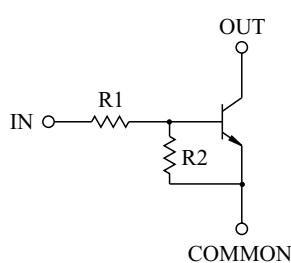


SWITCHING APPLICATION.  
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

#### FEATURES

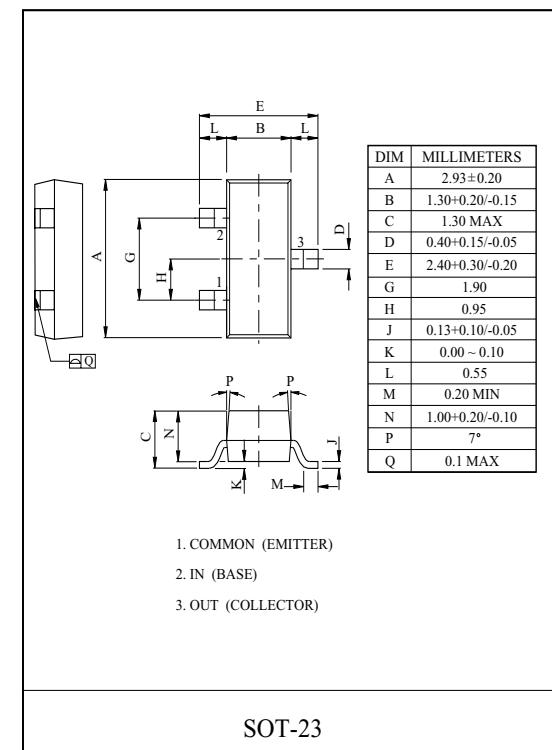
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.

#### EQUIVALENT CIRCUIT



#### BIAS RESISTOR VALUES

| TYPE NO. | R1(kΩ) | R2(kΩ) |
|----------|--------|--------|
| KRC101S  | 4.7    | 4.7    |
| KRC102S  | 10     | 10     |
| KRC103S  | 22     | 22     |
| KRC104S  | 47     | 47     |
| KRC105S  | 2.2    | 47     |
| KRC106S  | 4.7    | 47     |

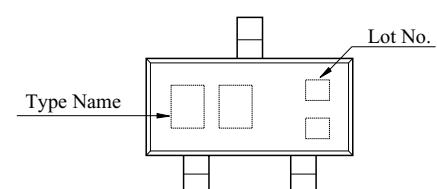


#### MAXIMUM RATING (Ta=25°C)

| CHARACTERISTIC            |              | SYMBOL           | RATING    | UNIT |
|---------------------------|--------------|------------------|-----------|------|
| Output Voltage            | KRC101S~106S | V <sub>O</sub>   | 50        | V    |
| Input Voltage             | KRC101S      | V <sub>I</sub>   | 20, -10   | V    |
|                           | KRC102S      |                  | 30, -10   |      |
|                           | KRC103S      |                  | 40, -10   |      |
|                           | KRC104S      |                  | 40, -10   |      |
|                           | KRC105S      |                  | 12, -5    |      |
|                           | KRC106S      |                  | 20, -5    |      |
| Output Current            | KRC101S~106S | I <sub>O</sub>   | 100       | mA   |
| Power Dissipation         |              | P <sub>D</sub>   | 200       | mW   |
| Junction Temperature      |              | T <sub>j</sub>   | 150       |      |
| Storage Temperature Range |              | T <sub>stg</sub> | -55 ~ 150 |      |

#### Marking

| TYPE | KRC101S | KRC102S | KRC103S | KRC104S | KRC105S | KRC106S |
|------|---------|---------|---------|---------|---------|---------|
| MARK | NA      | NB      | NC      | ND      | NE      | NF      |



