KRC416~KRC422

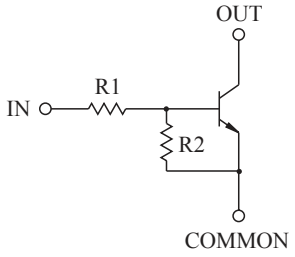
EPITAXIAL PLANAR NPN TRANSISTOR

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.
- Suffix **U** : Qualified to AEC-Q101.
  ex) KRC417-RTK/H**U**
- Suffix **A** : USM(1) Package.
  ex) KRC417-RTK/P**A**

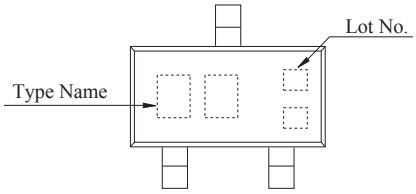
EQUIVALENT CIRCUIT

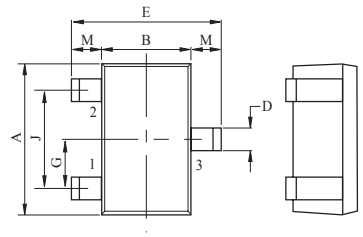


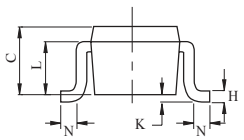
TYPE NO.	R1(kΩ)	R2(kΩ)
KRC416	1	10
KRC417	2.2	2.2
KRC418	2.2	10
KRC419	4.7	10
KRC420	10	4.7
KRC421	47	10
KRC422	100	100

MARK SPEC

TYPE	KRC416	KRC417	KRC418	KRC419
MARK	N2	N4	N5	N6
TYPE	KRC420	KRC421	KRC422	
MARK	N7	N8	N9	



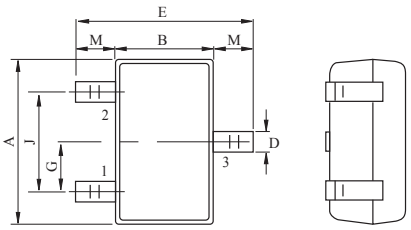


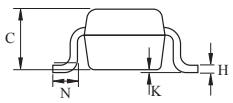


1. EMITTER
2. BASE
3. COLLECTOR

DIM	MILLIMETERS
A	2.00±0.20
B	1.25±0.15
C	0.90±0.10
D	0.3+0.10/-0.05
E	2.10±0.20
G	0.65
H	0.15+0.1/-0.06
J	1.30
K	0.00~0.10
L	0.70
M	0.42±0.10
N	0.10 Min.

USM





1. EMITTER
2. BASE
3. COLLECTOR

DIM	MILLIMETERS
A	2.1± 0.1
B	1.25± 0.1
C	0.95± 0.1
D	0.3± 0.1
E	2.275 ± 0.125
G	Typ 0.65
H	0.115 ± 0.035
J	Typ 1.3
K	0.05±0.05
M	0.5±0.125
N	0.355±0.095

USM(1)

MAXIMUM RATING (Ta=25℃)

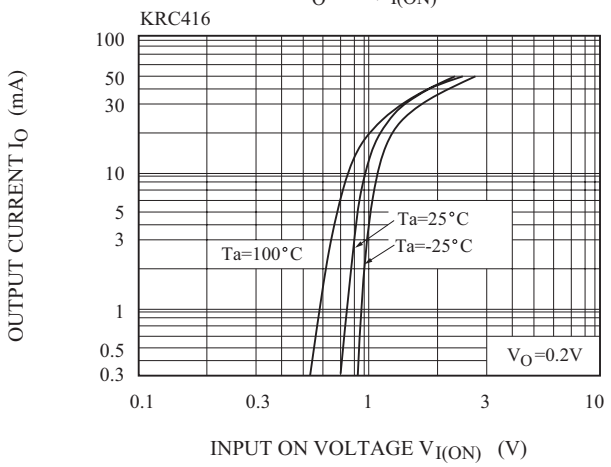
CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRC416~422	V_O	50	V
Input Voltage	KRC416	V_I	10, -5	V
	KRC417		12, -10	
	KRC418		12, -5	
	KRC419		20, -7	
	KRC420		30, -10	
	KRC421		40, -15	
	KRC422		40, -10	
Output Current	KRC416~422	I_O	100	mA
Power Dissipation		P_D	100	mW
Junction Temperature		T_j	-55~150	℃
Storage Temperature Range		T_{stg}	-55~150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

