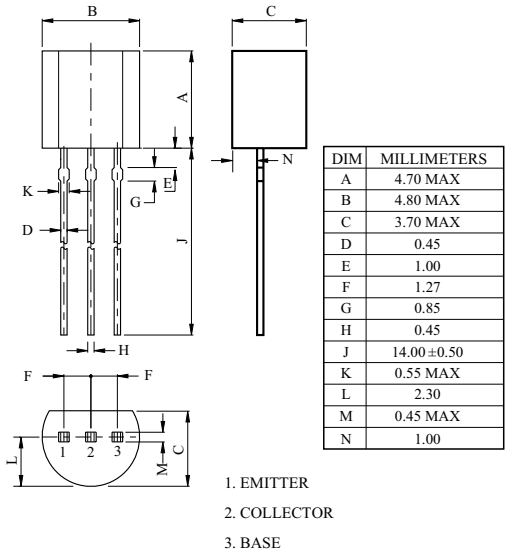
SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION

FEATURES

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

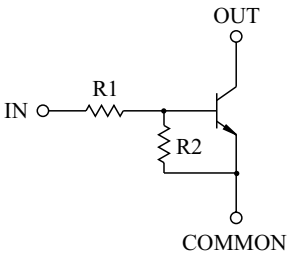


DIM	MILLIMETERS
A	4.70 MAX
B	4.80 MAX
C	3.70 MAX
D	0.45
E	1.00
F	1.27
G	0.85
H	0.45
J	14.00 ±0.50
K	0.55 MAX
L	2.30
M	0.45 MAX
N	1.00

1. EMITTER
2. COLLECTOR
3. BASE

TO-92

EQUIVALENT CIRCUIT



BIAS RESISTOR VALUES

TYPE NO.	R1(kΩ)	R2(kΩ)
KRC116	1	10
KRC117	2.2	2.2
KRC118	2.2	10
KRC119	4.7	10
KRC120	10	4.7
KRC121	47	10
KRC122	100	100

MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRC116 122	V_O	50	V
Input Voltage	KRC116	V_I	10, -5	V
	KRC117		12, -10	
	KRC118		12, -5	
	KRC119		20, -7	
	KRC120		30, -10	
	KRC121		40, -15	
	KRC122		40, -10	
Output Current	KRC116 122	I_O	100	mA
Power Dissipation		P_D	625	mW
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55 150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

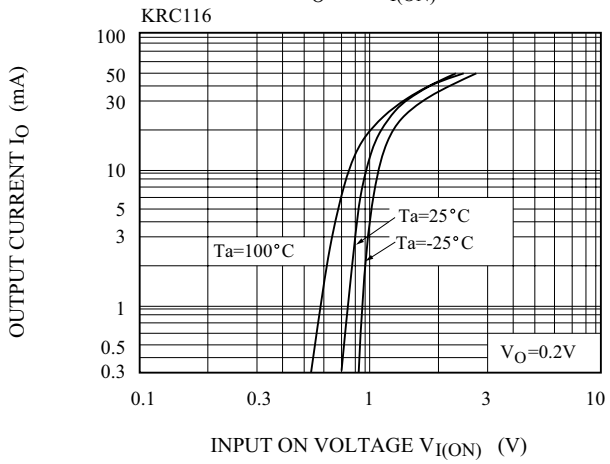
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current	KRC116 122	$I_{O(OFF)}$	V_O=50V, V_I=0	-	-	500	nA
DC Current Gain	KRC116	G_I	V_O=5V, I_O=5mA	33	-	-	
	KRC117		V_O=5V, I_O=20mA	20	-	-	
	KRC118		V_O=5V, I_O=10mA	33	-	-	
	KRC119		V_O=5V, I_O=10mA	30	-	-	
	KRC120		V_O=5V, I_O=10mA	24	-	-	
	KRC121		V_O=5V, I_O=5mA	33	-	-	
	KRC122		V_O=5V, I_O=5mA	62	-	-	
Output Voltage	KRC116	$V_{O(ON)}$	I_O=10mA, I_I=0.5mA	-	-	0.3	V
	KRC117		I_O=10mA, I_I=0.5mA	-	0.1	0.3	
	KRC118		I_O=10mA, I_I=0.5mA	-	-	0.3	
	KRC119		I_O=10mA, I_I=0.5mA	-	0.1	0.3	
	KRC120		I_O=10mA, I_I=0.5mA	-	0.1	0.3	
	KRC121		I_O=10mA, I_I=0.5mA	-	0.1	0.3	
	KRC122		I_O=5mA, I_I=0.25mA	-	0.1	0.3	
Input Voltage (ON)	KRC116	$V_{I(ON)}$	V_O=0.3V, I_O=20mA	-	0.98	3	V
	KRC117		V_O=0.3V, I_O=20mA	-	1.83	3	
	KRC118		V_O=0.3V, I_O=20mA	-	1.22	3	
	KRC119		V_O=0.3V, I_O=20mA	-	1.76	2.5	
	KRC120		V_O=0.3V, I_O=2mA	-	2	3	
	KRC121		V_O=0.3V, I_O=2mA	-	3.9	5	
	KRC122		V_O=0.3V, I_O=1mA	-	1.64	3	
Input Voltage (OFF)	KRC116	$V_{I(OFF)}$	V_{CC}=5V, I_O=100 μA	0.3	0.63	-	V
	KRC117			0.5	1.15	-	
	KRC118			0.3	0.67	-	
	KRC119			0.3	0.82	-	
	KRC120			0.8	1.68	-	
	KRC121			1	3.09	-	
	KRC122			0.5	1.17	-	
Transition Frequency	KRC116 122	f_T*	V_O=10V, I_O=5mA	-	250	-	MHz
Input Current	KRC116	I_I	V_I=5V	-	-	7.2	mA
	KRC117			-	-	3.8	
	KRC118			-	-	3.8	
	KRC119			-	-	1.8	
	KRC120			-	-	0.88	
	KRC121			-	-	0.16	
	KRC122			-	-	0.15	
Input Resistor	KRC116	R1	-	0.7	1	1.3	kΩ
	KRC117			1.54	2.2	2.86	
	KRC118			1.54	2.2	2.86	
	KRC119			3.29	4.7	6.11	
	KRC120			7	10	13	
	KRC121			32.9	47	61.1	
	KRC122			70	100	130	