# KRC101S~KRC106S

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

| CHARACTERISTIC         |                | SYMBOL                       | TEST CONDITION                              | MIN. | TYP. | MAX. | UNIT |
|------------------------|----------------|------------------------------|---|------|------|------|------|
| Output Cut-off Current | KRC101S ~ 106S | I <sub>O(OFF)</sub>          | V <sub>O</sub> =50V, V <sub>I</sub> =0      | -    | -    | 500  | nA   |
| DC Current Gain        | KRC101S        | G <sub>I</sub>               | V <sub>O</sub> =5V, I <sub>O</sub> =10mA    | 30   | 55   | -    |      |
|                        | KRC102S        |                              |   | 50   | 80   | -    |      |
|                        | KRC103S        |                              |   | 70   | 120  | -    |      |
|                        | KRC104S        |                              |   | 80   | 200  | -    |      |
|                        | KRC105S        |                              |   | 80   | 200  | -    |      |
|                        | KRC106S        |                              |   | 80   | 200  | -    |      |
| Output Voltage         | KRC101S ~ 106S | V <sub>O(ON)</sub>           | I <sub>O</sub> =10mA, I <sub>i</sub> =0.5mA | -    | 0.1  | 0.3  | V    |
| Input Voltage (ON)     | KRC101S        | V <sub>I(ON)</sub>           | V <sub>O</sub> =0.2V, I <sub>O</sub> =5mA   | -    | 1.5  | 2.0  | V    |
|                        | KRC102S        |                              |   | -    | 1.8  | 2.4  |      |
|                        | KRC103S        |                              |   | -    | 2.1  | 3.0  |      |
|                        | KRC104S        |                              |   | -    | 2.8  | 5.0  |      |
|                        | KRC105S        |                              |   | -    | 0.8  | 1.1  |      |
|                        | KRC106S        |                              |   | -    | 0.9  | 1.3  |      |
| Input Voltage (OFF)    | KRC101S ~ 104S | V <sub>I(OFF)</sub>          | V <sub>O</sub> =5V, I <sub>O</sub> =0.1mA   | 1.0  | 1.2  | -    | V    |
|                        | KRC105S ~ 106S |                              |   | 0.5  | 0.65 | -    |      |
| Transition Frequency   | KRC101S ~ 106S | f <sub>T</sub> *             | V <sub>O</sub> =10V, I <sub>O</sub> =5mA    | -    | 200  | -    | MHz  |
| Input Current          | KRC101S        | I <sub>I</sub>               | V <sub>I</sub> =5V                          | -    | -    | 1.8  | mA   |
|                        | KRC102S        |                              |   | -    | -    | 0.88 |      |
|                        | KRC103S        |                              |   | -    | -    | 0.36 |      |
|                        | KRC104S        |                              |   | -    | -    | 0.18 |      |
|                        | KRC105S        |                              |   | -    | -    | 3.6  |      |
|                        | KRC106S        |                              |   | -    | -    | 1.8  |      |
| Input Resistor         | KRC101S        | R <sub>1</sub>               | -   | 3.29 | 4.7  | 6.11 | k    |
|                        | KRC102S        |                              |   | 7    | 10   | 13   |      |
|                        | KRC103S        |                              |   | 15.4 | 22   | 28.6 |      |
|                        | KRC104S        |                              |   | 32.9 | 47   | 61.1 |      |
|                        | KRC105S        |                              |   | 1.54 | 2.2  | 2.86 |      |
|                        | KRC106S        |                              |   | 3.29 | 4.7  | 6.11 |      |
| Resistor Ratio         | KRC101S~104S   | R <sub>2/R<sub>1</sub></sub> | -   | 0.8  | 1.0  | 1.2  |      |
|                        | KRC105S        |                              |   | 17   | 21   | 26   |      |
|                        | KRC106S        |                              |   | 8    | 10   | 12   |      |

