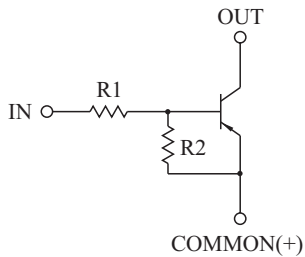


SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

FEATURES

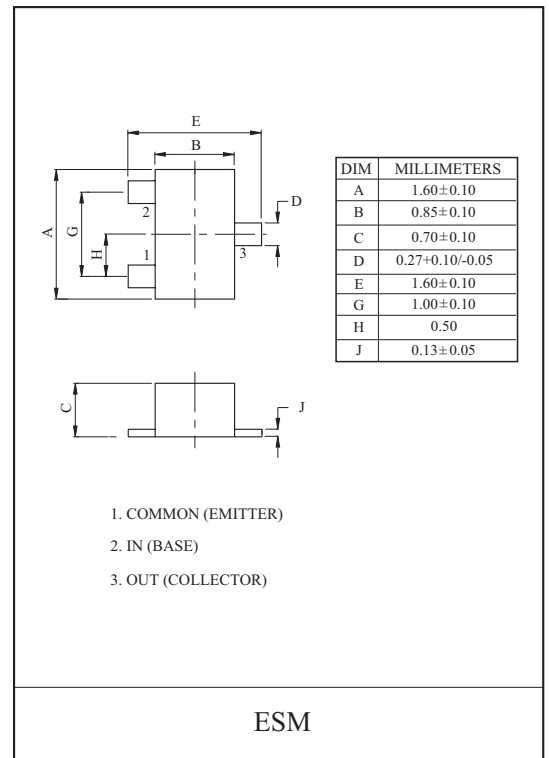
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.
- High Packing Density.

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



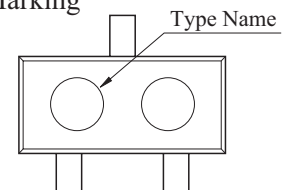
MAXIMUM RATING (Ta=25)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRA301E 306E	V_o	-50	V
Input Voltage	KRA301E	V_i	-20, 10	V
	KRA302E		-30, 10	
	KRA303E		-40, 10	
	KRA304E		-40, 10	
	KRA305E		-12, 5	
	KRA306E		-20, 5	
Output Current	KRA301E 306E	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	KRA301E	KRA302E	KRA303E	KRA304E	KRA305E	KRA306E
MARK	PA	PB	PC	PD	PE	PF