Note : * Characteristic of Transistor Only.

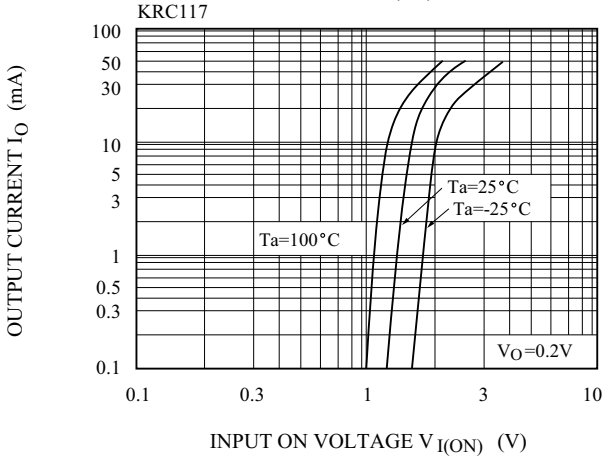
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC			SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Switching Time	Rise Time	KRC116	t_r	V_O=5V V_{IN}=5V R_L=1kΩ	-	0.01	-	μs
		KRC117			-	0.03	-	
		KRC118			-	0.02	-	
		KRC119			-	0.05	-	
		KRC120			-	0.12	-	
		KRC121			-	0.30	-	
		KRC122			-	0.35	-	
	Storage Time	KRC116	t_{stg}		-	3	-	
		KRC117			-	2	-	
		KRC118			-	3	-	
		KRC119			-	3	-	
		KRC120			-	2	-	
		KRC121			-	2	-	
		KRC122			-	2	-	
	Fall Time	KRC116	t_f		-	0.1	-	
		KRC117			-	0.19	-	
		KRC118			-	0.1	-	
		KRC119			-	0.36	-	
		KRC120			-	0.35	-	
		KRC121			-	0.5	-	
		KRC122			-	0.7	-	

