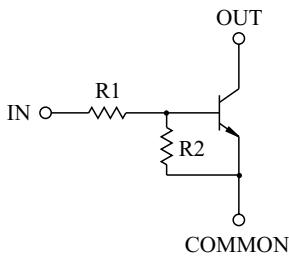


SWITCHING APPLICATION.  
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION

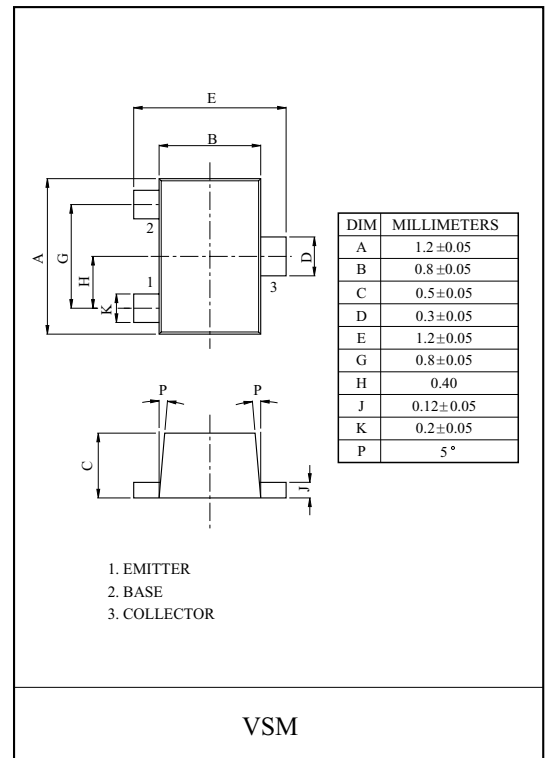
### FEATURES

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

### EQUIVALENT CIRCUIT



| TYPE NO. | R1(k ) | R2(k ) |
|----------|--------|--------|
| KRC416V  | 1      | 10     |
| KRC417V  | 2.2    | 2.2    |
| KRC418V  | 2.2    | 10     |
| KRC419V  | 4.7    | 10     |
| KRC420V  | 10     | 4.7    |
| KRC421V  | 47     | 10     |
| KRC422V  | 100    | 100    |



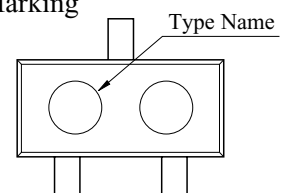
### MAXIMUM RATING (Ta=25 )

| CHARACTERISTIC            |              | SYMBOL    | RATING  | UNIT |
|---------------------------|--------------|-----------|---------|------|
| Output Voltage            | KRC416V~422V | $V_O$     | 50      | V    |
| Input Voltage             | KRC416V      | $V_I$     | 10, -5  | V    |
|                           | KRC417V      |           | 12, -10 |      |
|                           | KRC418V      |           | 12, -5  |      |
|                           | KRC419V      |           | 20, -7  |      |
|                           | KRC420V      |           | 30, -10 |      |
|                           | KRC421V      |           | 40, -15 |      |
|                           | KRC422V      |           | 40, -10 |      |
| Output Current            | KRC416V~422V | $I_O$     | 100     | mA   |
| Power Dissipation         |              | $P_D$     | 100     | mW   |
| Junction Temperature      |              | $T_j$     | 150     |      |
| Storage Temperature Range |              | $T_{stg}$ | -55 150 |      |

### MARK SPEC

| TYPE | KRC416V | KRC417V | KRC418V | KRC419V | KRC420V | KRC421V | KRC422V |
|------|---------|---------|---------|---------|---------|---------|---------|
| MARK | N2      | N4      | N5      | N6      | N7      | N8      | N9      |