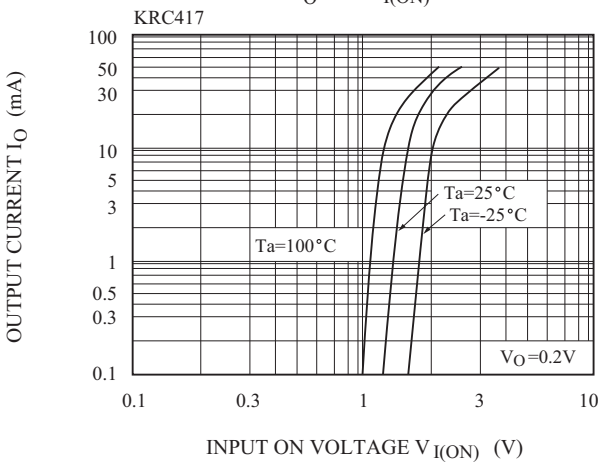
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current	KRC416～422	$I_{O(OFF)}$	V_O=50V, V_I=0	-	-	500	nA
DC Current Gain	KRC416	G_I	V_O=5V, I_O=5mA	33	-	-	
	KRC417		V_O=5V, I_O=20mA	20	-	-	
	KRC418		V_O=5V, I_O=10mA	33	-	-	
	KRC419		V_O=5V, I_O=10mA	30	-	-	
	KRC420		V_O=5V, I_O=10mA	24	-	-	
	KRC421		V_O=5V, I_O=5mA	33	-	-	
	KRC422		V_O=5V, I_O=5mA	62	-	-	
Output Voltage	KRC416	$V_{O(ON)}$	I_O=10mA, I_I=0.5mA	-	-	0.3	V
	KRC417		I_O=10mA, I_I=0.5mA	-	0.1	0.3	
	KRC418		I_O=10mA, I_I=0.5mA	-	-	0.3	
	KRC419		I_O=10mA, I_I=0.5mA	-	0.1	0.3	
	KRC420		I_O=10mA, I_I=0.5mA	-	0.1	0.3	
	KRC421		I_O=10mA, I_I=0.5mA	-	0.1	0.3	
	KRC422		I_O=5mA, I_I=0.25mA	-	0.1	0.3	
Input Voltage (ON)	KRC416	$V_{I(ON)}$	V_O=0.3V, I_O=20mA	-	0.98	3	V
	KRC417		V_O=0.3V, I_O=20mA	-	1.83	3	
	KRC418		V_O=0.3V, I_O=20mA	-	1.22	3	
	KRC419		V_O=0.3V, I_O=20mA	-	1.76	2.5	
	KRC420		V_O=0.3V, I_O=2mA	-	2	3	
	KRC421		V_O=0.3V, I_O=2mA	-	3.9	5	
	KRC422		V_O=0.3V, I_O=1mA	-	1.64	3	
Input Voltage (OFF)	KRC416	$V_{I(OFF)}$	V_{CC}=5V, I_O=100 ㎂	0.3	0.63	-	V
	KRC417			0.5	1.15	-	
	KRC418			0.3	0.67	-	
	KRC419			0.3	0.82	-	
	KRC420			0.8	1.68	-	
	KRC421			1	3.09	-	
	KRC422			0.5	1.17	-	
Transition Frequency	KRC416～422	f_T*	V_O=10V, I_O=5mA	-	250	-	MHz
Input Current	KRC416	I_I	V_I=5V	-	-	7.2	mA
	KRC417			-	-	3.8	
	KRC418			-	-	3.8	
	KRC419			-	-	1.8	
	KRC420			-	-	0.88	
	KRC421			-	-	0.16	
	KRC422			-	-	0.15	
Input Resistor	KRC416	R1	-	0.7	1	1.3	kΩ
	KRC417			1.54	2.2	2.86	
	KRC418			1.54	2.2	2.86	
	KRC419			3.29	4.7	6.11	
	KRC420			7	10	13	
	KRC421			32.9	47	61.1	
	KRC422			70	100	130	
Resistor Ratio	KRC416	R2/R1	-	8	10	12	
	KRC417			0.8	1.0	1.2	
	KRC418			3.6	4.5	5.5	
	KRC419			1.7	2.1	2.6	
	KRC420			0.37	0.47	0.57	
	KRC421			0.17	0.21	0.26	
	KRC422			0.8	1.0	1.2	

Note : * Characteristic of Transistor Only.