Marking



KRA301E~KRA306E

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

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	

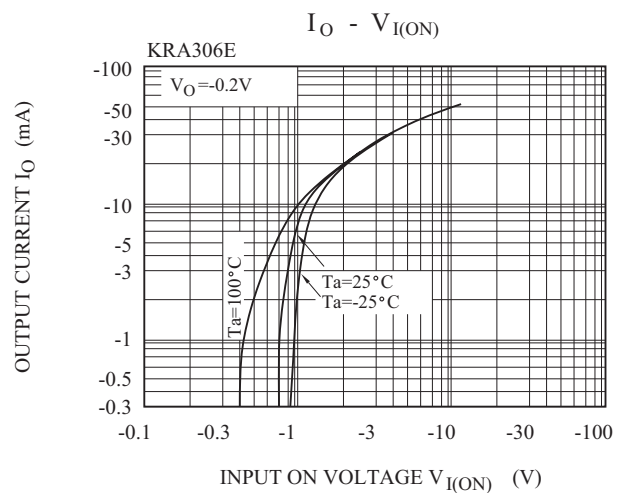
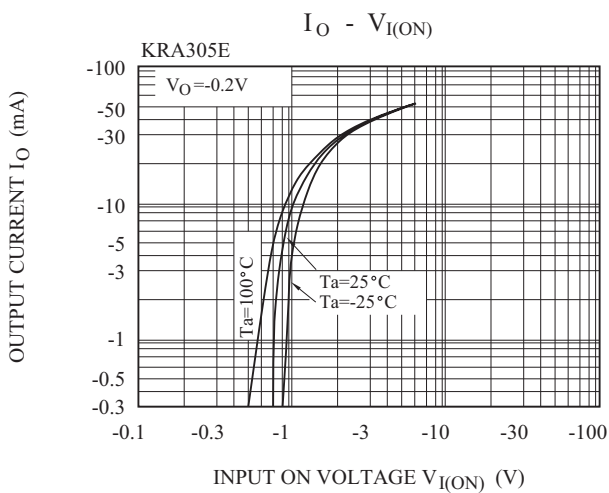
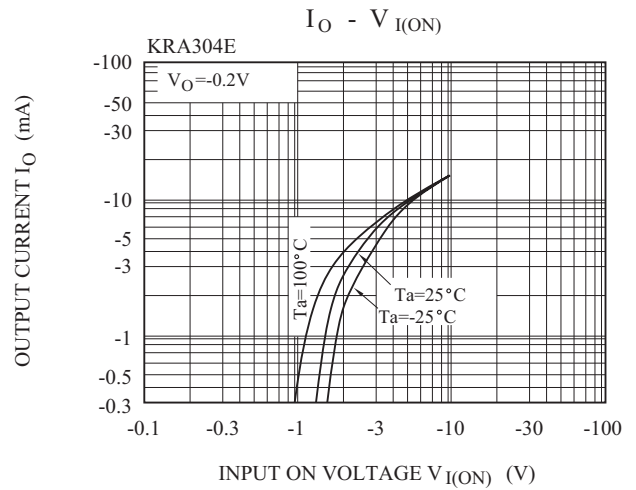
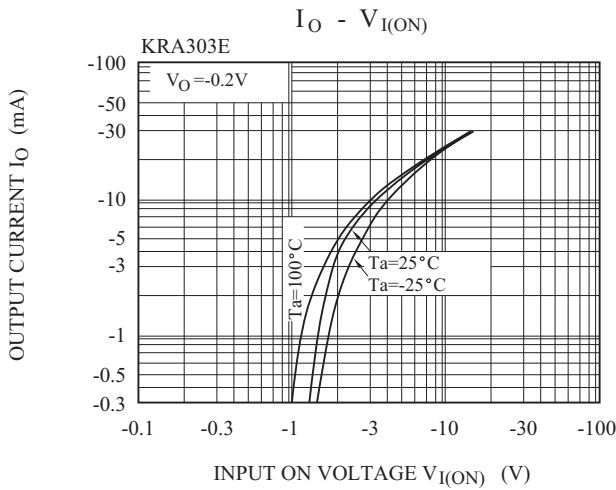
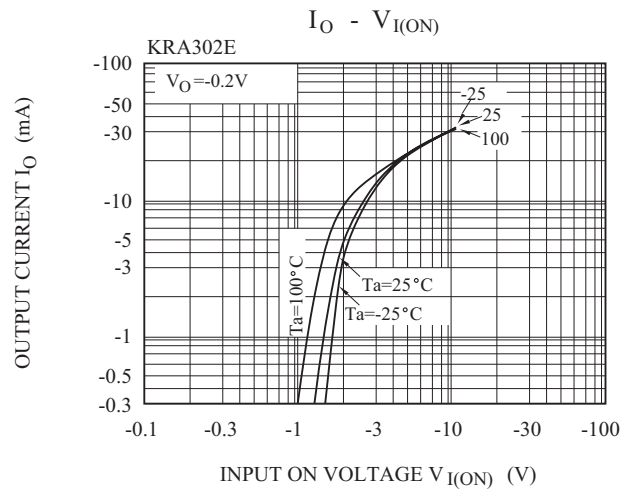
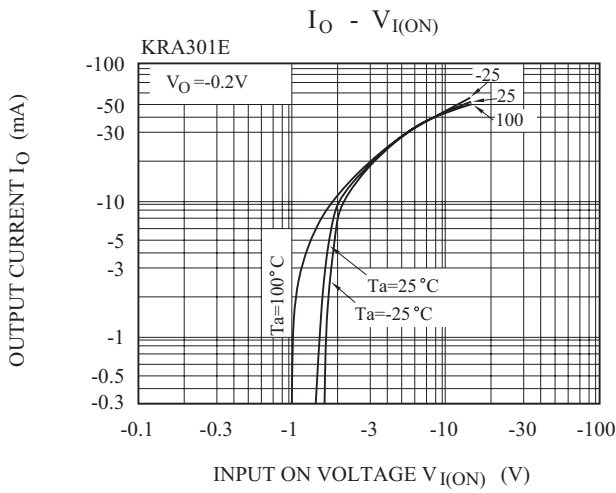
Note : * Characteristic of Transistor Only.

