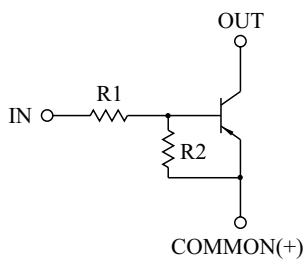


SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION

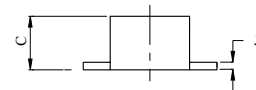
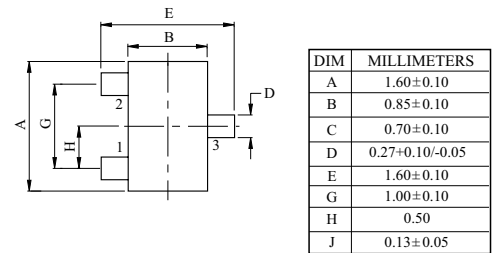
FEATURES

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

EQUIVALENT CIRCUIT



TYPE NO.	R1(k Ω)	R2(k Ω)
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



1. EMITTER
2. BASE
3. COLLECTOR

ESM

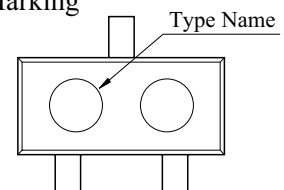
MAXIMUM RATING (Ta=25℃)

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	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



