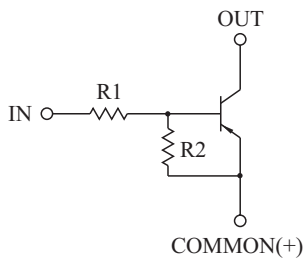


**SWITCHING APPLICATION.  
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.**

### FEATURES

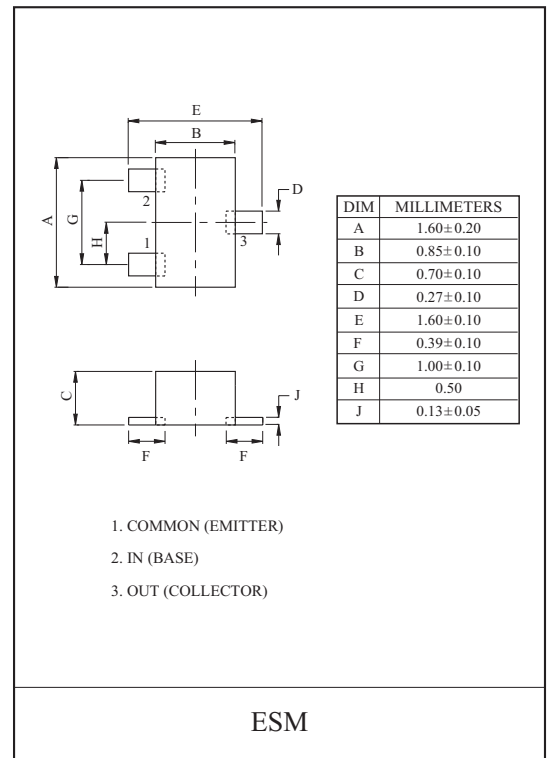
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.
- High Packing Density.
- Suffix U : Qualified to AEC-Q101.  
ex) KRA302E-RTK/HU

### EQUIVALENT CIRCUIT



### BIAS RESISTOR VALUES

TYPE NO.	R1(k )	R2(k )
KRA301E	4.7	4.7
KRA302E	10	10
KRA303E	22	22
KRA304E	47	47
KRA305E	2.2	47
KRA306E	4.7	47



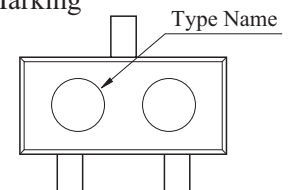
### MAXIMUM RATING (Ta=25 )

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRA301E 306E	V <sub>O</sub>	-50	V
Input Voltage	KRA301E	V <sub>I</sub>	-20, 10	V
	KRA302E		-30, 10	
	KRA303E		-40, 10	
	KRA304E		-40, 10	
	KRA305E		-12, 5	
	KRA306E		-20, 5	
Output Current	KRA301E 306E	I <sub>O</sub>	-100	mA
Power Dissipation		P <sub>D</sub>	100	mW
Junction Temperature		T <sub>j</sub>	-55~150	
Storage Temperature Range		T <sub>stg</sub>	-55~150	