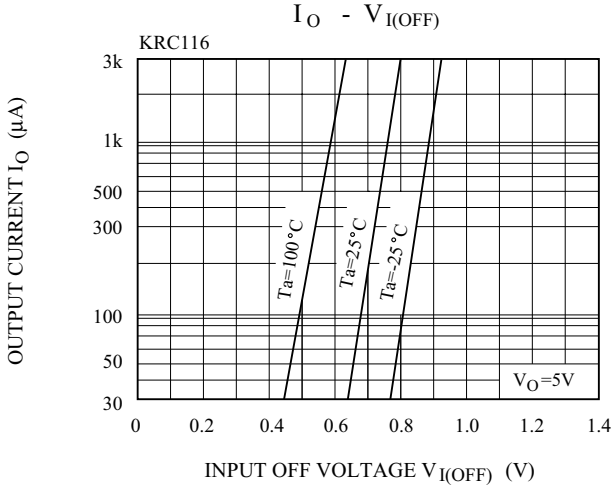
I_O - $V_{I(ON)}$



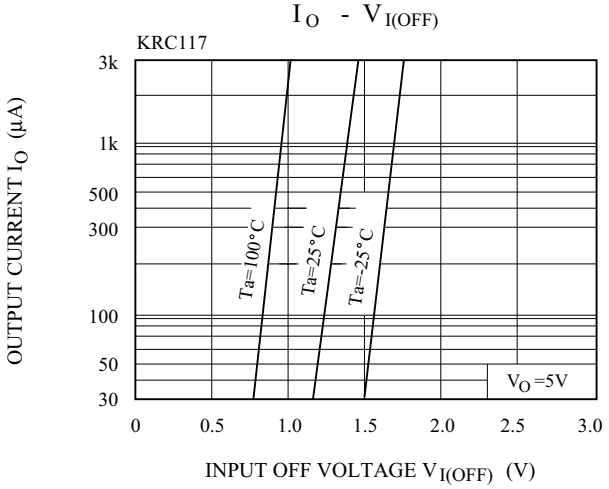
I_O - $V_{I(ON)}$



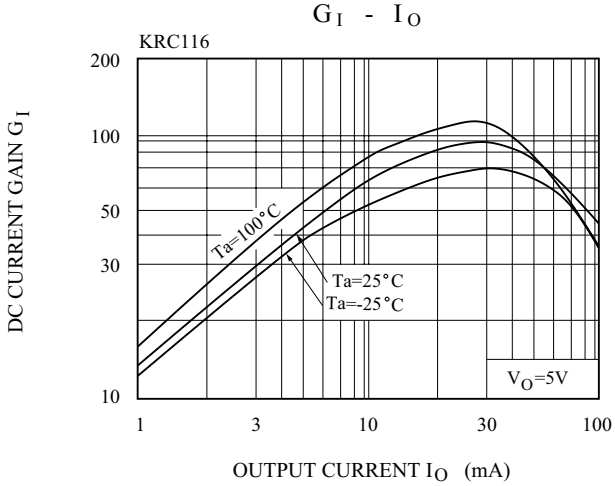
I_O - $V_{I(OFF)}$



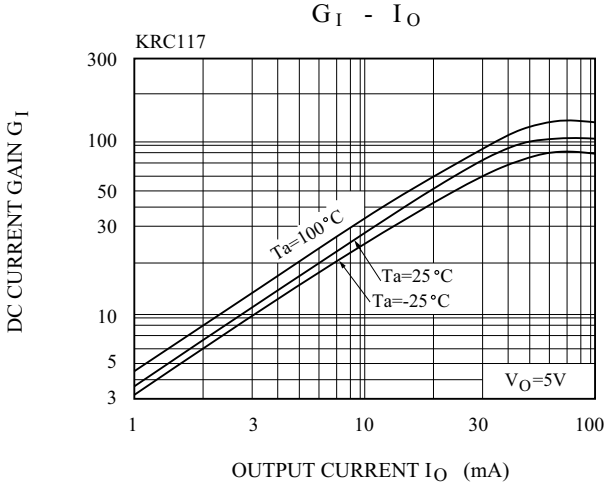
I_O - $V_{I(OFF)}$



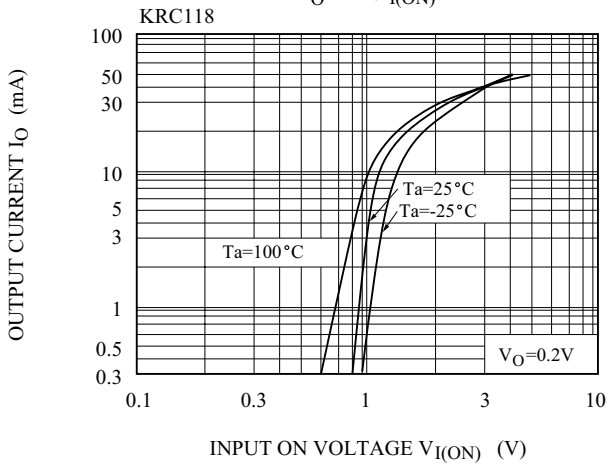
G_I - I_O



G_I - I_O



I_O - $V_{I(ON)}$