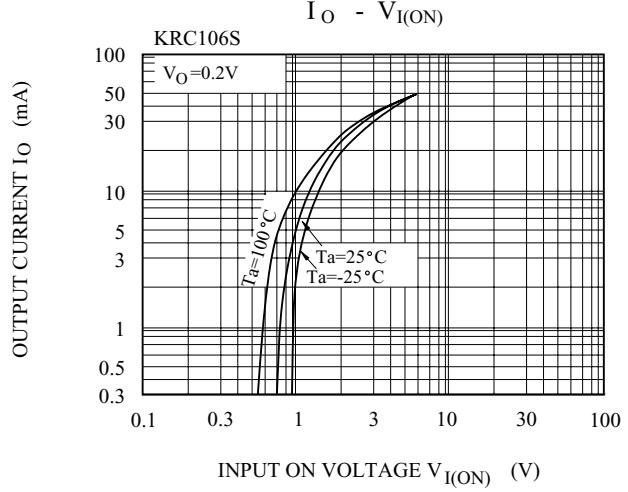
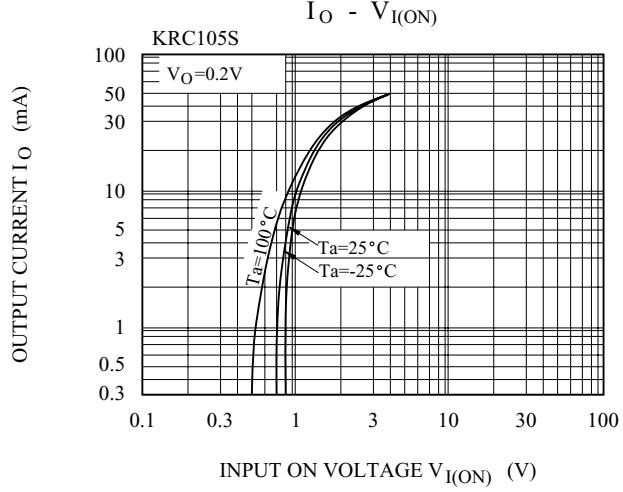
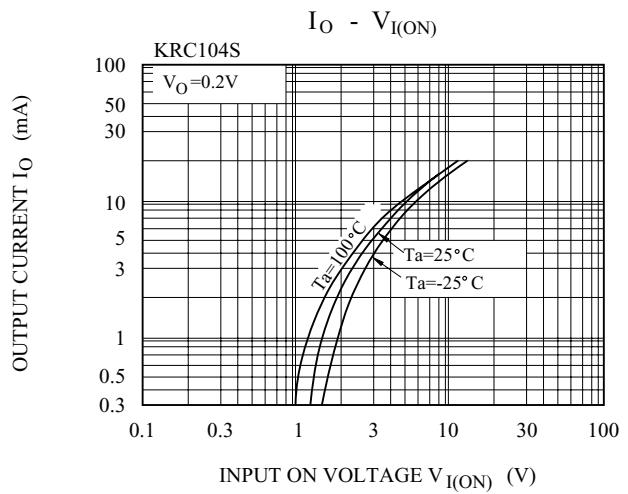
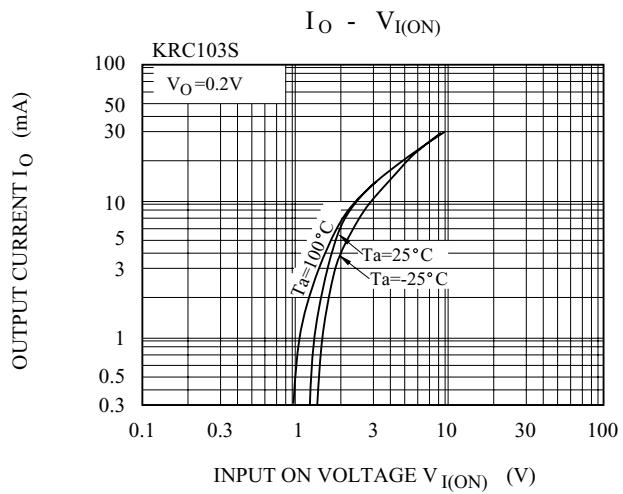
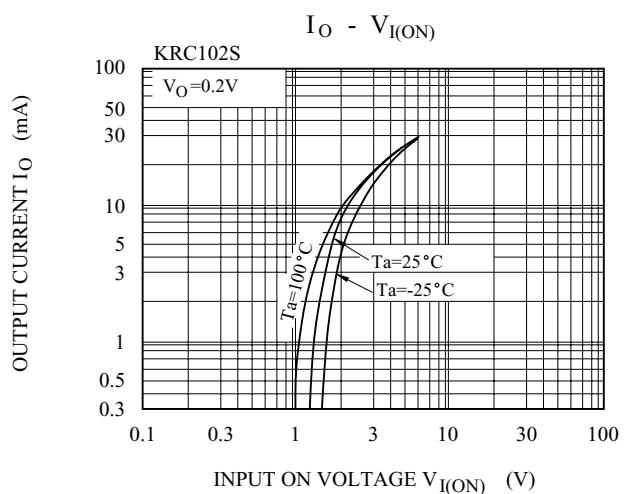
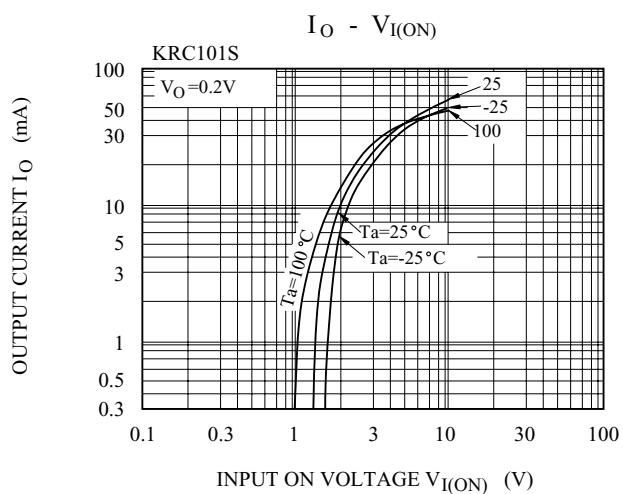
Note : \* Characteristic of Transistor Only.