### MARK SPEC

TYPE	KRA301E	KRA302E	KRA303E	KRA304E	KRA305E	KRA306E
MARK	PA	PB	PC	PD	PE	PF

### Marking



# KRA301E~KRA306E

## ELECTRICAL CHARACTERISTICS (Ta=25 )

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current	KRA301E 306E	$I_{O(OFF)}$	$V_O=-50V, V_I=0$	-	-	-500	nA
DC Current Gain	KRA301E	$G_I$	$V_O=-5V, I_O=-10mA$	30	55	-	
	KRA302E			50	80	-	
	KRA303E			70	120	-	
	KRA304E			80	200	-	
	KRA305E			80	200	-	
	KRA306E			80	200	-	
Output Voltage	KRA301E 306E	$V_{O(ON)}$	$I_O=-10mA, I_I=-0.5mA$	-	-0.1	-0.3	V
Input Voltage (ON)	KRA301E	$V_{I(ON)}$	$V_O=-0.2V, I_O=-5mA$	-	-1.5	-2.0	V
	KRA302E			-	-1.8	-2.4	
	KRA303E			-	-2.1	-3.0	
	KRA304E			-	-2.8	-5.0	
	KRA305E			-	-0.8	-1.1	
	KRA306E			-	-0.9	-1.3	
Input Voltage (OFF)	KRA301E 304E	$V_{I(OFF)}$	$V_O=-5V, I_O=-0.1mA$	-1.0	-1.2	-	V
	KRA305E 306E			-0.5	-0.65	-	
Transition Frequency	KRA301E 306E	$f_T^*$	$V_O=-10V, I_O=-5mA$	-	200	-	MHz
Input Current	KRA301E	$I_I$	$V_I=-5V$	-	-	-1.8	mA
	KRA302E			-	-	-0.88	
	KRA303E			-	-	-0.36	
	KRA304E			-	-	-0.18	
	KRA305E			-	-	-3.6	
	KRA306E			-	-	-1.8	
Input Resistor	KRA301E	R1	-	3.29	4.7	6.11	k
	KRA302E			7	10	13	
	KRA303E			15.4	22	28.6	
	KRA304E			32.9	47	61.1	
	KRA305E			1.54	2.2	2.86	
	KRA306E			3.29	4.7	6.11	
Resistor Ratio	KRA301E 304E	R2/R1	-	0.8	1.0	1.2	
	KRA305E			17	21	26	
	KRA306E			8	10	12	