### Marking



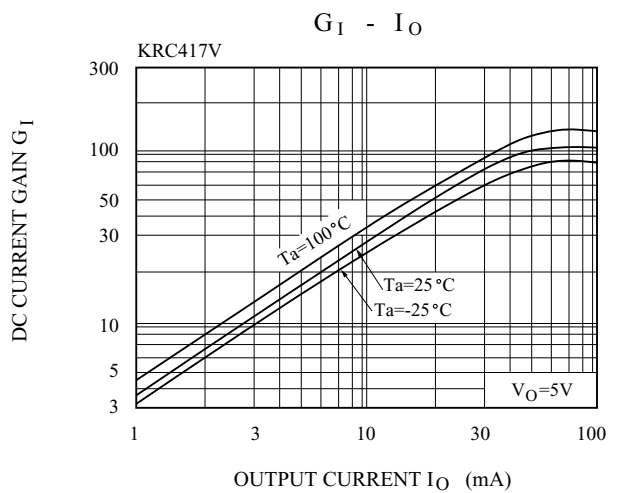
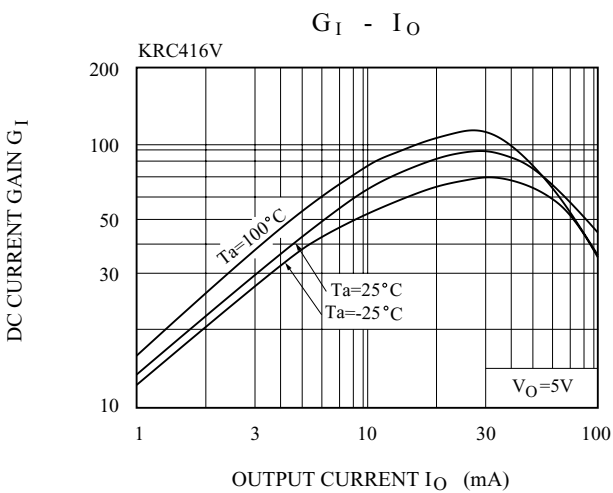
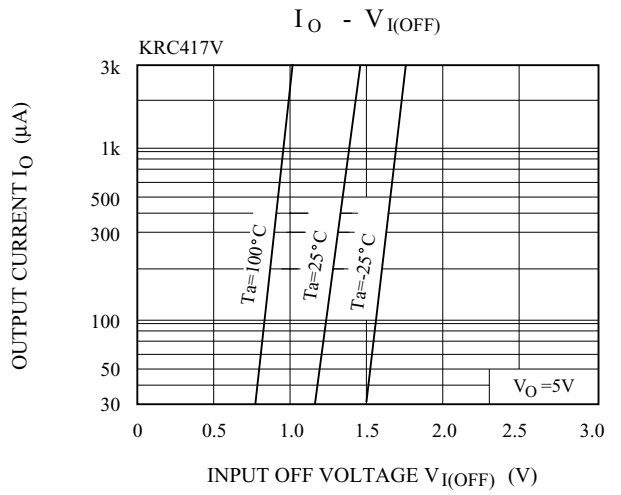
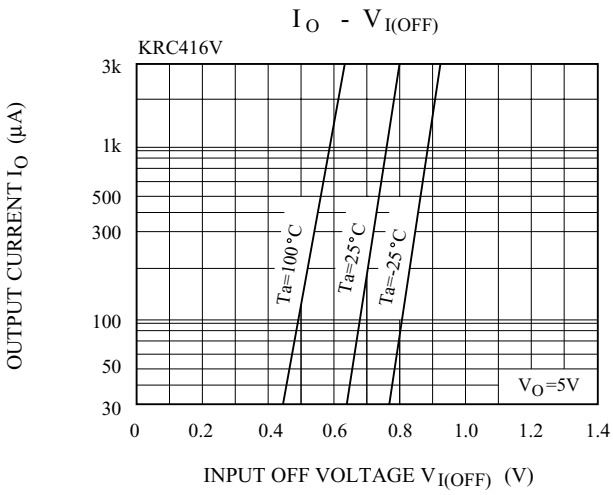
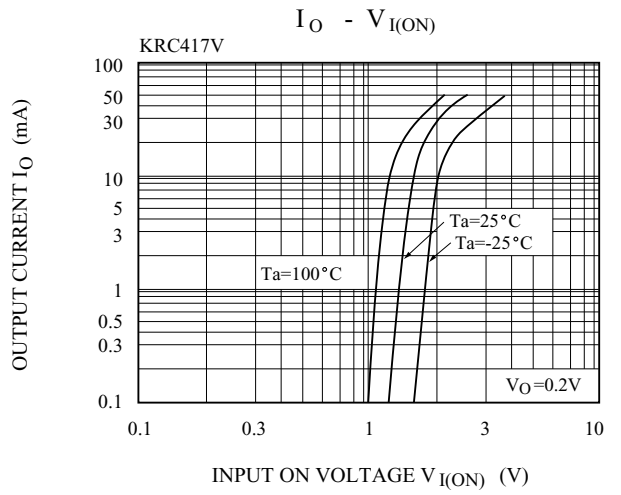
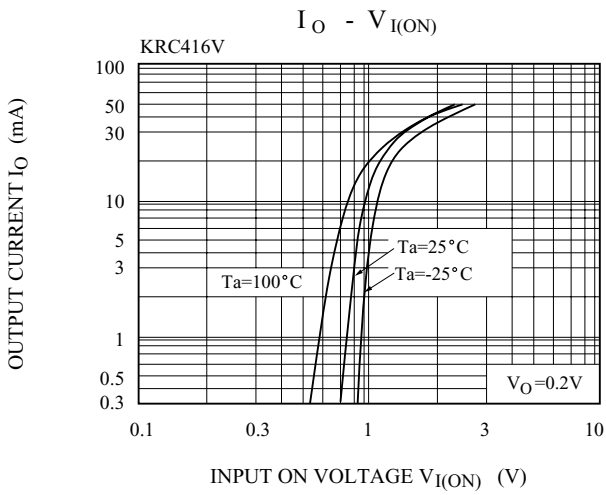
# KRC416V~KRC422V