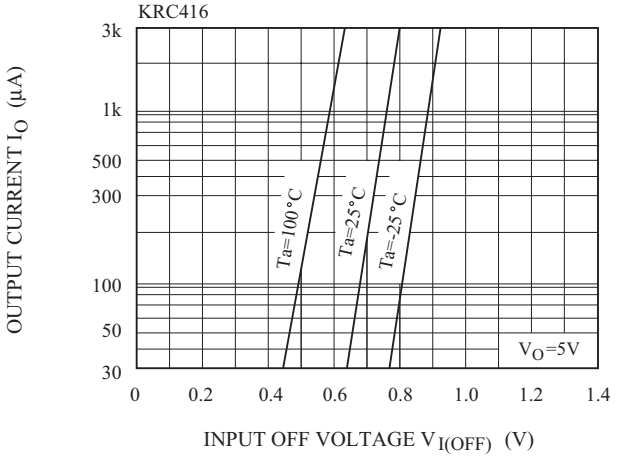
I_O - $V_{I(ON)}$



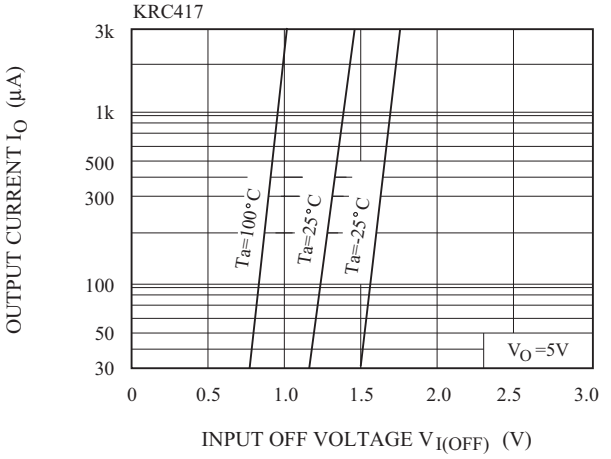
I_O - $V_{I(ON)}$



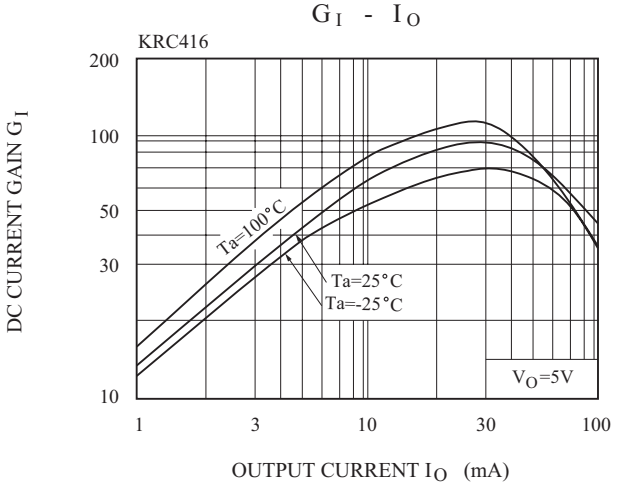
I_O - $V_{I(OFF)}$



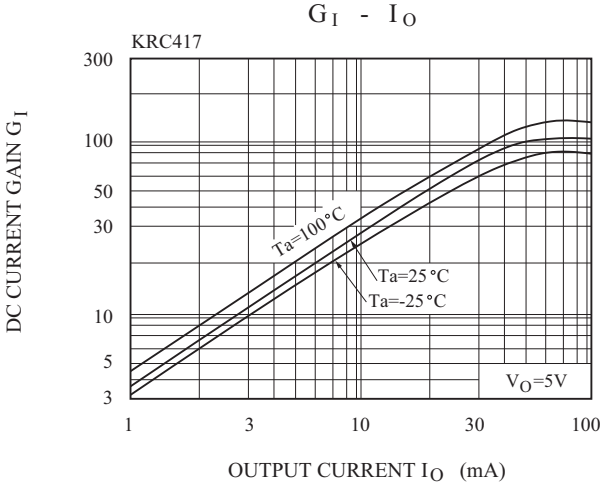
I_O - $V_{I(OFF)}$



