_I$	$V_O=-5V, I_O=-5mA$	33	-	-	
	KRA317E		$V_O=-5V, I_O=-20mA$	20	-	-	
	KRA318E		$V_O=-5V, I_O=-10mA$	33	-	-	
	KRA319E		$V_O=-5V, I_O=-10mA$	30	-	-	
	KRA320E		$V_O=-5V, I_O=-10mA$	24	-	-	
	KRA321E		$V_O=-5V, I_O=-5mA$	33	-	-	
	KRA322E		$V_O=-5V, I_O=-5mA$	62	-	-	
Output Voltage	KRA316E	$V_{O(ON)}$	$I_O=-10mA, I_I=-0.5mA$	-	-	-0.3	V
	KRA317E		$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	
	KRA318E		$I_O=-10mA, I_I=-0.5mA$	-	-	-0.3	
	KRA319E		$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	
	KRA320E		$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	
	KRA321E		$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	
	KRA322E		$I_O=-5mA, I_I=-0.25mA$	-	-0.1	-0.3	
Input Voltage (ON)	KRA316E	$V_{I(ON)}$	$V_O=-0.3V, I_O=-20mA$	-	-0.98	-3	V
	KRA317E		$V_O=-0.3V, I_O=-20mA$	-	-1.83	-3	
	KRA318E		$V_O=-0.3V, I_O=-20mA$	-	-1.22	-3	
	KRA319E		$V_O=-0.3V, I_O=-20mA$	-	-1.76	-2.5	
	KRA320E		$V_O=-0.3V, I_O=-2mA$	-	-2	-3	
	KRA321E		$V_O=-0.3V, I_O=-2mA$	-	-3.9	-5	
	KRA322E		$V_O=-0.3V, I_O=-1mA$	-	-1.64	-3	
Input Voltage (OFF)	KRA316E	$V_{I(OFF)}$	$V_{CC}=-5V, I_O=-100\mu A$	-0.3	-0.63	-	V
	KRA317E			-0.5	-1.15	-	
	KRA318E			-0.3	-0.67	-	
	KRA319E			-0.3	-0.82	-	
	KRA320E			-0.8	-1.68	-	
	KRA321E			-1	-3.09	-	
	KRA322E			-0.5	-1.17	-	
Transition Frequency	KRA316E 322E	$f_T^*$	$V_O=-10V, I_O=-5mA$	-	250	-	MHz
Input Current	KRA316E	$I_I$	$V_I=-5V$	-	-	-7.2	mA
	KRA317E			-	-	-3.8	
	KRA318E			-	-	-3.8	
	KRA319E			-	-	-1.8	
	KRA320E			-	-	-0.88	
	KRA321E			-	-	-0.16	
	KRA322E			-	-	-0.15	
Input Resistor	KRA316E	R1	-	0.7	1	1.3	k
	KRA317E			1.54	2.2	2.86	
	KRA318E			1.54	2.2	2.86	
	KRA319E			3.29	4.7	6.11	
	KRA320E			7	10	13	
	KRA321E			32.9	47	61.1	
	KRA322E			70	100	130	
Resistor Ratio	KRA316E	R2/R1	-	8	10	12	
	KRA317E			0.8	1.0	1.2	
	KRA318E			3.6	4.5	5.5	
	KRA319E			1.7	2.1	2.6	
	KRA320E			0.37	0.47	0.57	
	KRA321E			0.17	0.21	0.26	
	KRA322E			0.8	1.0	1.2	

Note : \* Characteristic of Transistor Only.