## ELECTRICAL CHARACTERISTICS (Ta=25 °C)

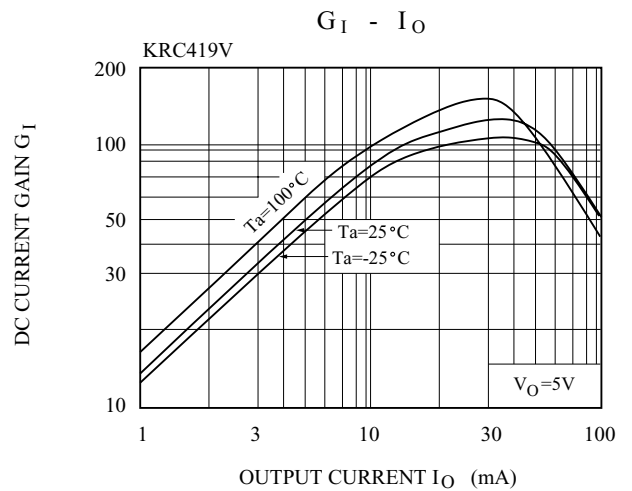
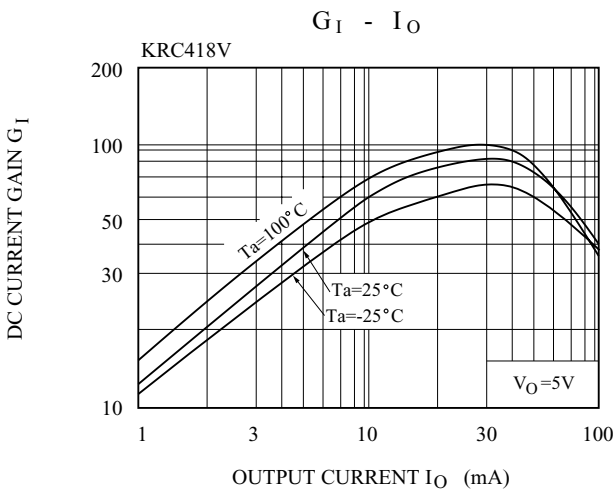
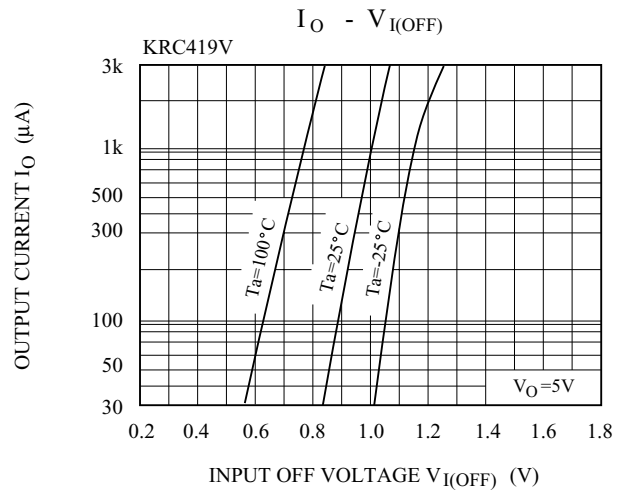
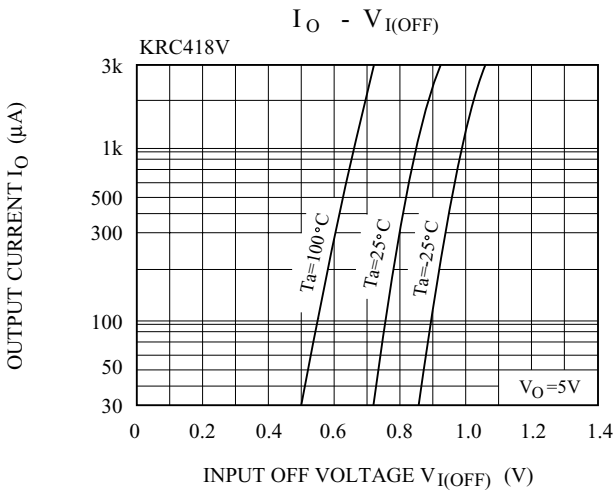
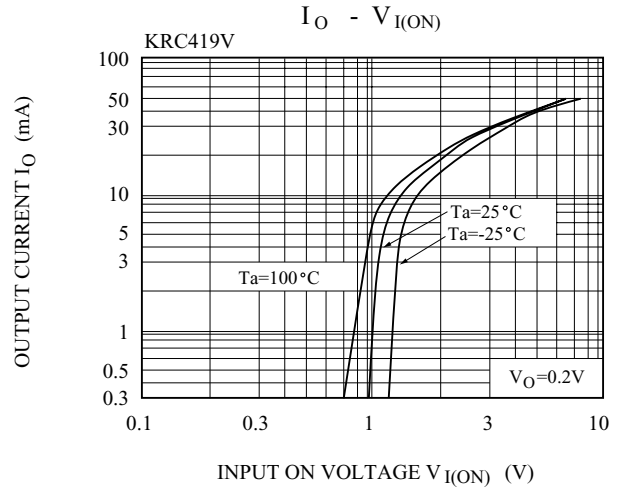
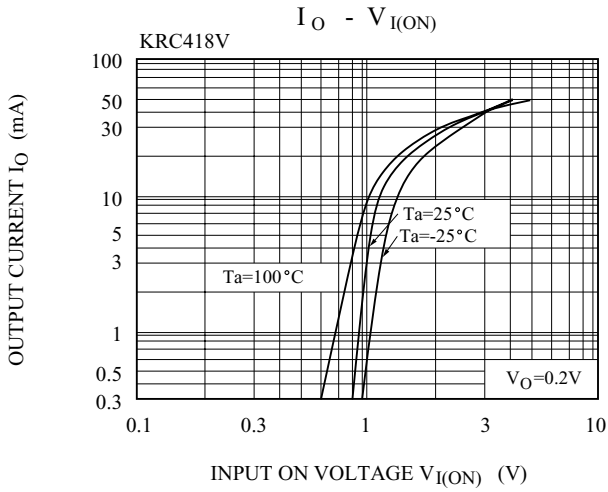
| CHARACTERISTIC         |              | SYMBOL       | TEST CONDITION            | MIN. | TYP. | MAX. | UNIT |
|------------------------|--------------|--------------|---------------------------|------|------|------|------|
| Output Cut-off Current | KRC416V~422V | $I_{O(OFF)}$ | $V_O=50V, V_I=0$          | -    | -    | 500  | nA   |
| DC Current Gain        | KRC416V      | $G_I$        | $V_O=5V, I_O=5mA$         | 33   | -    | -    |      |
|                        | KRC417V      |              | $V_O=5V, I_O=20mA$        | 20   | -    | -    |      |
|                        | KRC418V      |              | $V_O=5V, I_O=10mA$        | 33   | -    | -    |      |
|                        | KRC419V      |              | $V_O=5V, I_O=10mA$        | 30   | -    | -    |      |
|                        | KRC420V      |              | $V_O=5V, I_O=10mA$        | 24   | -    | -    |      |
|                        | KRC421V      |              | $V_O=5V, I_O=5mA$         | 33   | -    | -    |      |
|                        | KRC422V      |              | $V_O=5V, I_O=5mA$         | 62   | -    | -    |      |
| Output Voltage         | KRC416V      | $V_{O(ON)}$  | $I_O=10mA, I_I=0.5mA$     | -    | -    | 0.3  | V    |
|                        | KRC417V      |              | $I_O=10mA, I_I=0.5mA$     | -    | 0.1  | 0.3  |      |
|                        | KRC418V      |              | $I_O=10mA, I_I=0.5mA$     | -    | -    | 0.3  |      |
|                        | KRC419V      |              | $I_O=10mA, I_I=0.5mA$     | -    | 0.1  | 0.3  |      |
|                        | KRC420V      |              | $I_O=10mA, I_I=0.5mA$     | -    | 0.1  | 0.3  |      |
|                        | KRC421V      |              | $I_O=10mA, I_I=0.5mA$     | -    | 0.1  | 0.3  |      |