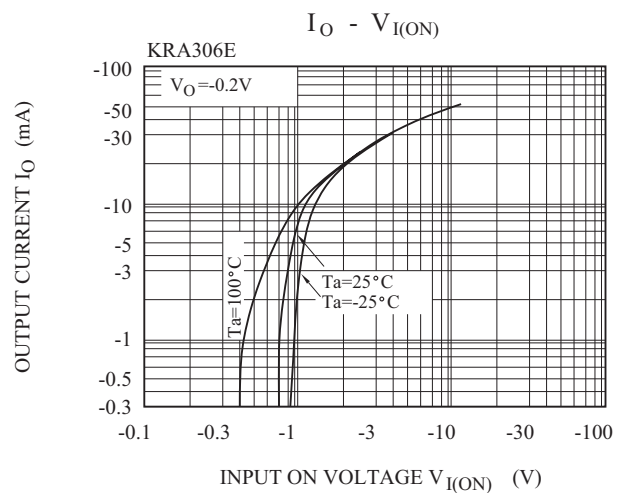
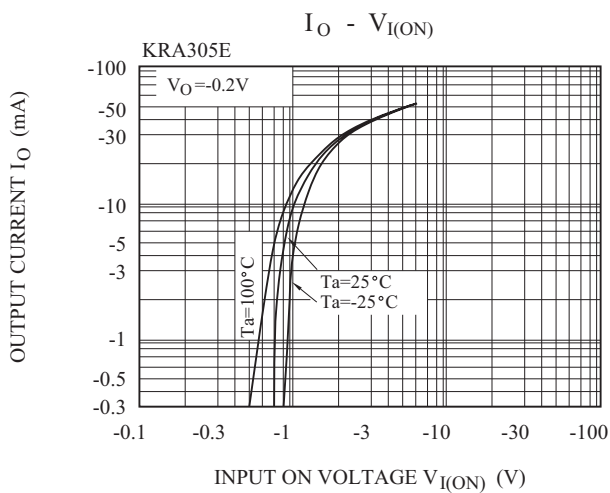
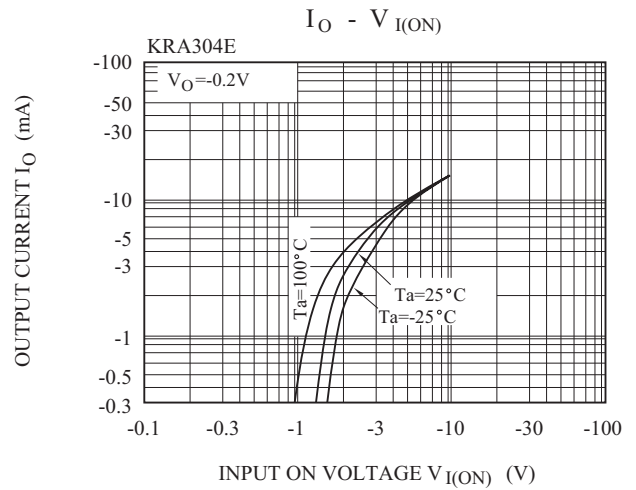
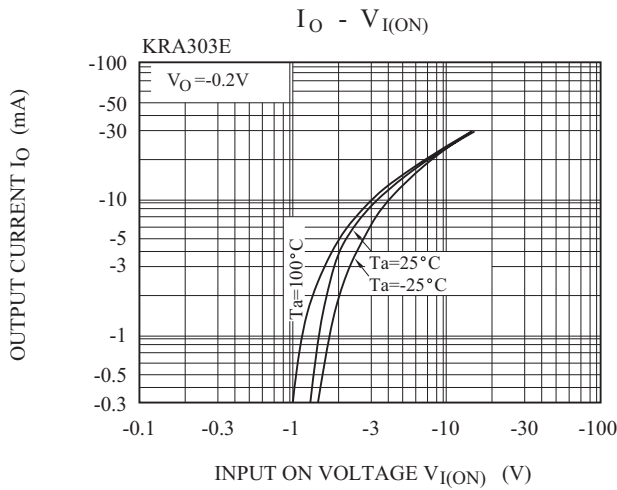
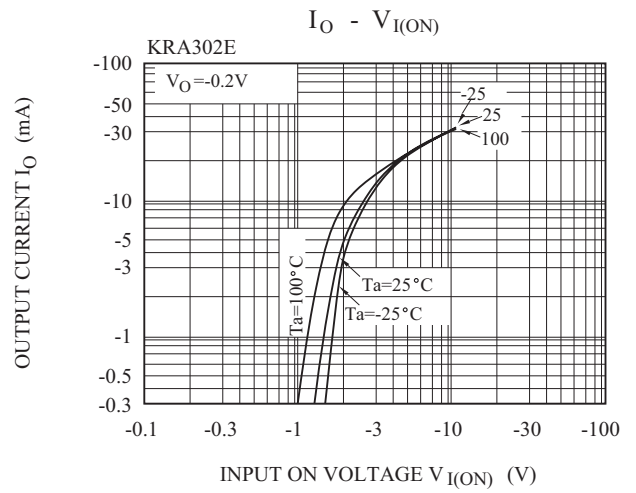
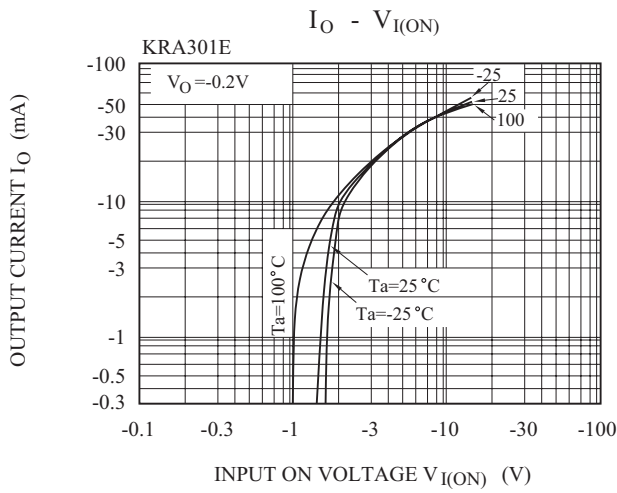
Note : \* Characteristic of Transistor Only.

