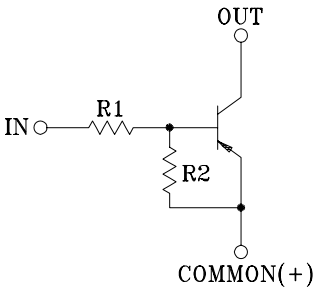
KRA107S ~ KRA109S

EPITAXIAL PLANAR PNP TRANSISTOR

SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

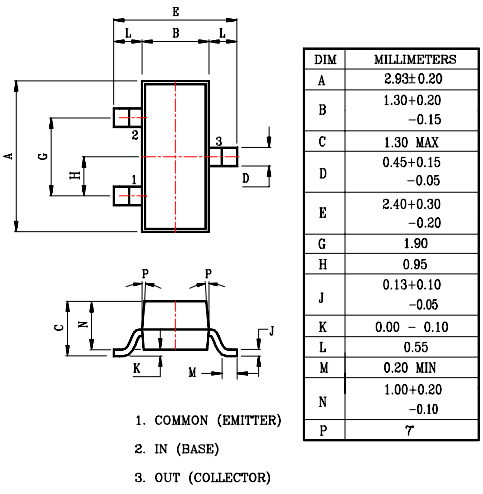
FEATURES
- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process

EQUIVALENT CIRCUIT



BIAS RESISTOR VALUES

TYPE NO.	R1(kΩ)	R2(kΩ)
KRA107S	10	47
KRA108S	22	47
KRA109S	47	22



DIM	MILLIMETERS
A	2.93±0.20
B	1.30+0.20 −0.15
C	1.30 MAX
D	0.45+0.15 −0.05
E	2.40+0.30 −0.20
G	1.90
H	0.95
J	0.13+0.10 −0.05
K	0.00 ~ 0.10
L	0.55
M	0.20 MIN
N	1.00+0.20 −0.10
P	7°

SOT-23

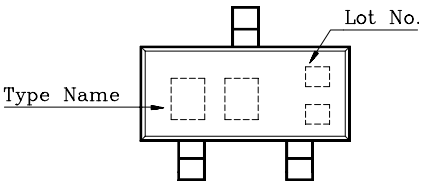
MAXIMUM RATINGS(Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRA107S~109S	V_O	-50	V
Input Voltage	KRA107S	V_I	-30, 6	V
	KRA108S		-40, 7	
	KRA109S		-40, 15	
Output Current	KRA107S~109S	I_O	-100	mA
Power Dissipation		P_D	200	mW
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55~150	℃

MARK SPEC

TYPE	KRA107S	KRA108S	KRA109S
MARK	PH	PI	PJ

Marking

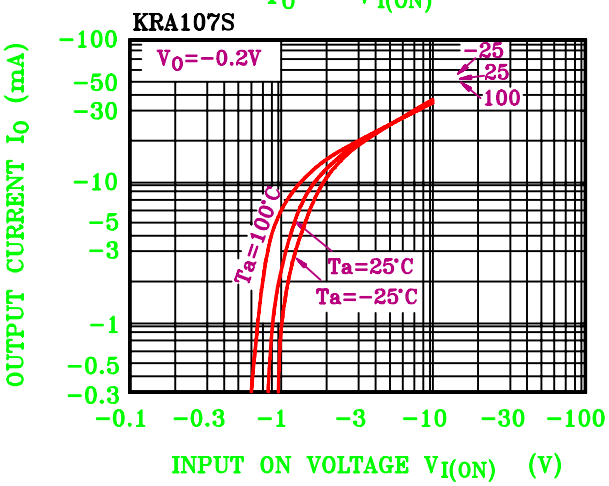


ELECTRICAL CHARACTERISTICS (Ta=25℃)