|                        | KRC422V      |              | $I_O=5mA, I_I=0.25mA$     | -    | 0.1  | 0.3  |      |
| Input Voltage (ON)     | KRC416V      | $V_{I(ON)}$  | $V_O=0.3V, I_O=20mA$      | -    | 0.98 | 3    | V    |
|                        | KRC417V      |              | $V_O=0.3V, I_O=20mA$      | -    | 1.83 | 3    |      |
|                        | KRC418V      |              | $V_O=0.3V, I_O=20mA$      | -    | 1.22 | 3    |      |
|                        | KRC419V      |              | $V_O=0.3V, I_O=20mA$      | -    | 1.76 | 2.5  |      |
|                        | KRC420V      |              | $V_O=0.3V, I_O=2mA$       | -    | 2    | 3    |      |
|                        | KRC421V      |              | $V_O=0.3V, I_O=2mA$       | -    | 3.9  | 5    |      |
|                        | KRC422V      |              | $V_O=0.3V, I_O=1mA$       | -    | 1.64 | 3    |      |
| Input Voltage (OFF)    | KRC416V      | $V_{I(OFF)}$ | $V_{CC}=5V, I_O=100\mu A$ | 0.3  | 0.63 | -    | V    |
|                        | KRC417V      |              |                           | 0.5  | 1.15 | -    |      |
|                        | KRC418V      |              |                           | 0.3  | 0.67 | -    |      |
|                        | KRC419V      |              |                           | 0.3  | 0.82 | -    |      |
|                        | KRC420V      |              |                           | 0.8  | 1.68 | -    |      |
|                        | KRC421V      |              |                           | 1    | 3.09 | -    |      |
|                        | KRC422V      |              |                           | 0.5  | 1.17 | -    |      |
| Transition Frequency   | KRC416V~422V | $f_T^*$      | $V_O=10V, I_O=5mA$        | -    | 250  | -    | MHz  |
| Input Current          | KRC416V      | $I_I$        | $V_I=5V$                  | -    | -    | 7.2  | mA   |
|                        | KRC417V      |              |                           | -    | -    | 3.8  |      |