# KRA301E~KRA306E

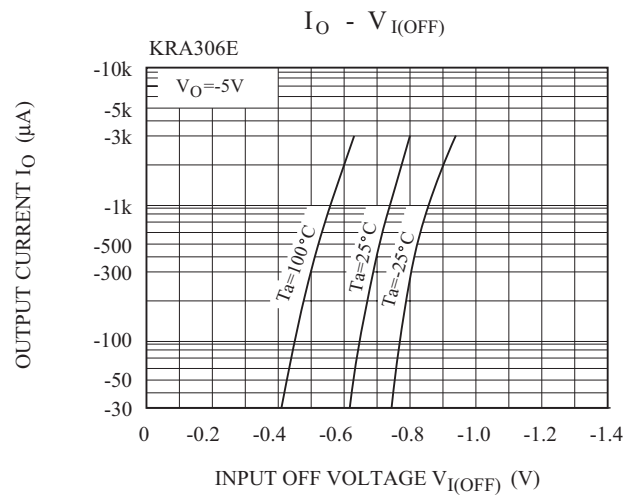
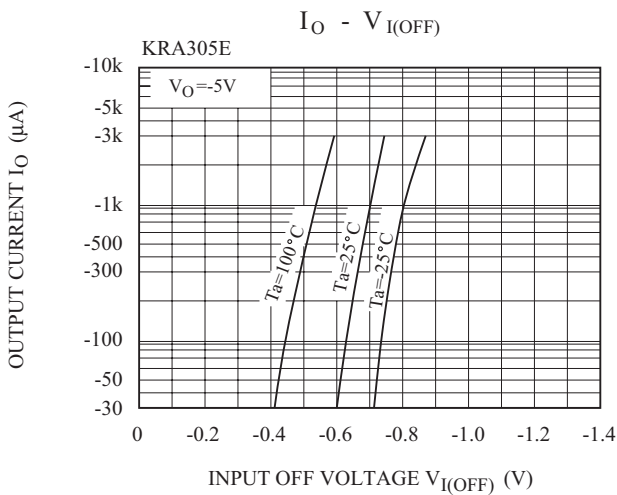
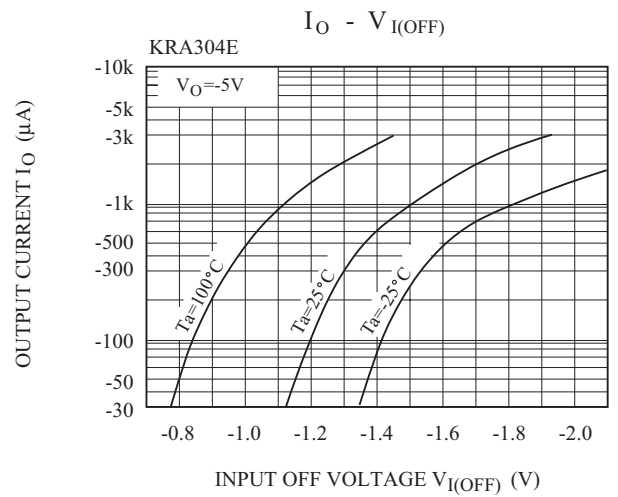
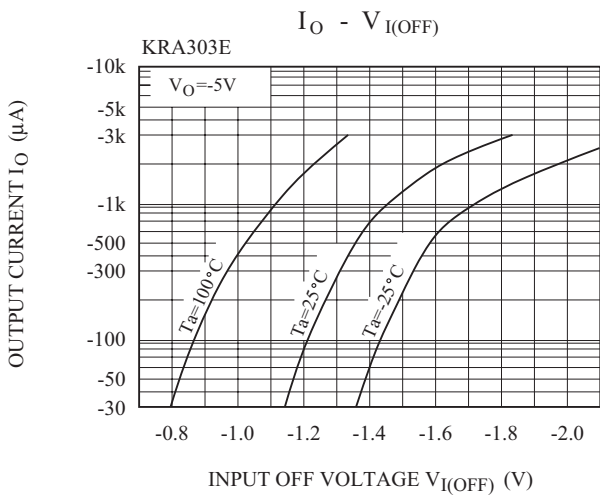
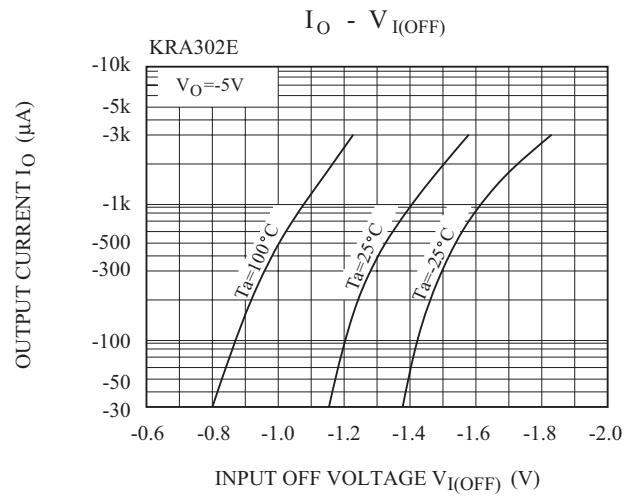
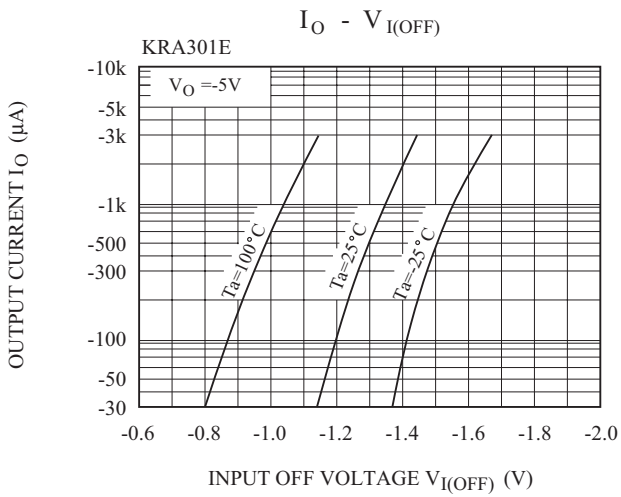
## ELECTRICAL CHARACTERISTICS (Ta=25 )