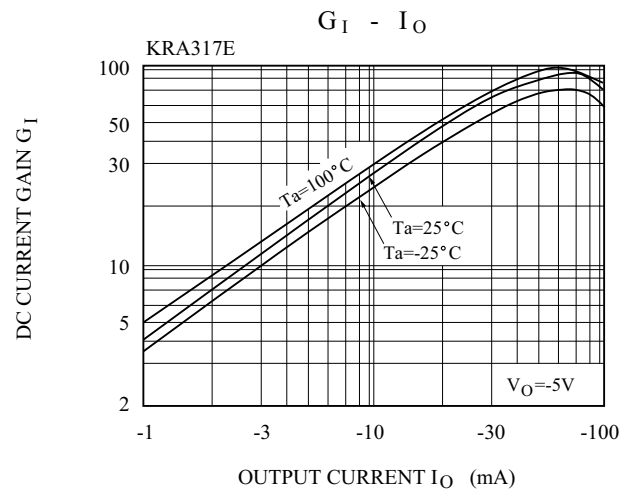
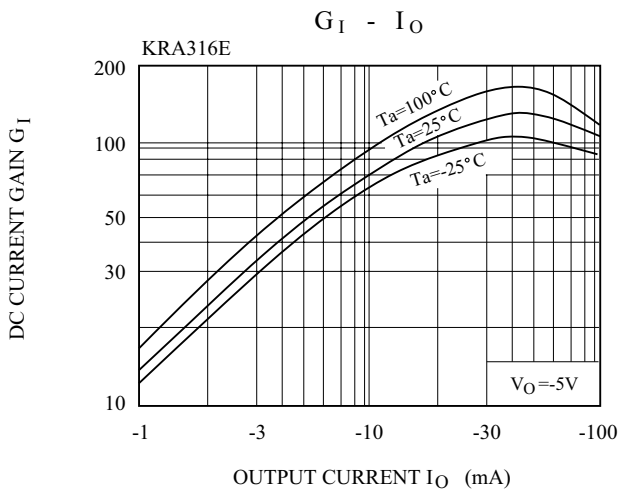
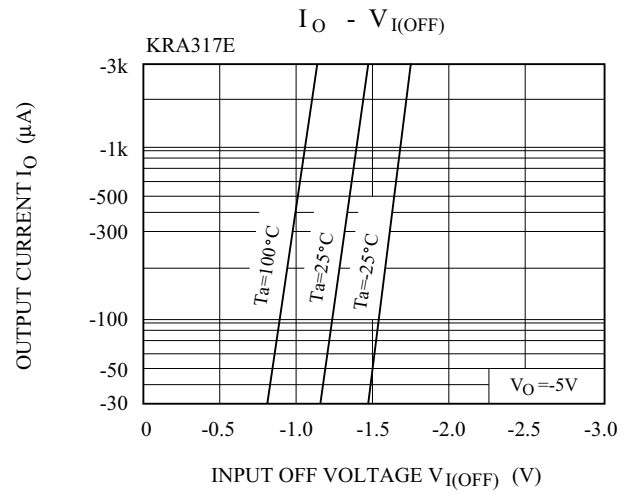
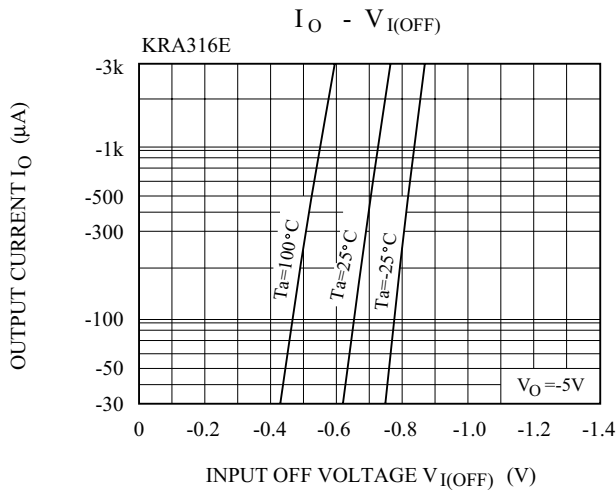
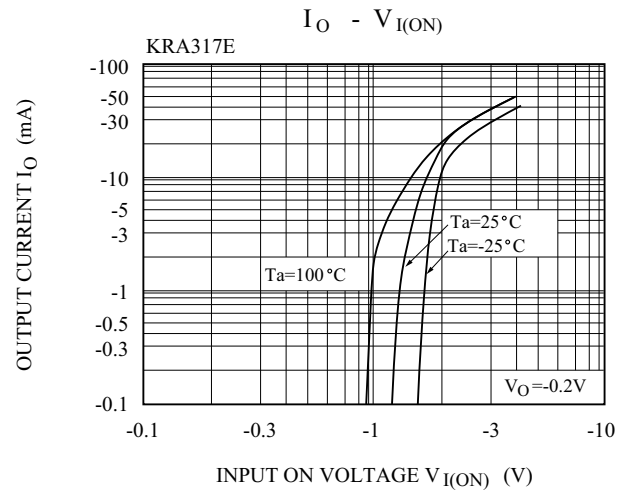
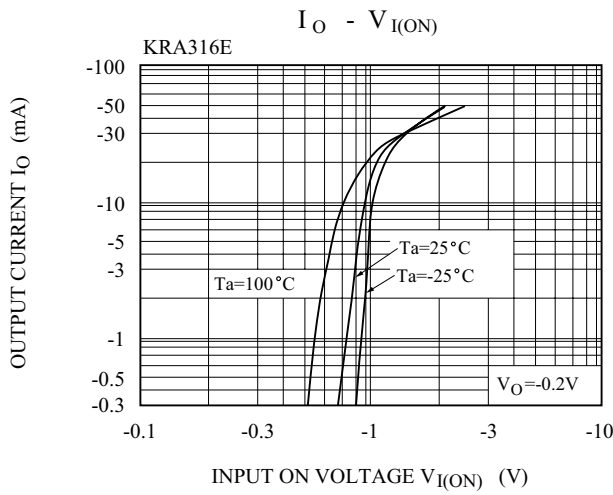
KRA316E~KRA322E