|                        | KRC418V      |              |                           | -    | -    | 3.8  |      |
|                        | KRC419V      |              |                           | -    | -    | 1.8  |      |
|                        | KRC420V      |              |                           | -    | -    | 0.88 |      |
|                        | KRC421V      |              |                           | -    | -    | 0.16 |      |
|                        | KRC422V      |              |                           | -    | -    | 0.15 |      |
| Input Resistor         | KRC416V      | R1           | -                         | 0.7  | 1    | 1.3  | k    |
|                        | KRC417V      |              |                           | 1.54 | 2.2  | 2.86 |      |
|                        | KRC418V      |              |                           | 1.54 | 2.2  | 2.86 |      |
|                        | KRC419V      |              |                           | 3.29 | 4.7  | 6.11 |      |
|                        | KRC420V      |              |                           | 7    | 10   | 13   |      |
|                        | KRC421V      |              |                           | 32.9 | 47   | 61.1 |      |
|                        | KRC422V      |              |                           | 70   | 100  | 130  |      |
| Resistor Ratio         | KRC416V      | R2/R1        | -                         | 8    | 10   | 12   |      |
|                        | KRC417V      |              |                           | 0.8  | 1.0  | 1.2  |      |
|                        | KRC418V      |              |                           | 3.6  | 4.5  | 5.5  |      |
|                        | KRC419V      |              |                           | 1.7  | 2.1  | 2.6  |      |
|                        | KRC420V      |              |                           | 0.37 | 0.47 | 0.57 |      |
|                        | KRC421V      |              |                           | 0.17 | 0.21 | 0.26 |      |
|                        | KRC422V      |              |                           | 0.8  | 1.0  | 1.2  |      |