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Switching Time	Rise Time	KRA301E	$V_O=-5V$ $V_{IN}=-5V$ $R_L=1k$	-	0.07	-	$\mu S$
		KRA302E		-	0.06	-	
		KRA303E		-	0.2	-	
		KRA304E		-	0.24	-	
		KRA305E		-	0.02	-	
		KRA306E		-	0.07	-	
	Storage Time	KRA301E		-	1.1	-	
		KRA302E		-	1.1	-	
		KRA303E		-	1.1	-	
		KRA304E		-	1.1	-	
		KRA305E		-	1.1	-	
		KRA306E		-	1.1	-	
	Fall Time	KRA301E		-	0.15	-	
		KRA302E		-	0.24	-	
		KRA303E		-	0.38	-	
		KRA304E		-	0.63	-	
		KRA305E		-	0.1	-	
		KRA306E		-	0.2	-	

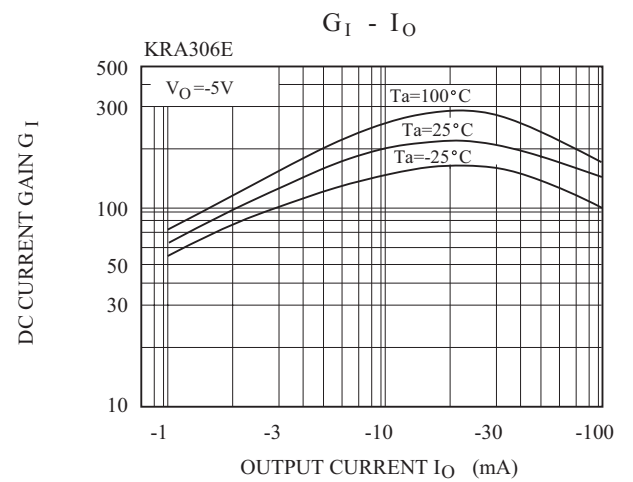
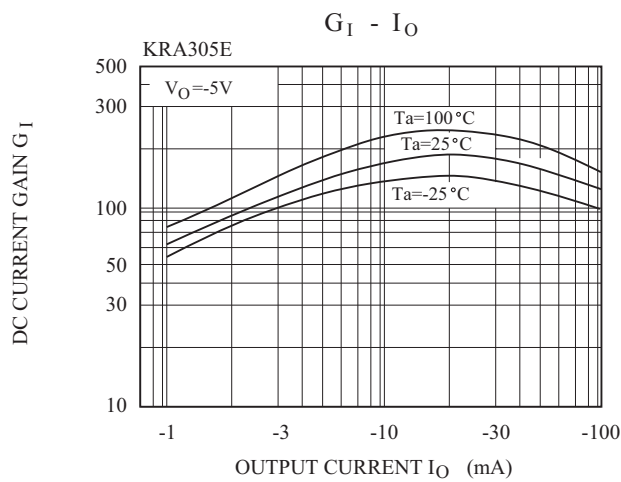
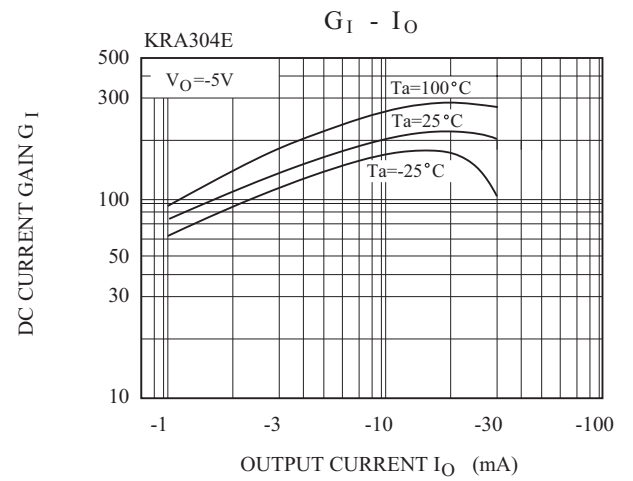
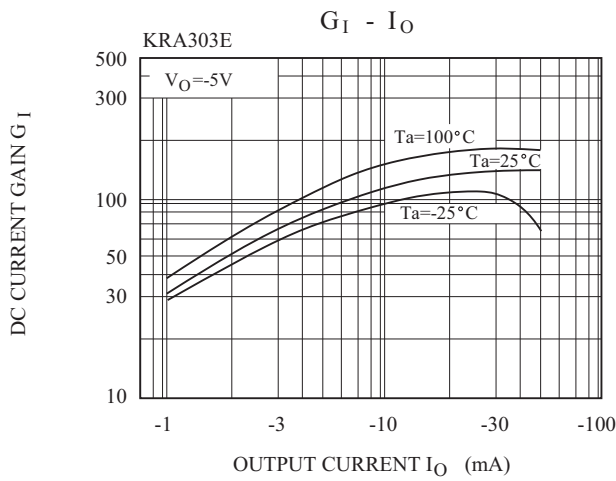
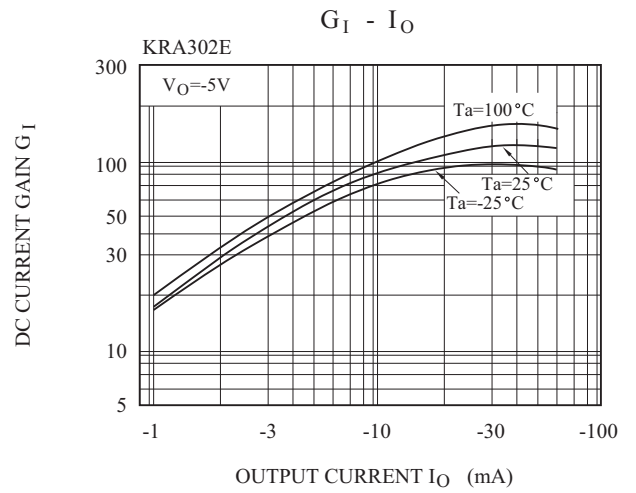
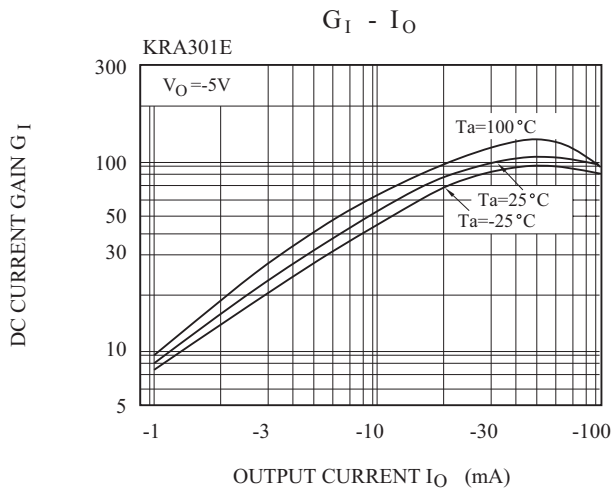
# KRA301E~KRA306E



# KRA301E~KRA306E



# KRA301E~KRA306E



# KRA301E~KRA306E