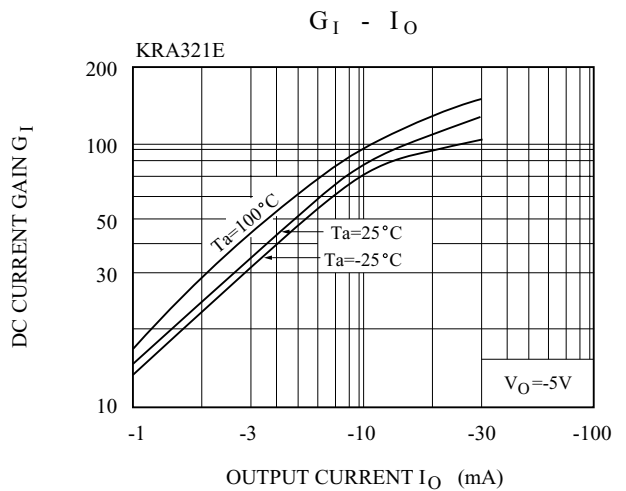
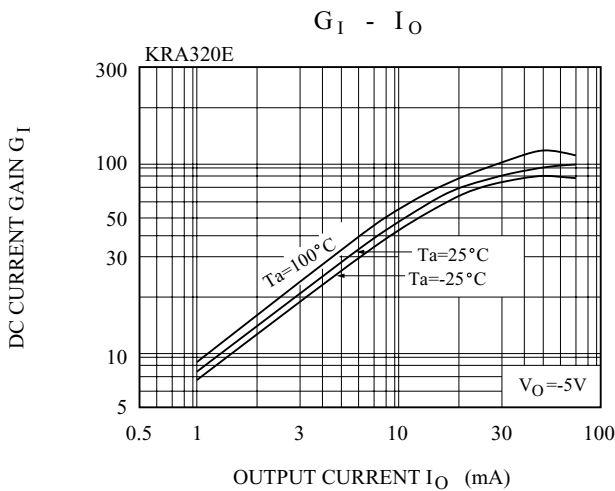
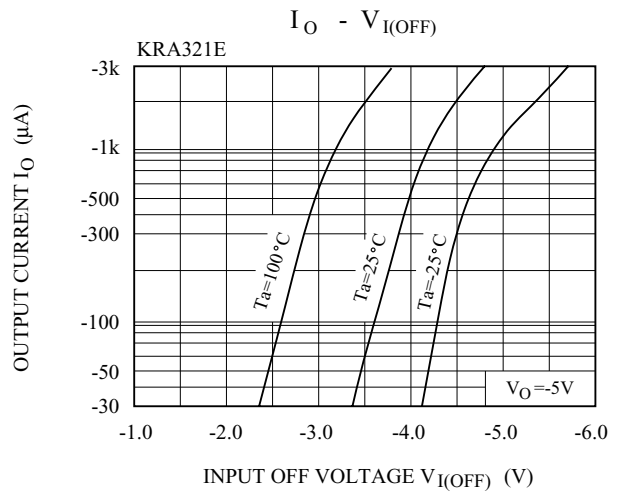
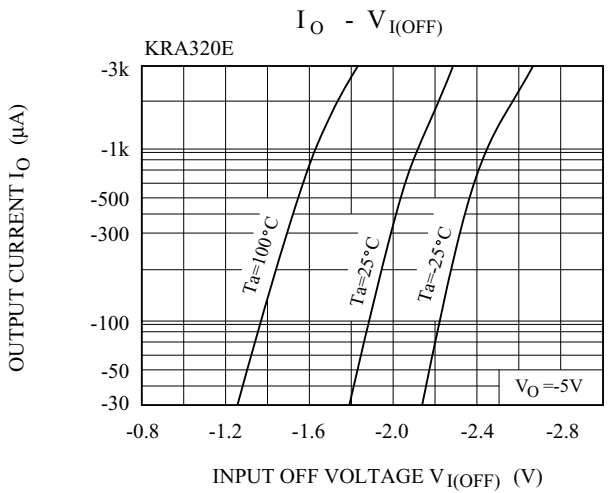
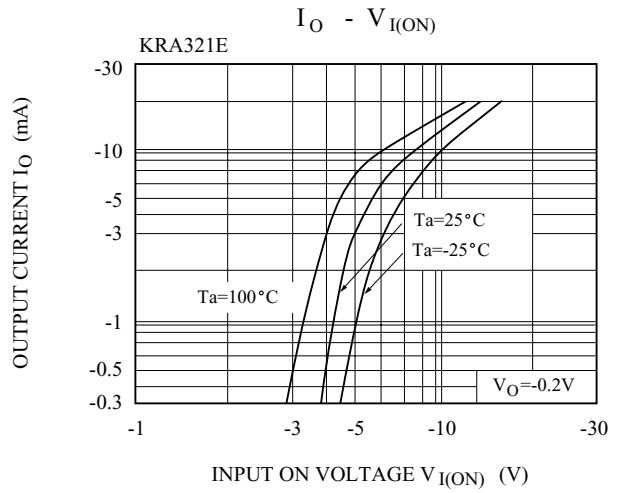
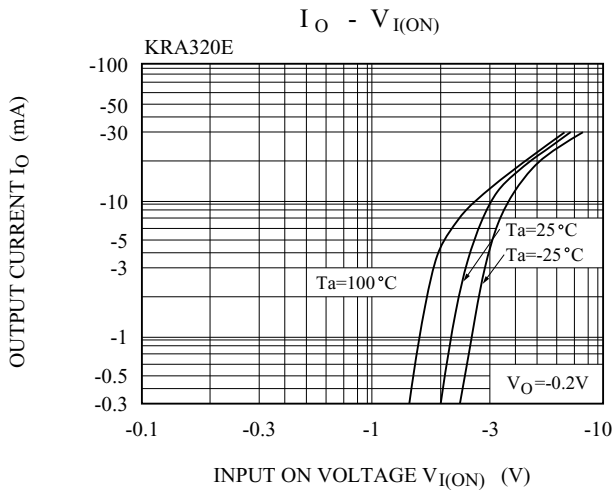
# KRA316E~KRA322E



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