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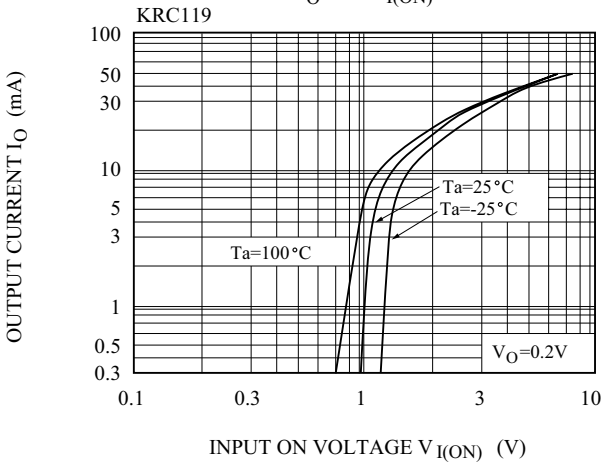

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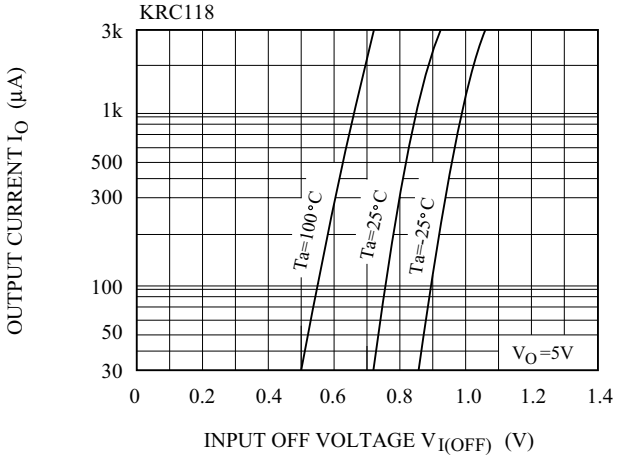

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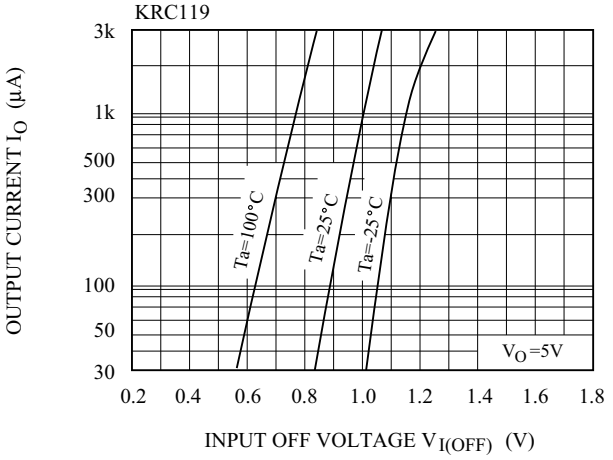

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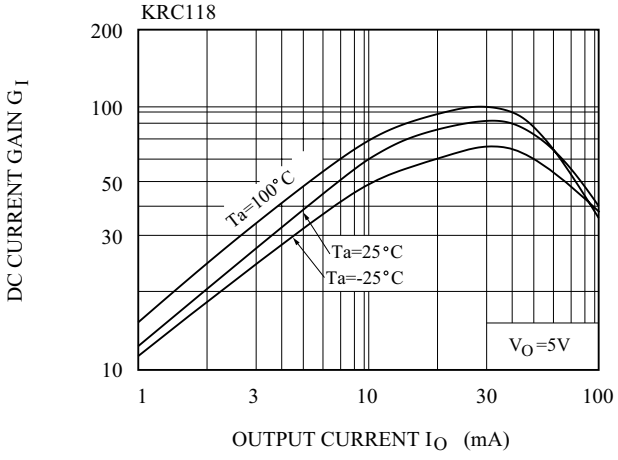

