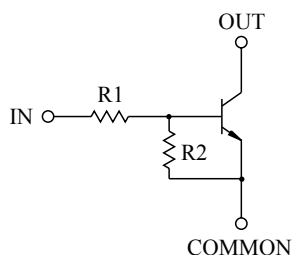


SWITCHING APPLICATION.  
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

### FEATURES

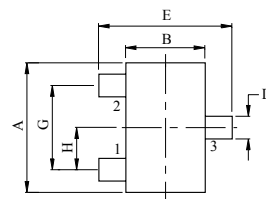
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.
- High Packing Density.

### EQUIVALENT CIRCUIT

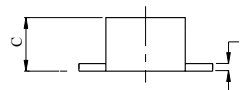


### BIAS RESISTOR VALUES

| TYPE NO. | R1(k $\Omega$ ) | R2(k $\Omega$ ) |
|----------|-----------------|-----------------|
| KRC401E  | 4.7             | 4.7             |
| KRC402E  | 10              | 10              |
| KRC403E  | 22              | 22              |
| KRC404E  | 47              | 47              |
| KRC405E  | 2.2             | 47              |
| KRC406E  | 4.7             | 47              |



| DIM | MILLIMETERS     |
|-----|-----------------|
| A   | 1.60±0.10       |
| B   | 0.85±0.10       |
| C   | 0.70±0.10       |
| D   | 0.27+0.10/-0.05 |
| E   | 1.60±0.10       |
| G   | 1.00±0.10       |
| H   | 0.50            |
| J   | 0.13±0.05       |



1. COMMON (EMITTER)  
2. IN (BASE)  
3. OUT (COLLECTOR)

ESM

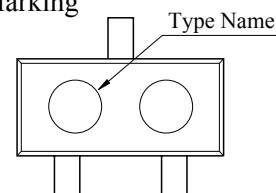
### MAXIMUM RATING (Ta=25℃)

| CHARACTERISTIC            |                | SYMBOL           | RATING    | UNIT |
|---------------------------|----------------|------------------|-----------|------|
| Output Voltage            | KRC401E ~ 406E | V <sub>O</sub>   | 50        | V    |
| Input Voltage             | KRC401E        | V <sub>I</sub>   | 20, -10   | V    |
|                           | KRC402E        |                  | 30, -10   |      |
|                           | KRC403E        |                  | 40, -10   |      |
|                           | KRC404E        |                  | 40, -10   |      |
|                           | KRC405E        |                  | 12, -5    |      |
|                           | KRC406E        |                  | 20, -5    |      |
| Output Current            | KRC401E ~ 406E | I <sub>O</sub>   | 100       | mA   |
| Power Dissipation         |                | P <sub>D</sub>   | 100       | mW   |
| Junction Temperature      |                | T <sub>j</sub>   | 150       | ℃    |
| Storage Temperature Range |                | T <sub>stg</sub> | -55 ~ 150 | ℃    |

### MARK SPEC

| TYPE | KRC401E | KRC402E | KRC403E | KRC404E | KRC405E | KRC406E |
|------|---------|---------|---------|---------|---------|---------|
| MARK | NA      | NB      | NC      | ND      | NE      | NF      |