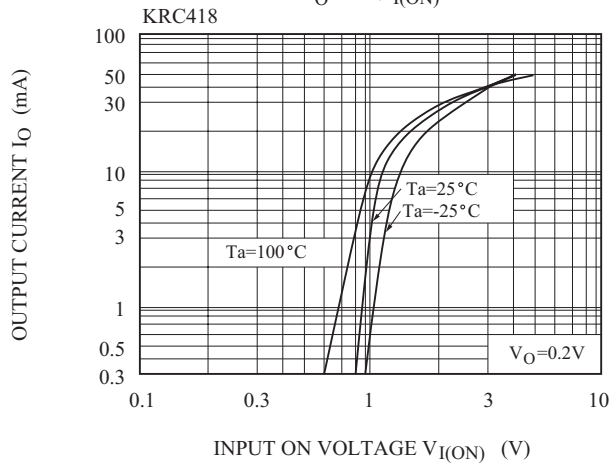
G_I - I_O



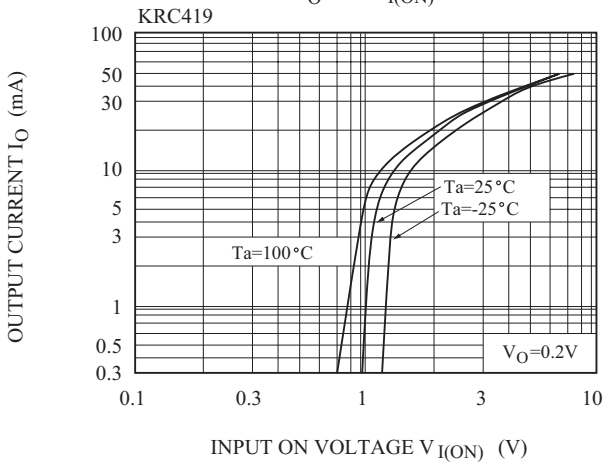
G_I - I_O



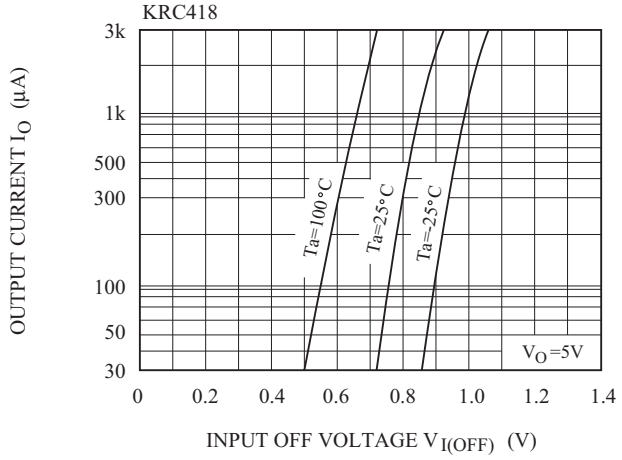
I_O - $V_{I(ON)}$



I_O - $V_{I(ON)}$



I_O - $V_{I(OFF)}$