KRA301E~KRA306E

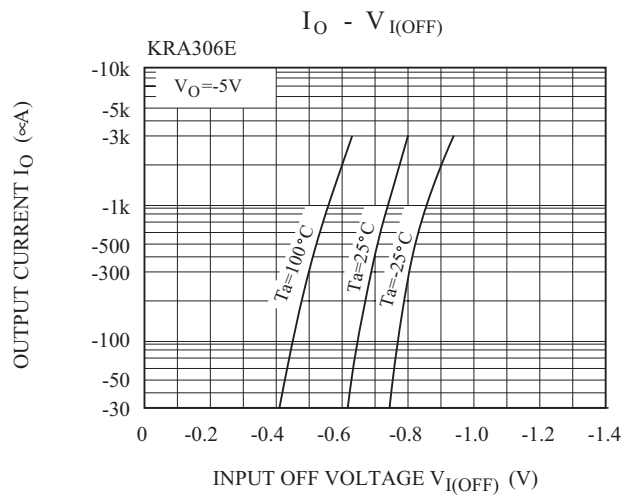
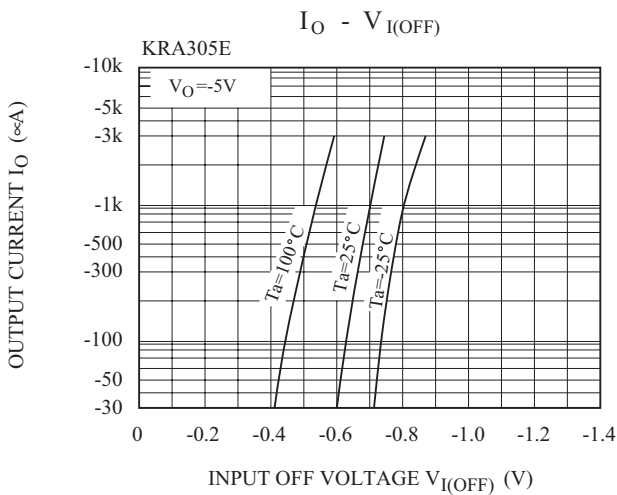
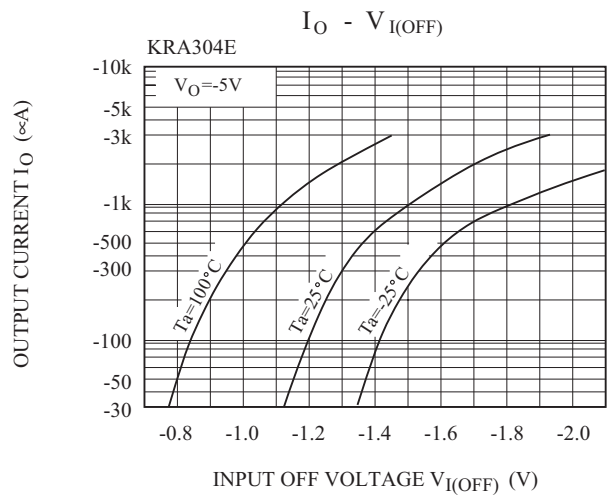
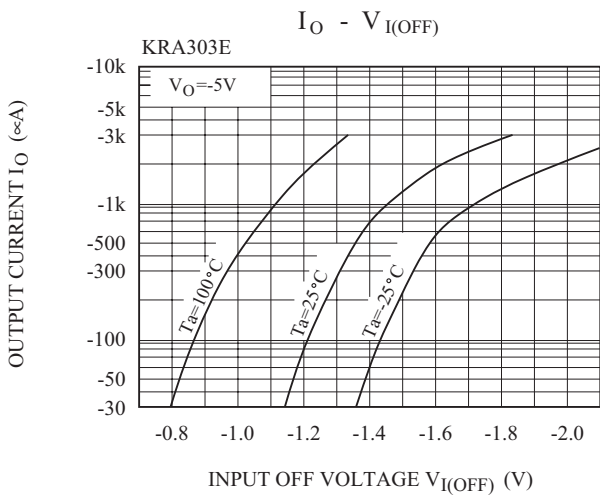
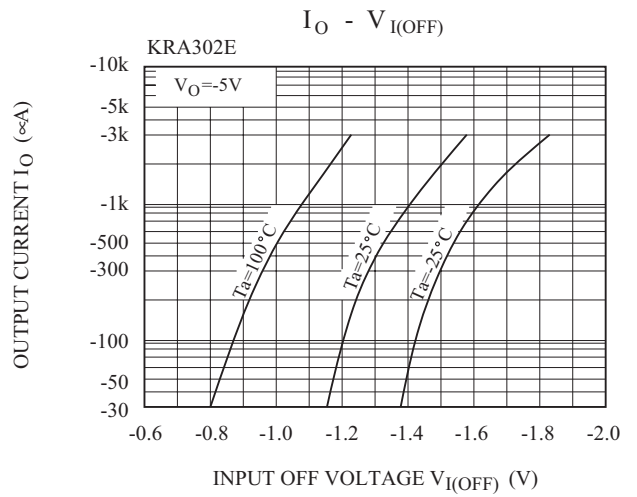
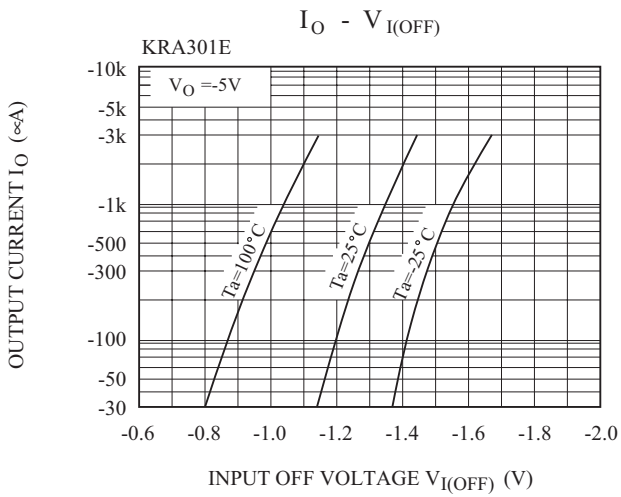
ELECTRICAL CHARACTERISTICS (Ta=25)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Switching Time	Rise Time	KRA301E	$V_{O}=-5V$ $V_{IN}=-5V$ $R_L=1k$	-	0.07	-	μs
		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	-	