### Marking



# KRC401E~KRC406E

## ELECTRICAL CHARACTERISTICS (Ta=25℃)

| CHARACTERISTIC         |                | SYMBOL       | TEST CONDITION        | MIN. | TYP. | MAX. | UNIT |
|------------------------|----------------|--------------|-----------------------|------|------|------|------|
| Output Cut-off Current | KRC401E ~ 406E | $I_{O(OFF)}$ | $V_O=50V, V_I=0$      | -    | -    | 500  | nA   |
| DC Current Gain        | KRC401E        | $G_I$        | $V_O=5V, I_O=10mA$    | 30   | 55   | -    |      |
|                        | KRC402E        |              |                       | 50   | 80   | -    |      |
|                        | KRC403E        |              |                       | 70   | 120  | -    |      |
|                        | KRC404E        |              |                       | 80   | 200  | -    |      |
|                        | KRC405E        |              |                       | 80   | 200  | -    |      |
|                        | KRC406E        |              |                       | 80   | 200  | -    |      |
| Output Voltage         | KRC401E ~ 406E | $V_{O(ON)}$  | $I_O=10mA, I_I=0.5mA$ | -    | 0.1  | 0.3  | V    |
| Input Voltage (ON)     | KRC401E        | $V_{I(ON)}$  | $V_O=0.2V, I_O=5mA$   | -    | 1.5  | 2.0  | V    |
|                        | KRC402E        |              |                       | -    | 1.8  | 2.4  |      |
|                        | KRC403E        |              |                       | -    | 2.1  | 3.0  |      |
|                        | KRC404E        |              |                       | -    | 2.8  | 5.0  |      |
|                        | KRC405E        |              |                       | -    | 0.8  | 1.1  |      |
|                        | KRC406E        |              |                       | -    | 0.9  | 1.3  |      |
| Input Voltage (OFF)    | KRC401E ~ 404E | $V_{I(OFF)}$ | $V_O=5V, I_O=0.1mA$   | 1.0  | 1.2  | -    | V    |
|                        | KRC405E ~ 406E |              |                       | 0.5  | 0.65 | -    |      |
| Transition Frequency   | KRC401E ~ 406E | $f_T^*$      | $V_O=10V, I_O=5mA$    | -    | 200  | -    | MHz  |
| Input Current          | KRC401E        | $I_I$        | $V_I=5V$              | -    | -    | 1.8  | mA   |
|                        | KRC402E        |              |                       | -    | -    | 0.88 |      |
|                        | KRC403E        |              |                       | -    | -    | 0.36 |      |
|                        | KRC404E        |              |                       | -    | -    | 0.18 |      |
|                        | KRC405E        |              |                       | -    | -    | 3.6  |      |
|                        | KRC406E        |              |                       | -    | -    | 1.8  |      |