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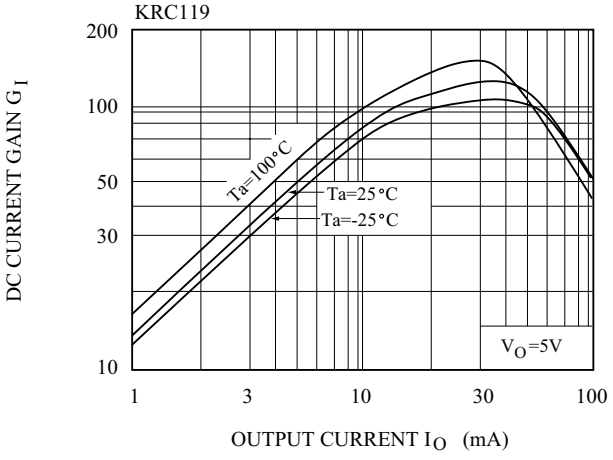

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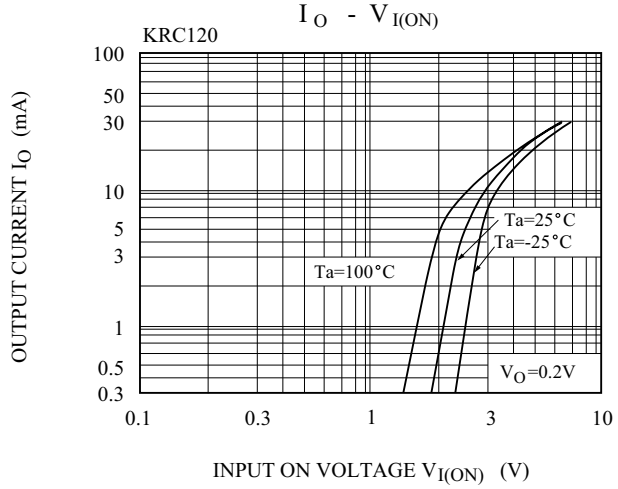

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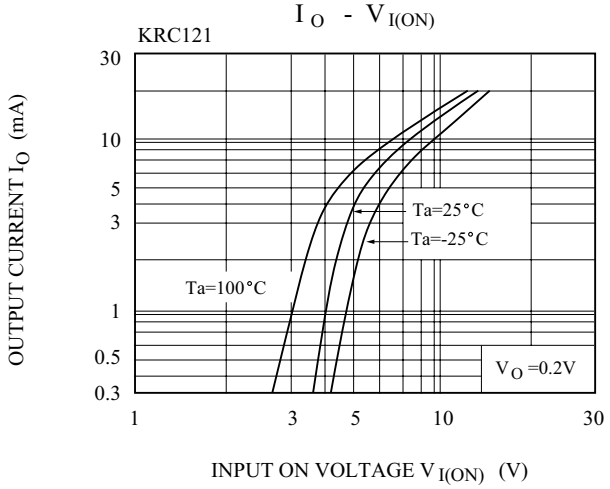

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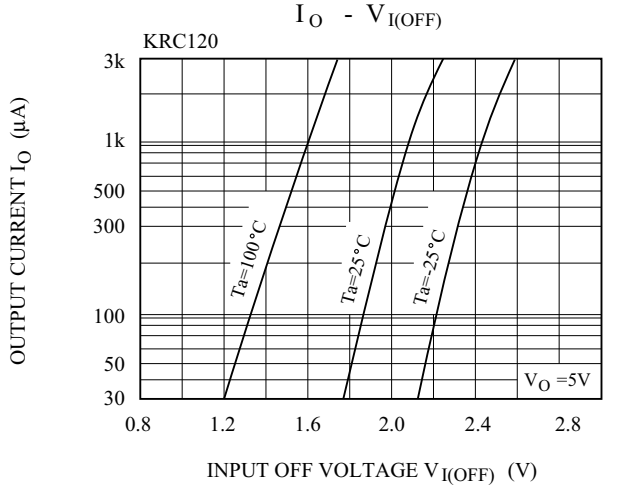

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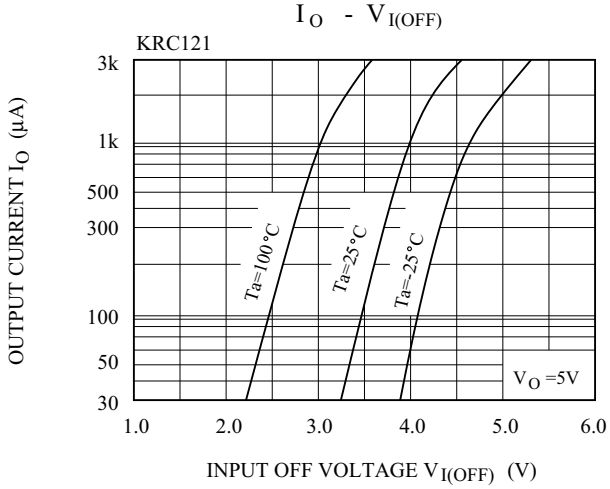