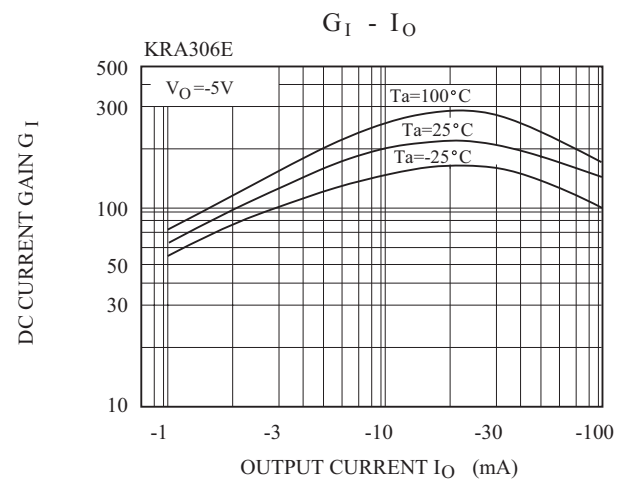
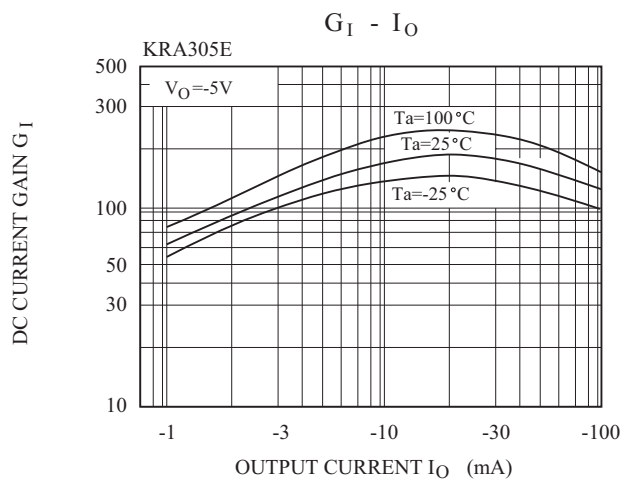
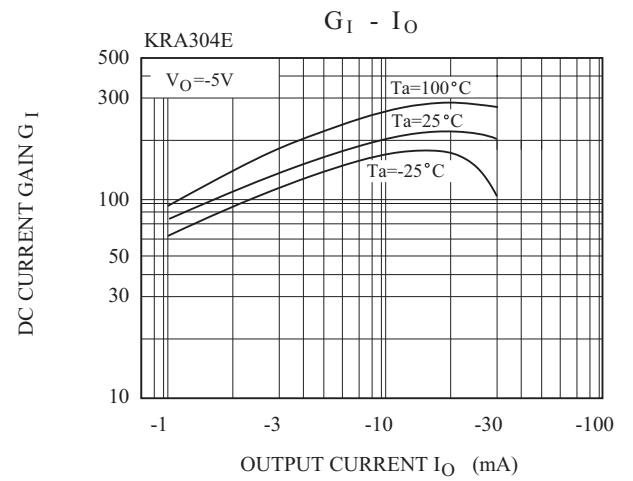
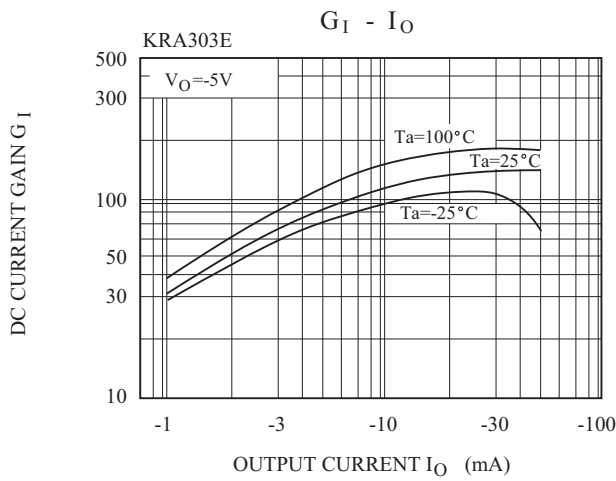
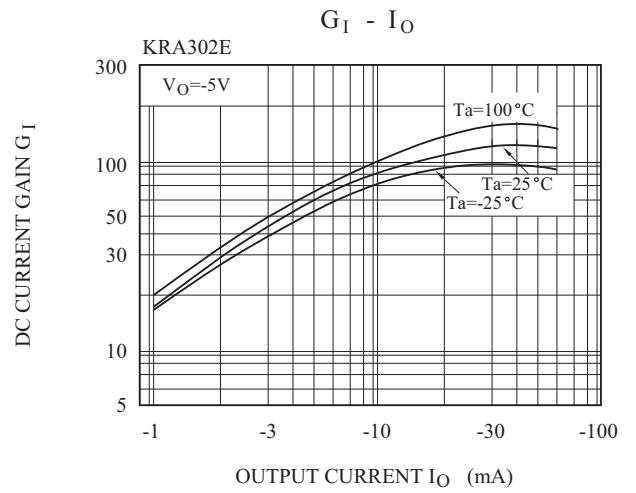