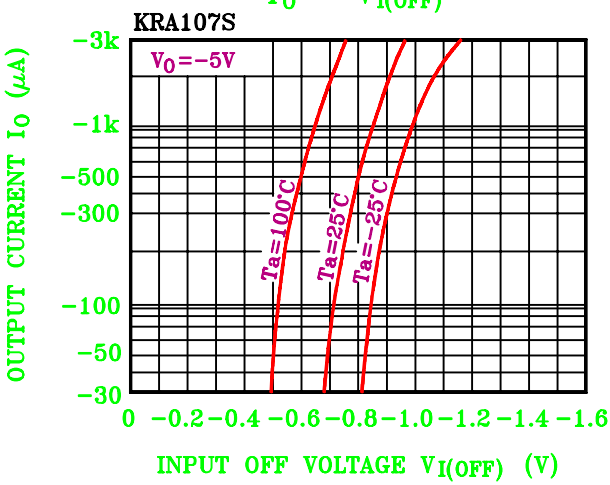
CHARACTERISTIC			SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current		KRA107S~109S	$I_{O(OFF)}$	V_O=-50V, V_I=0	-	-	-500	nA
DC Current Gain		KRA107S	G_I	V_O=-5V, I_O=-10mA	80	150	-	
		KRA108S			80	150	-	
		KRA109S			70	140	-	
Output Voltage		KRA107S~109S	$V_{O(ON)}$	I_O=-10mA, I_I=-0.5mA	-	-0.1	-0.3	V
Input Voltage (ON)		KRA107S	$V_{I(ON)}$	V_O=-0.2V, I_O=-5mA	-	-1.2	-1.8	V
		KRA108S			-	-1.8	-2.6	
		KRA109S			-	-3.0	-5.8	
Input Votlage (OFF)		KRA107S	$V_{I(OFF)}$	V_O=-5V, I_O=-0.1mA	-0.5	-0.75	-	V
		KRA108S			-0.6	-0.88	-	
		KRA109S			-1.5	-1.82	-	
Transition Frequency		KRA107S~109S	f_T *	V_O=-10V, I_O=-5mA	-	200	-	MHz
Input Current		KRA107S	I_I	V_I=-5V	-	-	-0.88	mA
		KRA108S			-	-	-0.36	
		KRA109S			-	-	-0.16	
Switching Time	Rise Time	KRA107S	t_r	V_O=-5V, V_{IN}=-5V R_L=1kΩ	-	0.07	-	μS
		KRA108S			-	0.20	-	
		KRA109S			-	0.38	-	
	Storage Time	KRA107S	t_{stg}		-	1.1	-	
		KRA108S			-	1.3	-	
		KRA109S			-	0.7	-	
	Fall Time	KRA107S	t_f		-	0.35	-	
		KRA108S			-	0.4	-	
		KRA109S			-	0.48	-	