# KRC101S~KRC106S

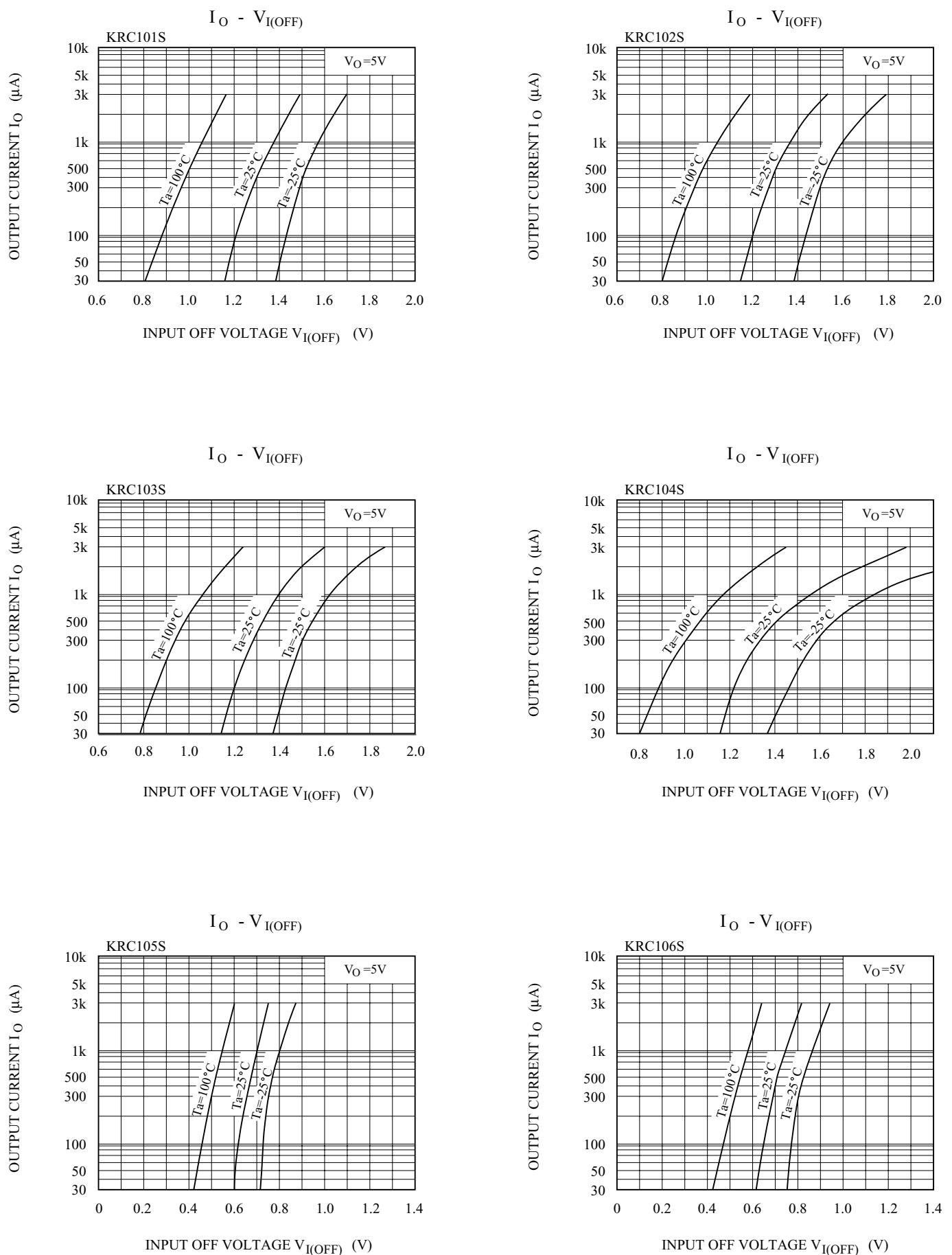
ELECTRICAL CHARACTERISTICS (Ta=25 )