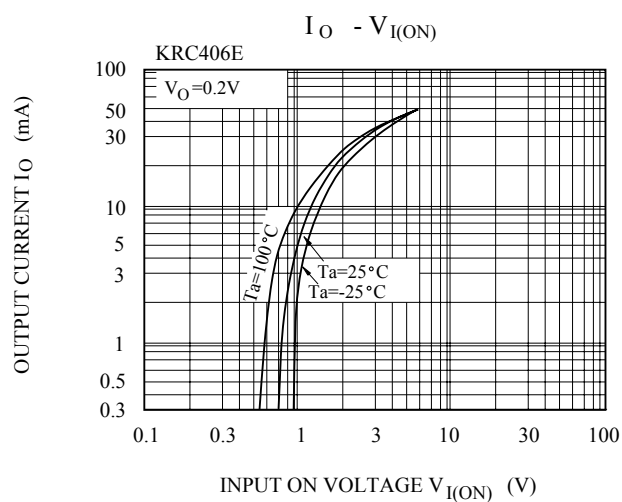
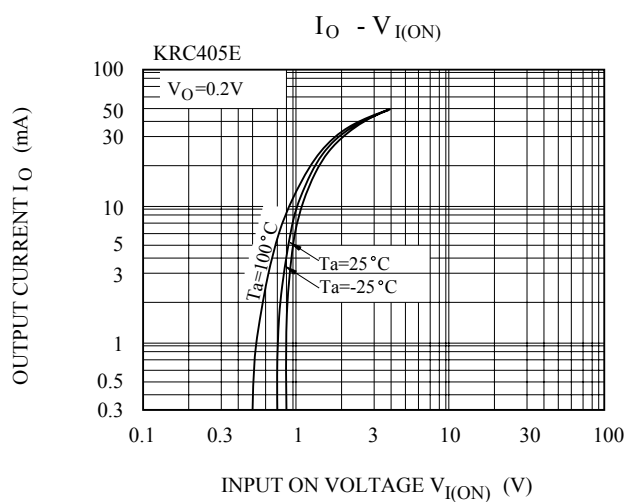
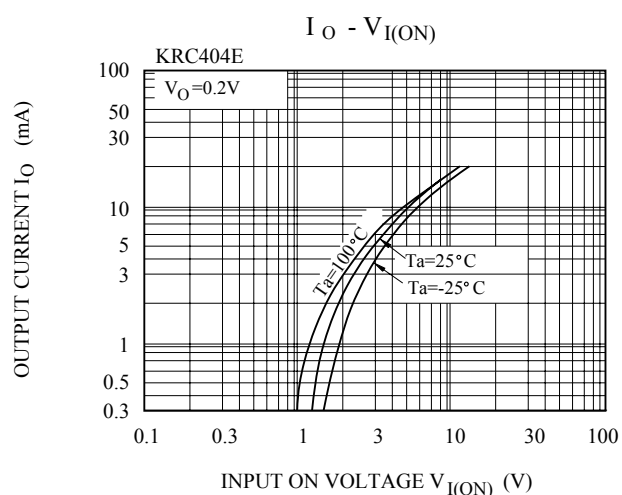
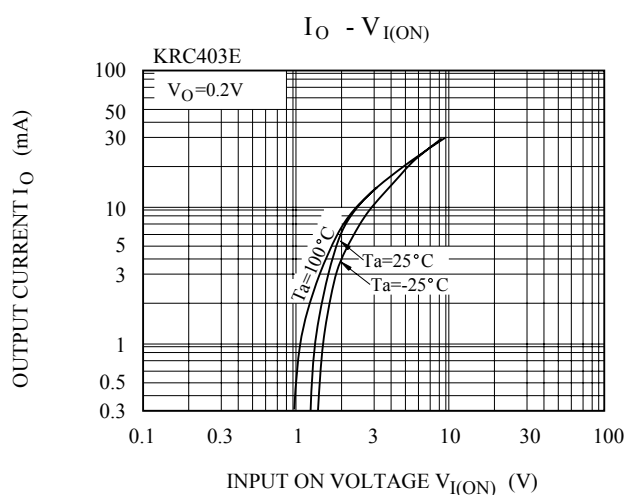
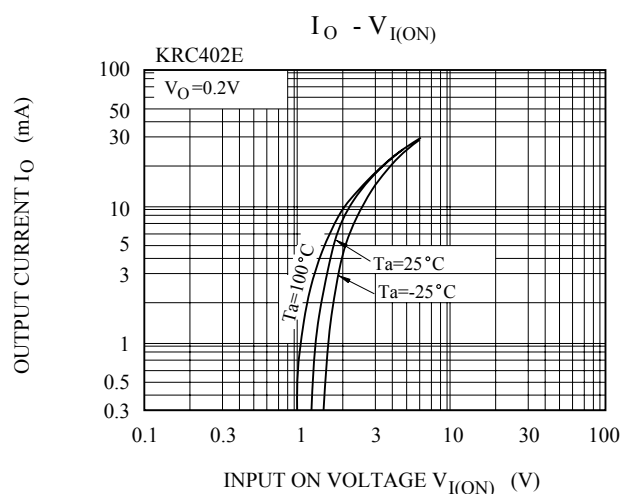
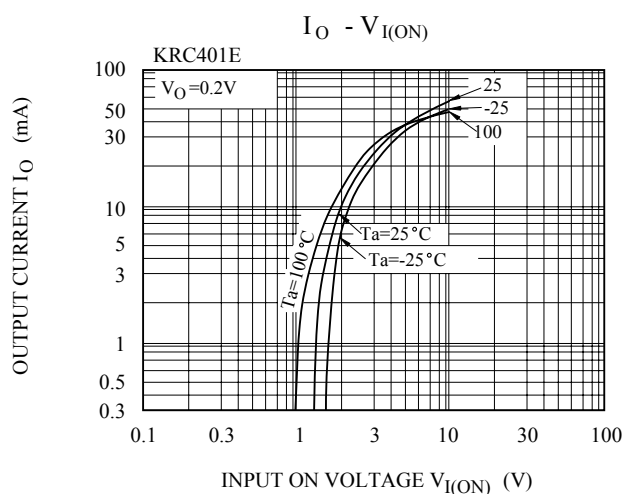
Note : \* Characteristic of Transistor Only.