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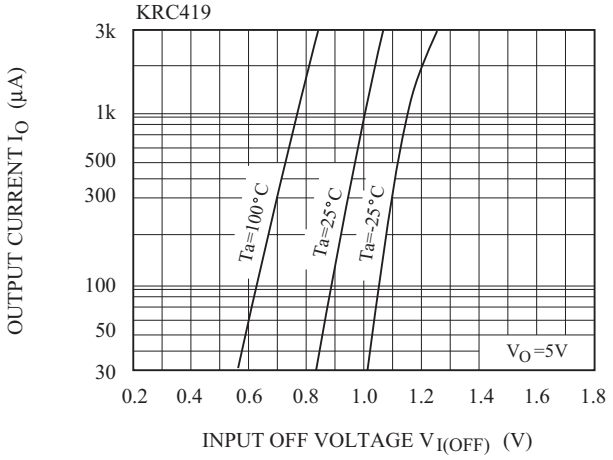
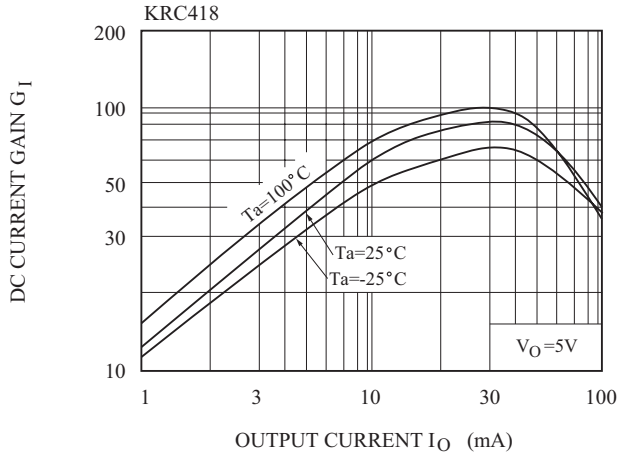


G_I - I_O



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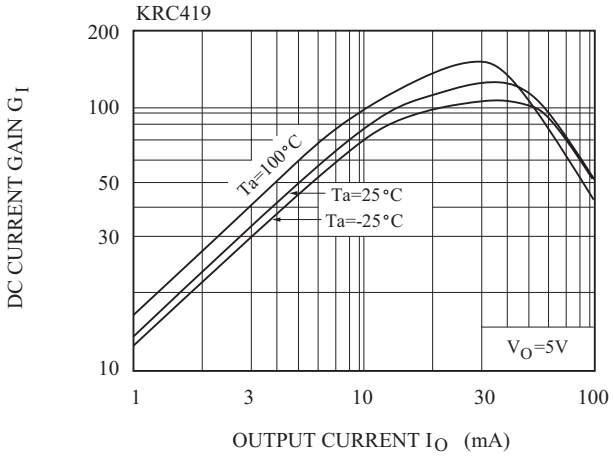
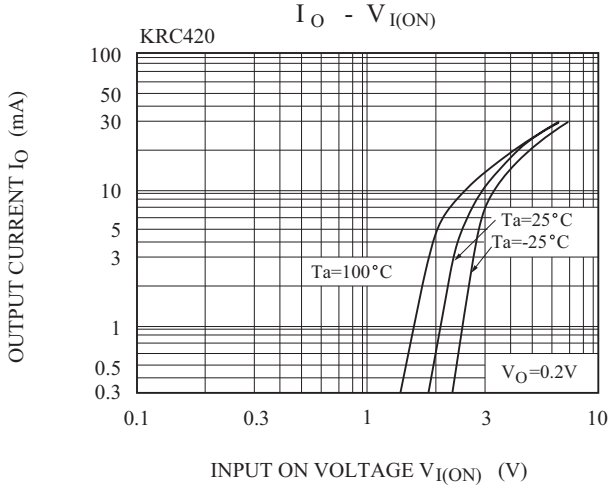