| CHARACTERISTIC |              | SYMBOL  | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|----------------|--------------|---------|----------------|------|------|------|------|
| Switching Time | Rise Time    | KRC101S | $t_r$          | -    | 0.03 | -    | μs   |
|                |              | KRC102S |                | -    | 0.05 | -    |      |
|                |              | KRC103S |                | -    | 0.12 | -    |      |
|                |              | KRC104S |                | -    | 0.22 | -    |      |
|                |              | KRC105S |                | -    | 0.01 | -    |      |
|                |              | KRC106S |                | -    | 0.03 | -    |      |
|                | Storage Time | KRC101S | $t_{stg}$      | -    | 2.0  | -    |      |
|                |              | KRC102S |                | -    | 2.0  | -    |      |
|                |              | KRC103S |                | -    | 2.0  | -    |      |
|                |              | KRC104S |                | -    | 2.0  | -    |      |
|                |              | KRC105S |                | -    | 2.0  | -    |      |
|                |              | KRC106S |                | -    | 2.0  | -    |      |
|                | Fall Time    | KRC101S | $t_f$          | -    | 0.12 | -    |      |
|                |              | KRC102S |                | -    | 0.36 | -    |      |
|                |              | KRC103S |                | -    | 0.35 | -    |      |
|                |              | KRC104S |                | -    | 0.6  | -    |      |
|                |              | KRC105S |                | -    | 0.1  | -    |      |
|                |              | KRC106S |                | -    | 0.19 | -    |      |