# KRC401E~KRC406E

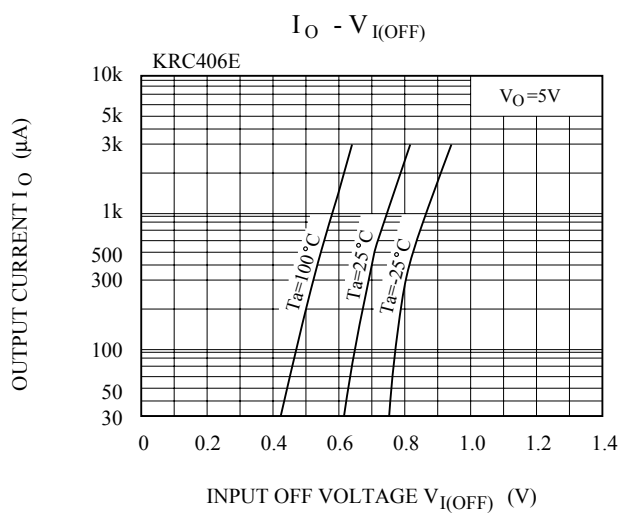
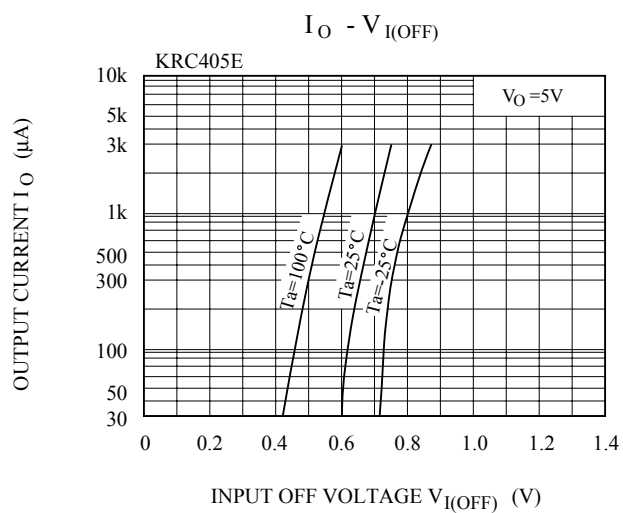
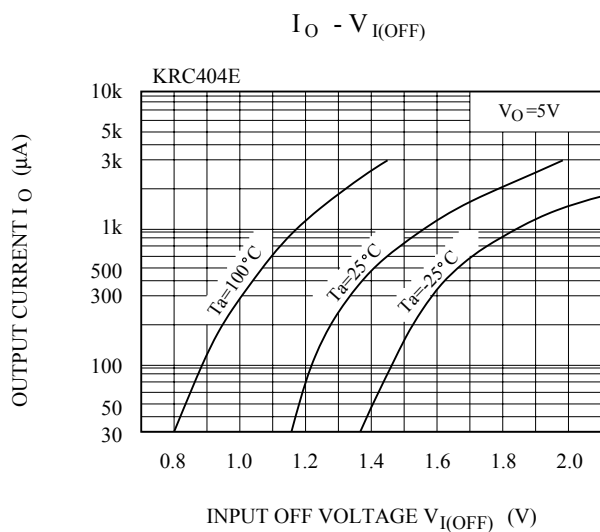
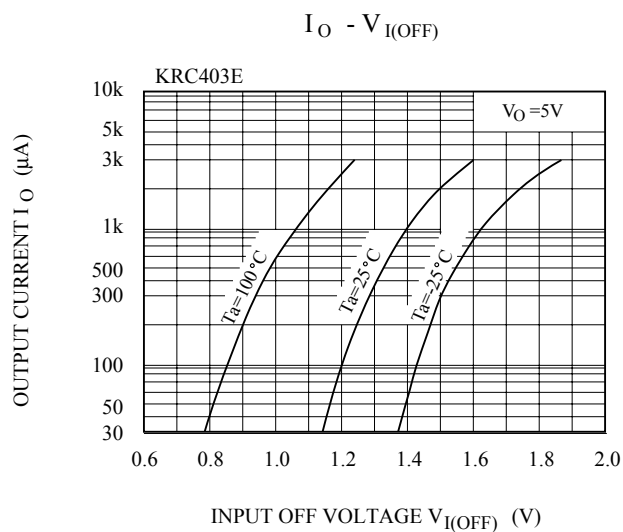
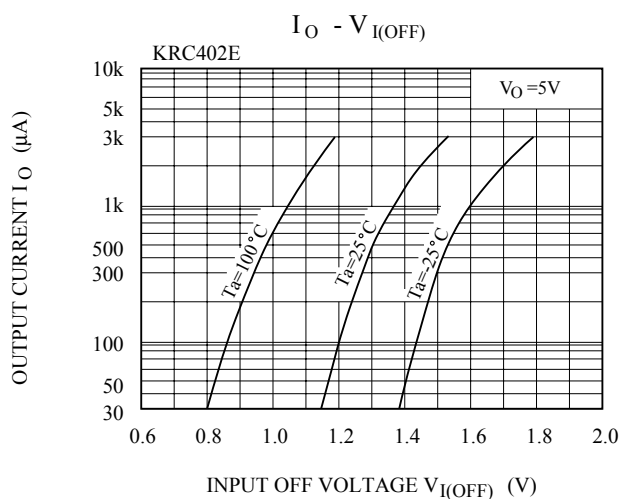
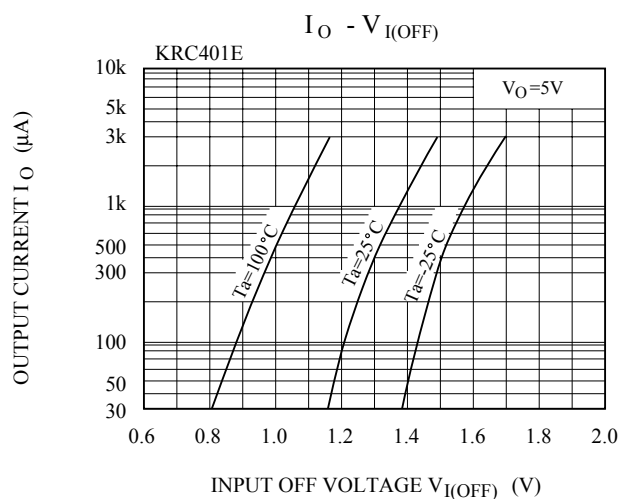
## ELECTRICAL CHARACTERISTICS (Ta=25℃)