I_O - $V_{I(ON)}$



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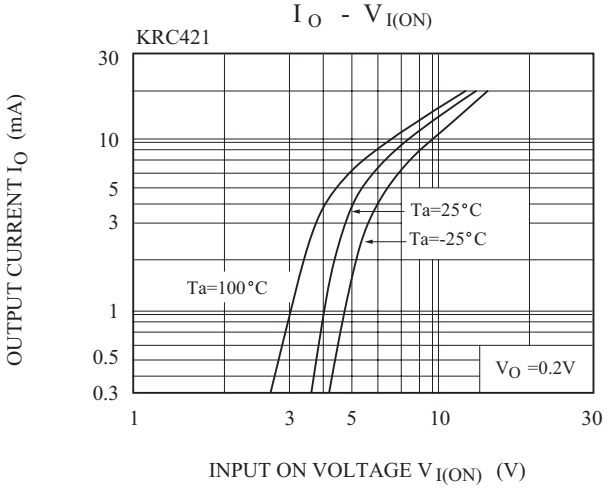
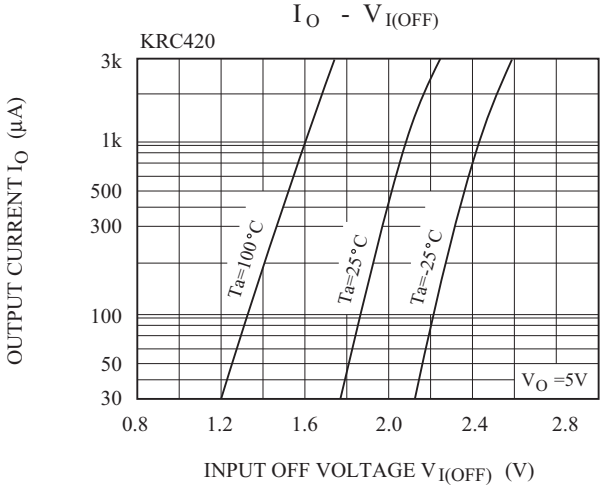
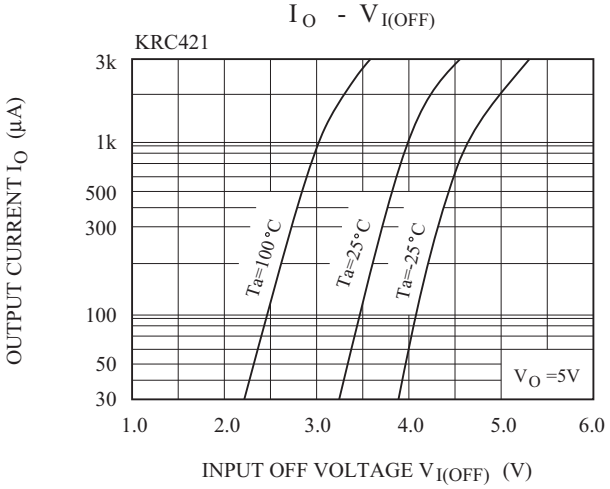