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

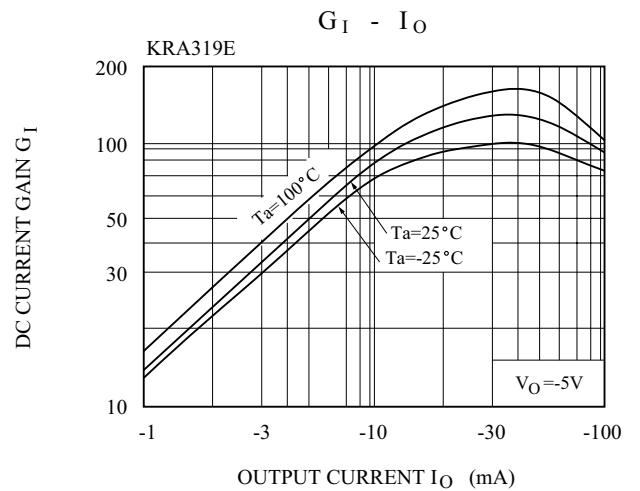
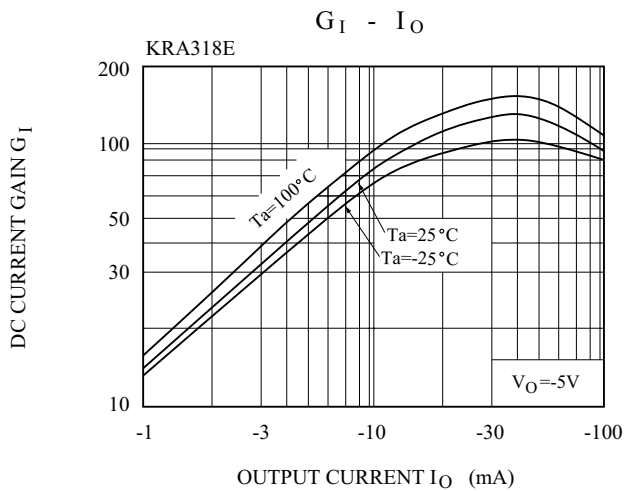
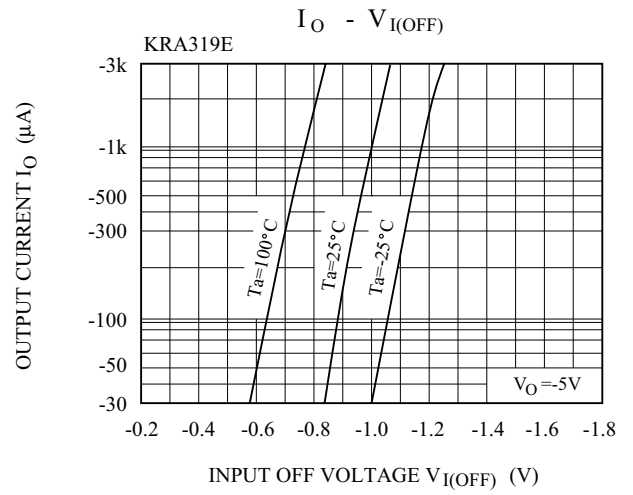
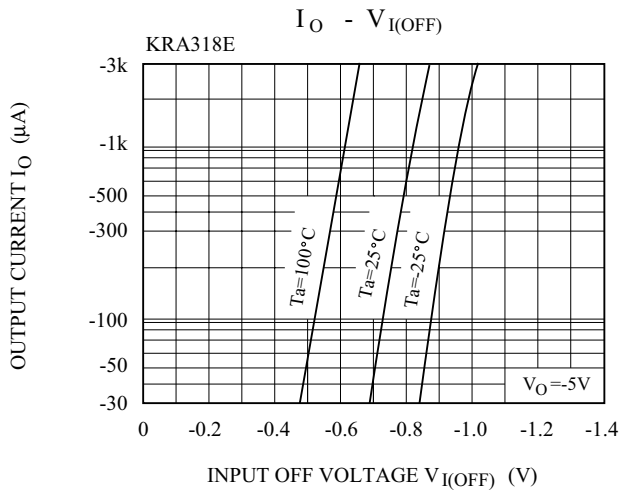
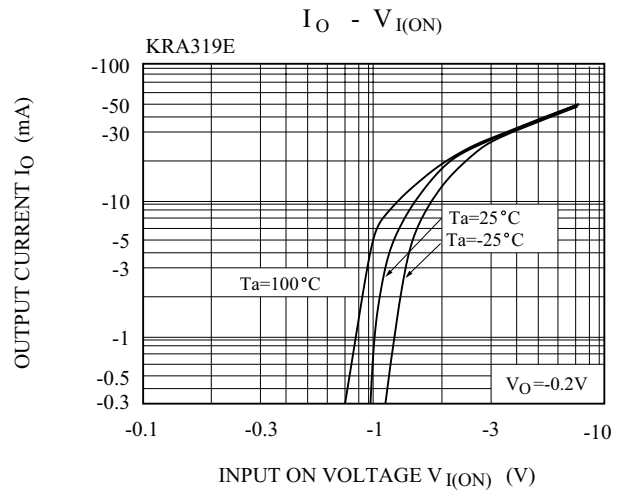
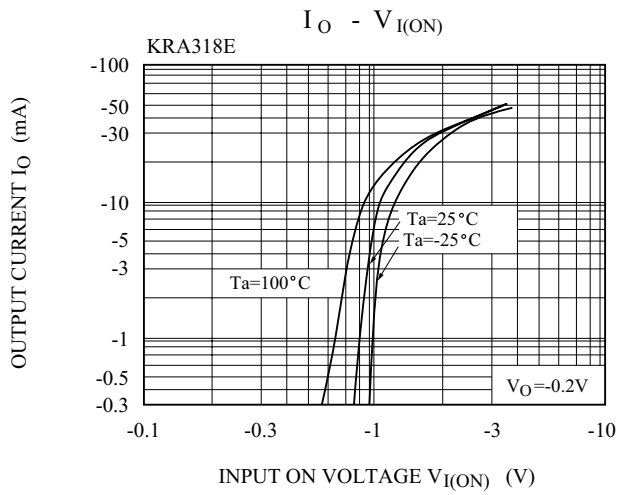
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current	KRA316E ~ 322E	$I_{O(OFF)}$	$V_O = -50V, V_I = 0$	-	-	-500	nA
DC Current Gain	KRA316E	G_I	$V_O = -5V, I_O = -5mA$	33	-	-	
	KRA317E		$V_O = -5V, I_O = -20mA$	20	-	-	
	KRA318E		$V_O = -5V, I_O = -10mA$	33	-	-	
	KRA319E		$V_O = -5V, I_O = -10mA$	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	