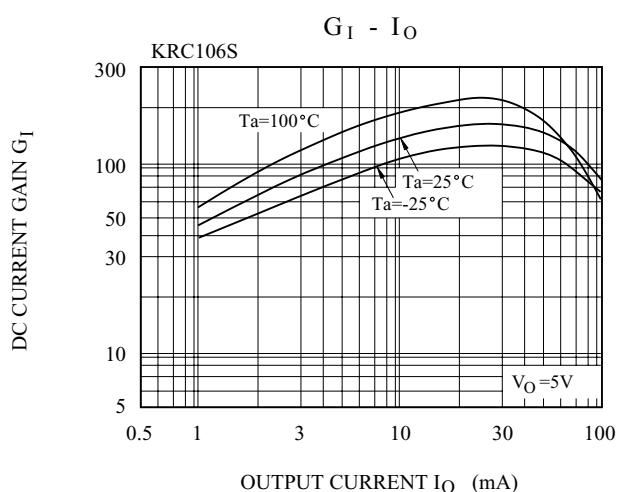
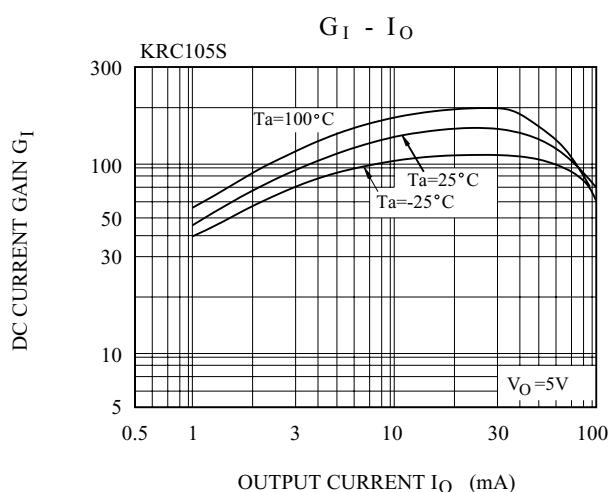
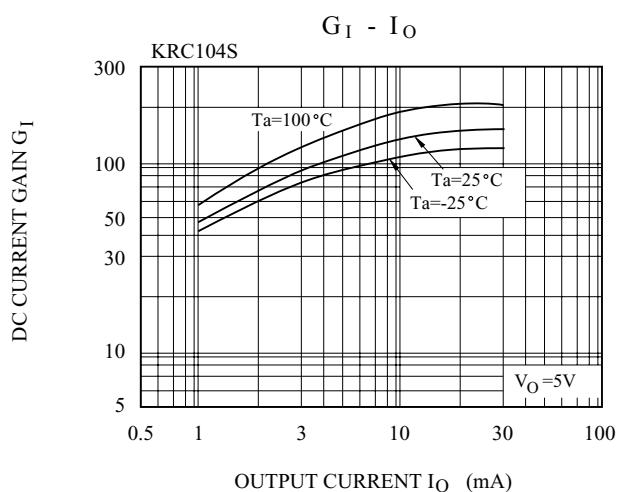
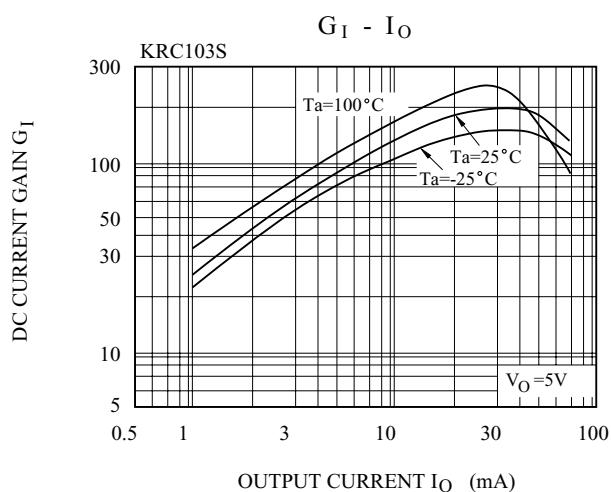
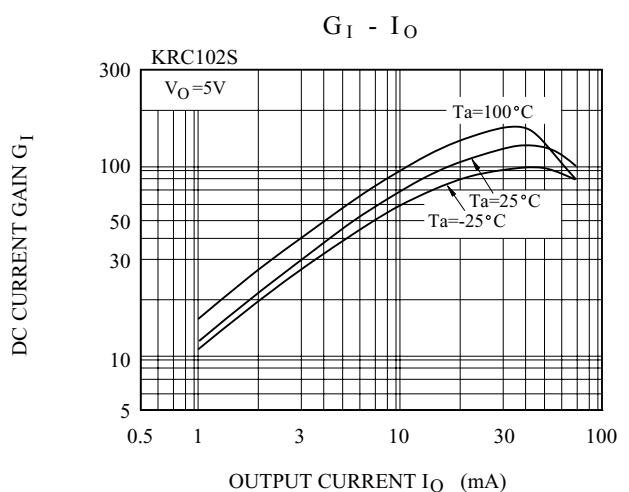
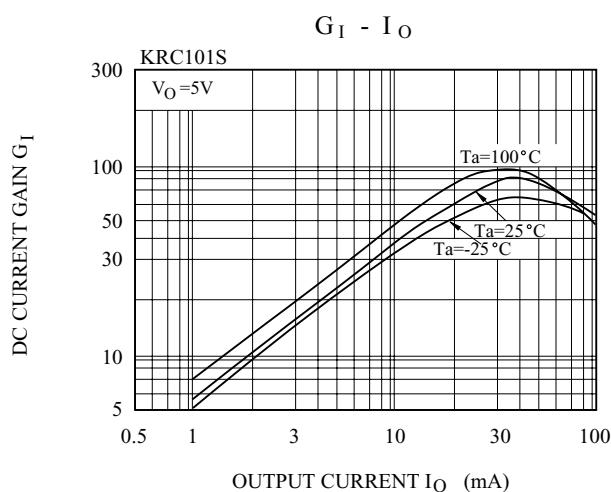
# KRC101S~KRC106S



# KRC101S~KRC106S



# KRC101S~KRC106S



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