Note : *Characteristic of Transistor Only

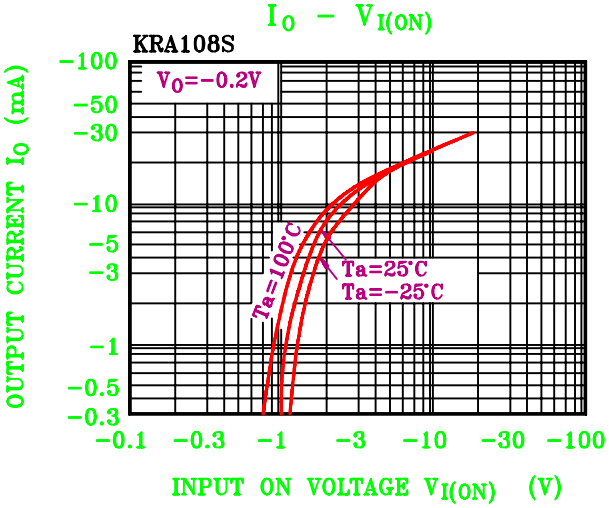
I_O – $V_{I(ON)}$



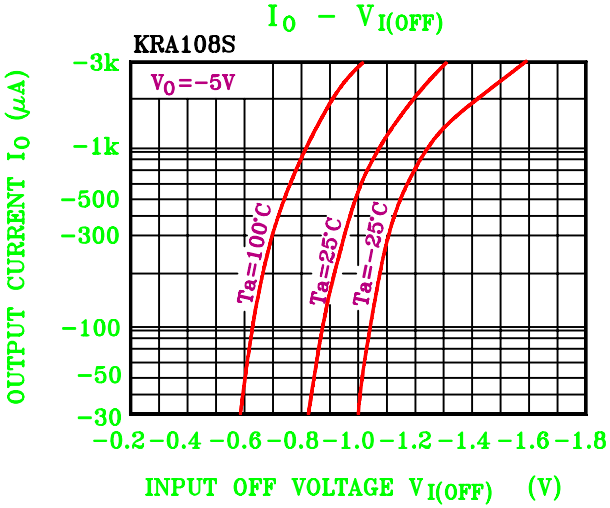
I_O – $V_{I(OFF)}$



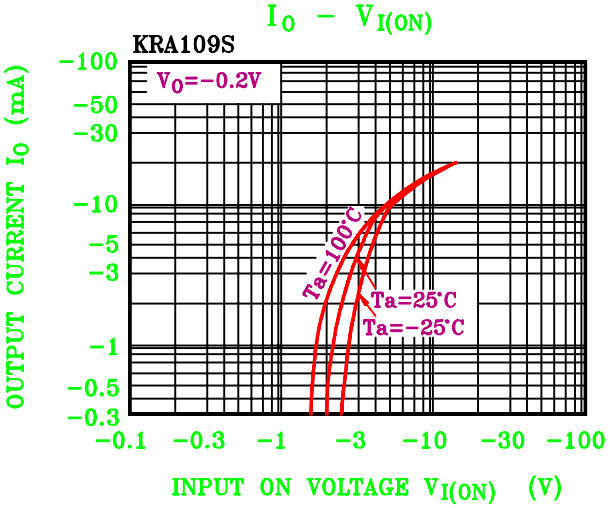
I_O – $V_{I(ON)}$



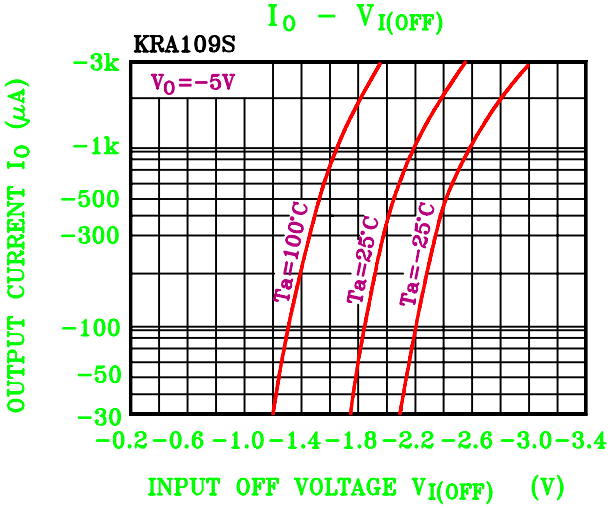
I_O – $V_{I(OFF)}$

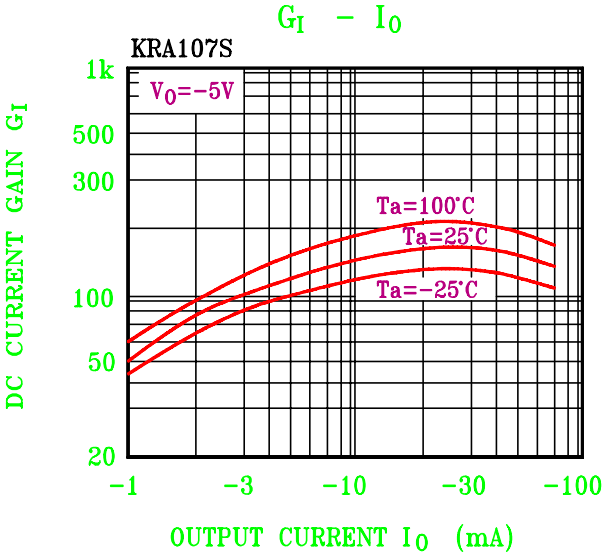


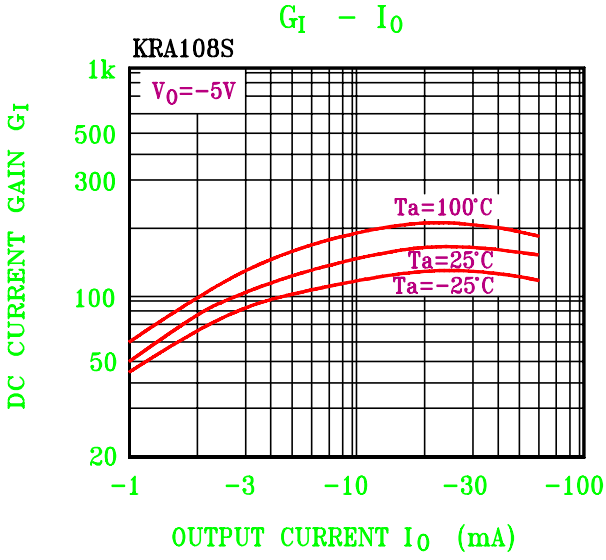
I_O – $V_{I(ON)}$

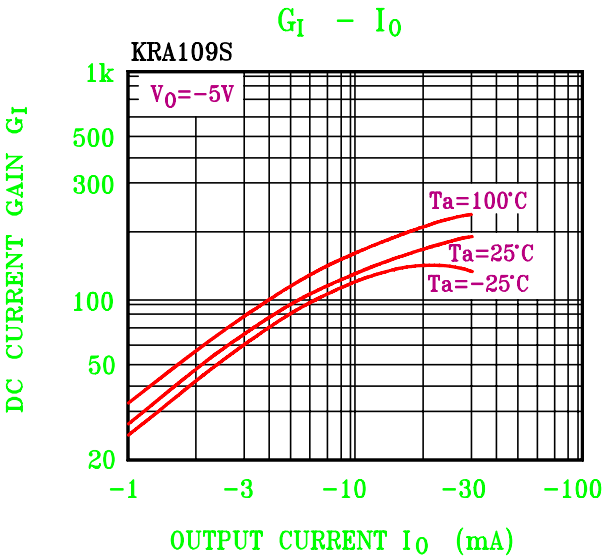


I_O – $V_{I(OFF)}$




G_I - I_O
KRA107S
V_O=-5V
Ta=100°C
Ta=25°C
Ta=-25°C
DC CURRENT GAIN G_I
1k
500
300
100
50
20
-1
-3
-10
-30
-100
OUTPUT CURRENT I_O (mA)


G_I - I_O
KRA108S
V_O=-5V
Ta=100°C
Ta=25°C
Ta=-25°C
DC CURRENT GAIN G_I
1k
500
300
100
50
20
-1
-3
-10
-30
-100
OUTPUT CURRENT I_O (mA)


G_I - I_O
KRA109S
V_O=-5V
Ta=100°C
Ta=25°C
Ta=-25°C
DC CURRENT GAIN G_I
1k
500
300
100
50
20
-1
-3
-10
-30
-100
OUTPUT CURRENT I_O (mA)