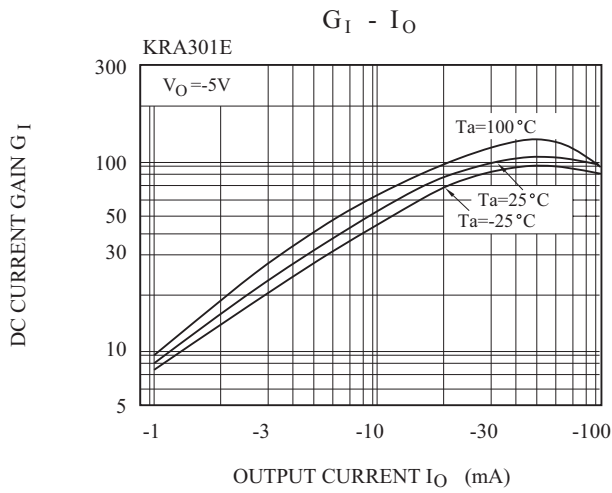
KRA301E~KRA306E



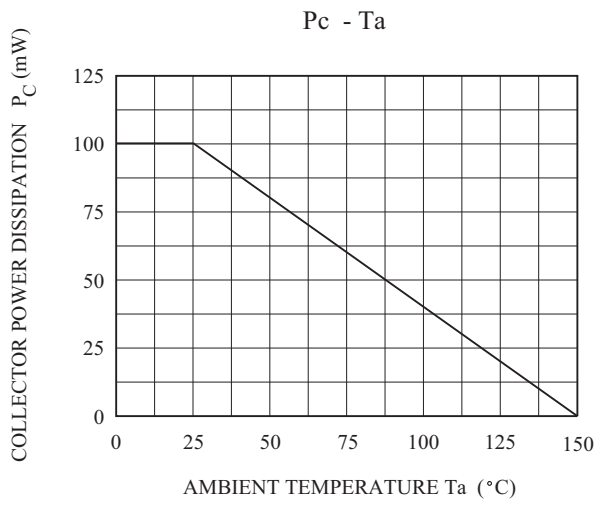
KRA301E~KRA306E



KRA301E~KRA306E



KRA301E~KRA306E



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