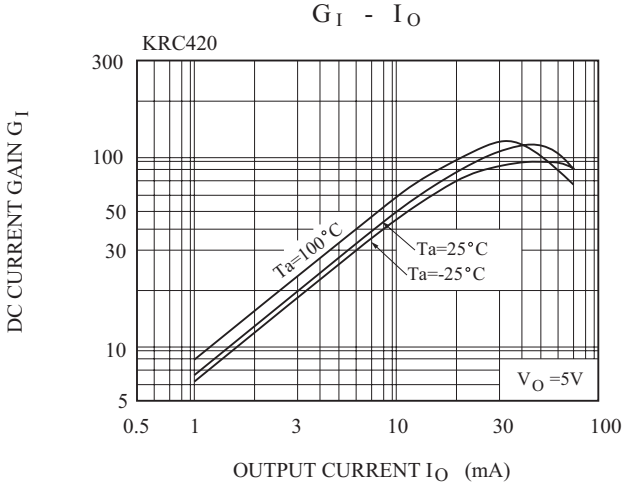
I_O - $V_{I(OFF)}$



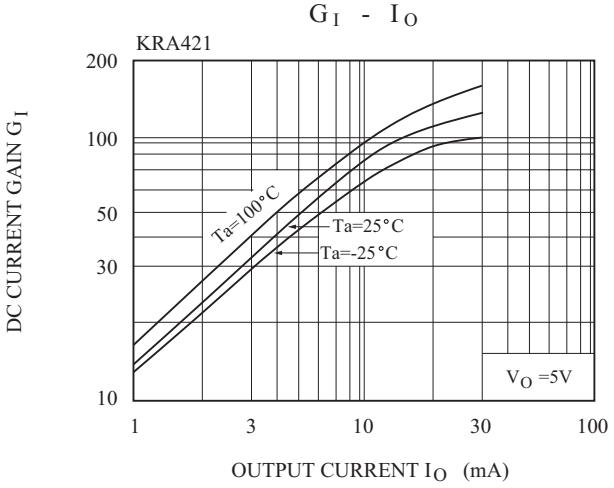
I_O - $V_{I(OFF)}$



G_I - I_O



G_I - I_O



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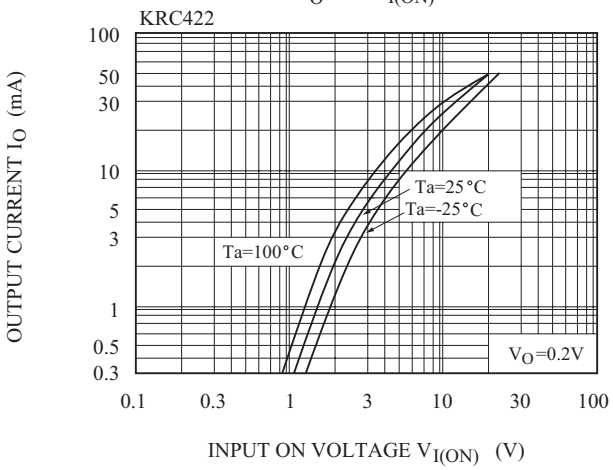

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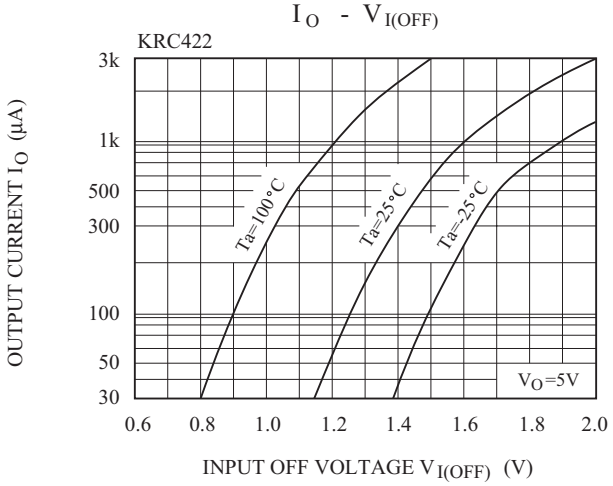
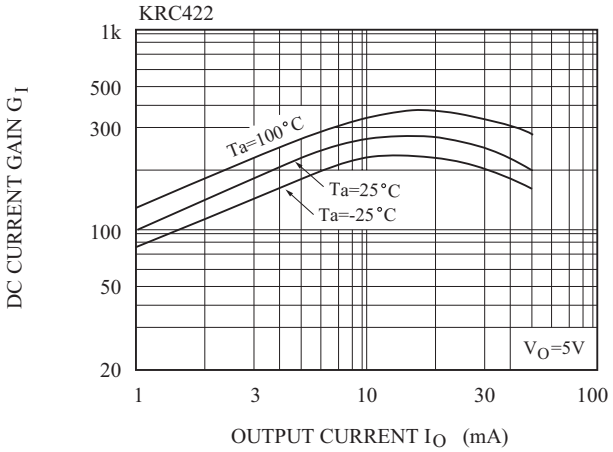


G_I - I_O



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1. The products described in this data are intended to be used in general-purpose electronic equipment (Office equipment, telecommunication equipment, measuring equipment, home appliances)

2. When you intend to use these products with equipment or device which require an extremely high of reliability and special applications (such as automobile, air travel aerospace, transportation equipment, life support, system and safety devices) in which special quality and reliability and the failure or malfunction of products may directly jeopardize or harm the human body or damage to property and any application other than the standard application intended, please be sure to consult with our sales representative in advance.

3. On designing your application, please use product within the ranges guaranteed by KEC for maximum rating, operating supply voltage range, heat radiation characteristics and other characteristics. User shall be responsible for failure or damage when used beyond the guaranteed ranges.

4. The technical information described in this data is limited to showing representative characteristics and applied circuit examples of the products and it does not constitute the warranting of industrial property, the granting of relative rights, or the granting of any license.

5. What are described in the data may be changed without any prior notice to reflect new technical development. Please confirm that you have received the latest product standards or specification before final design, purchase or use.

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