Note : * Characteristic of Transistor Only.

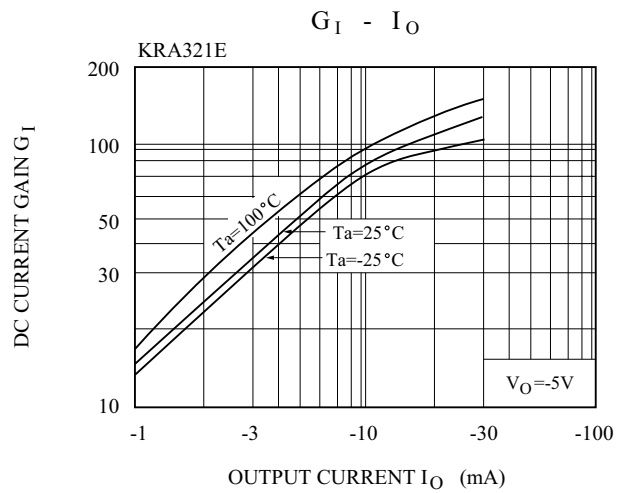
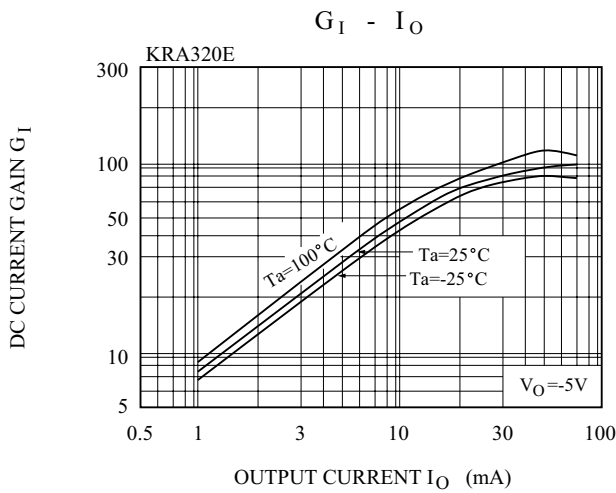
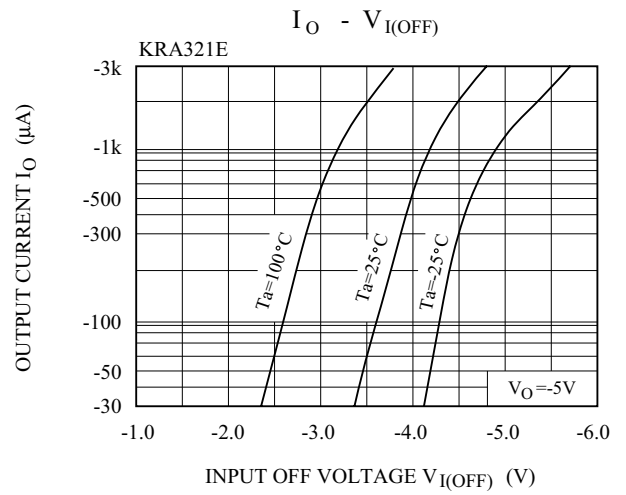
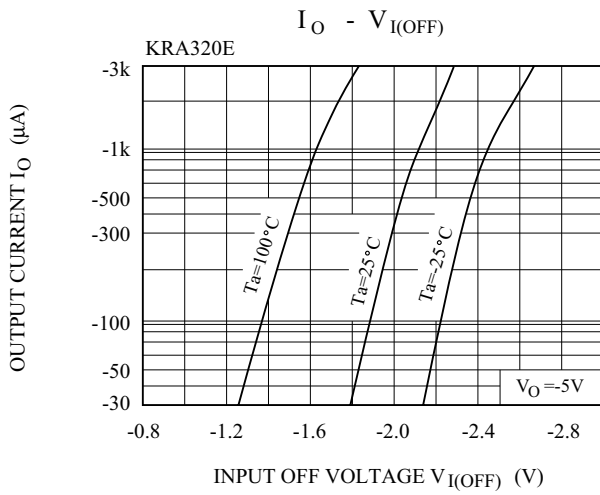
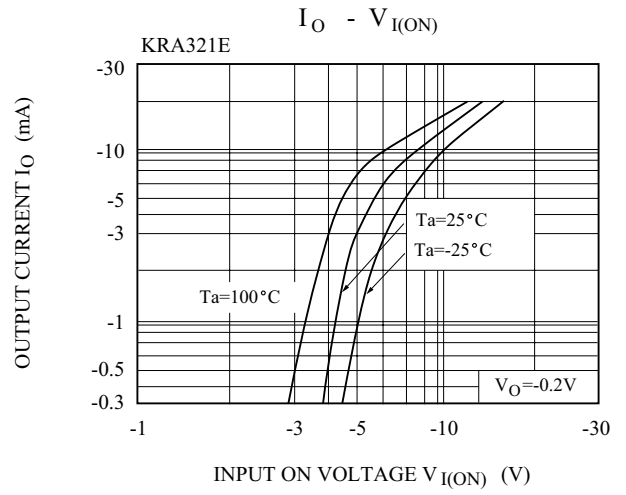
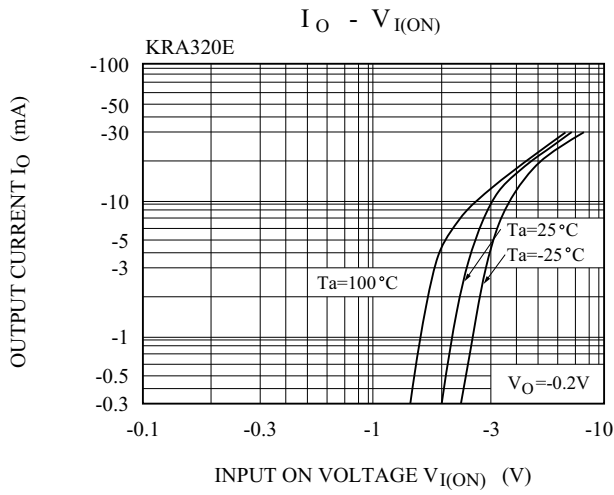
KRA316E~KRA322E



KRA316E~KRA322E



KRA316E~KRA322E



KRA316E~KRA322E