| CHARACTERISTIC |              |         | SYMBOL           | TEST CONDITION                                                    | MIN. | TYP. | MAX. | UNIT |
|----------------|--------------|---------|------------------|-------------------------------------------------------------------|------|------|------|------|
| Switching Time | Rise Time    | KRC401E | t <sub>r</sub>   | V <sub>O</sub> =5V<br>V <sub>IN</sub> =5V<br>R <sub>L</sub> =1k Ω | -    | 0.03 | -    | μS   |
|                |              | KRC402E |                  |                                                                   | -    | 0.05 | -    |      |
|                |              | KRC403E |                  |                                                                   | -    | 0.12 | -    |      |
|                |              | KRC404E |                  |                                                                   | -    | 0.22 | -    |      |
|                |              | KRC405E |                  |                                                                   | -    | 0.01 | -    |      |
|                |              | KRC406E |                  |                                                                   | -    | 0.03 | -    |      |
|                | Storage Time | KRC401E | t <sub>stg</sub> |                                                                   | -    | 2.0  | -    |      |
|                |              | KRC402E |                  |                                                                   | -    | 2.0  | -    |      |
|                |              | KRC403E |                  |                                                                   | -    | 2.0  | -    |      |
|                |              | KRC404E |                  |                                                                   | -    | 2.0  | -    |      |
|                |              | KRC405E |                  |                                                                   | -    | 2.0  | -    |      |
|                |              | KRC406E |                  |                                                                   | -    | 2.0  | -    |      |
|                | Fall Time    | KRC401E | t <sub>f</sub>   |                                                                   | -    | 0.12 | -    |      |
|                |              | KRC402E |                  |                                                                   | -    | 0.36 | -    |      |
|                |              | KRC403E |                  |                                                                   | -    | 0.35 | -    |      |
|                |              | KRC404E |                  |                                                                   | -    | 0.6  | -    |      |
|                |              | KRC405E |                  |                                                                   | -    | 0.1  | -    |      |
|                |              | KRC406E |                  |                                                                   | -    | 0.19 | -    |      |

# KRC401E~KRC406E



# KRC401E~KRC406E



# KRC401E~KRC406E