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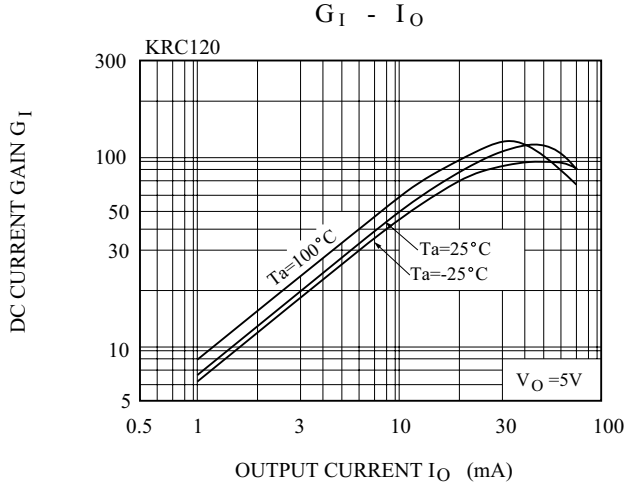

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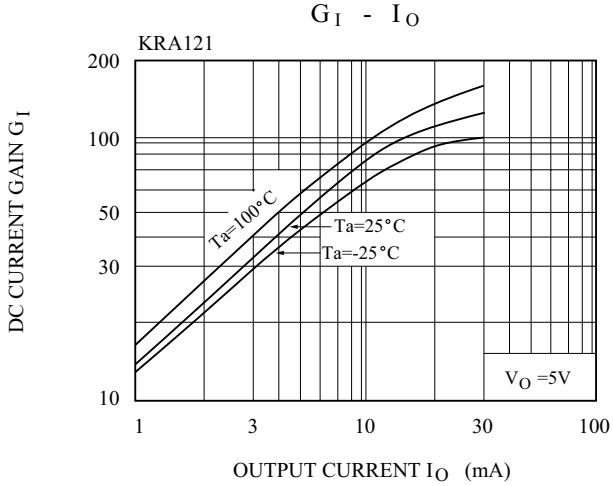

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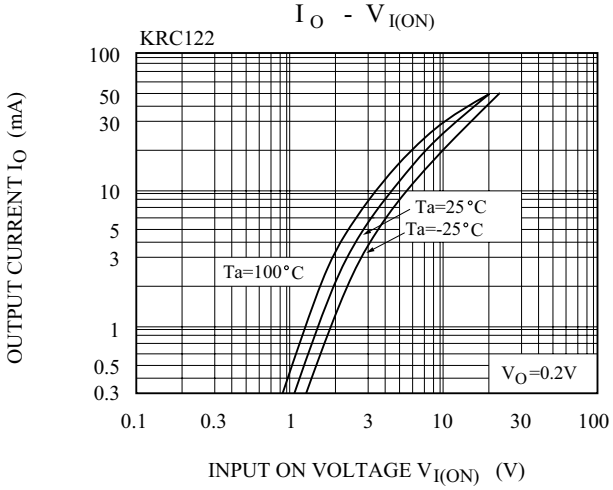

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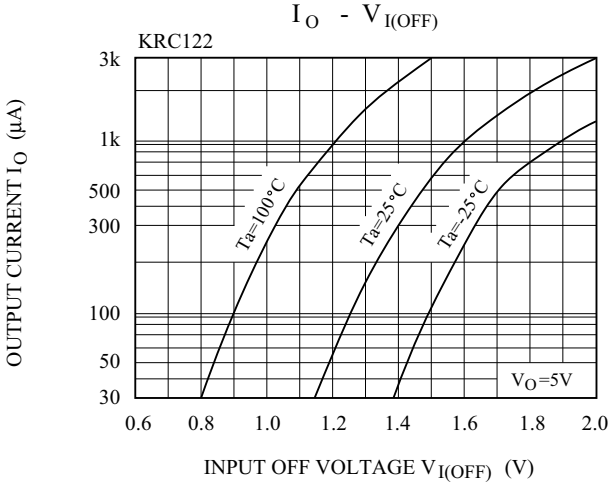

G_I - I_O