Note : \* Characteristic of Transistor Only.

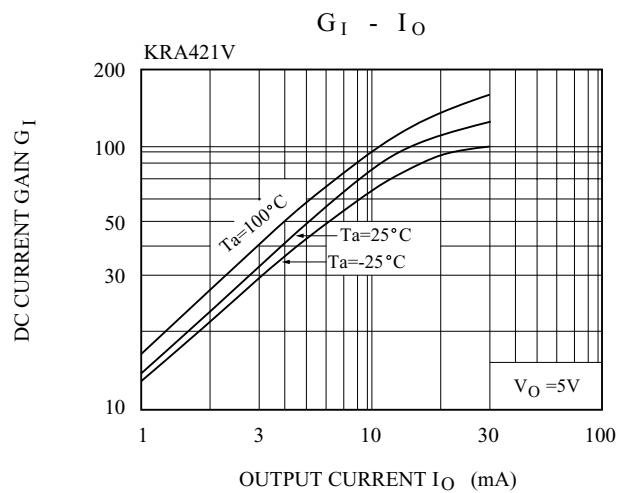
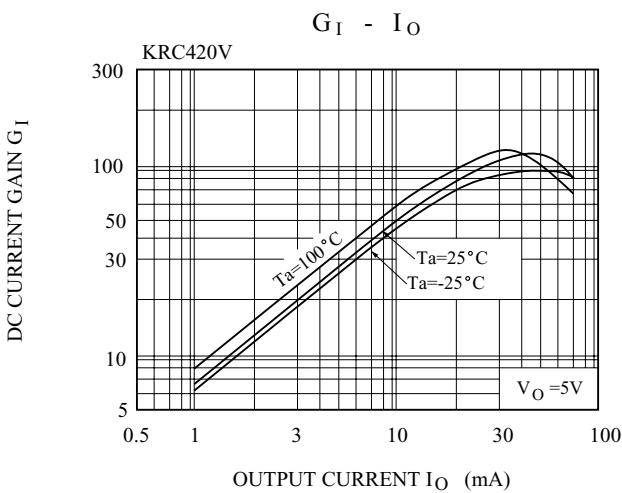
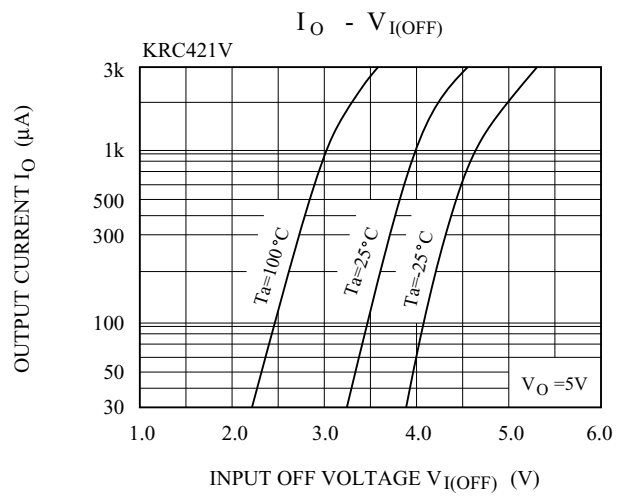
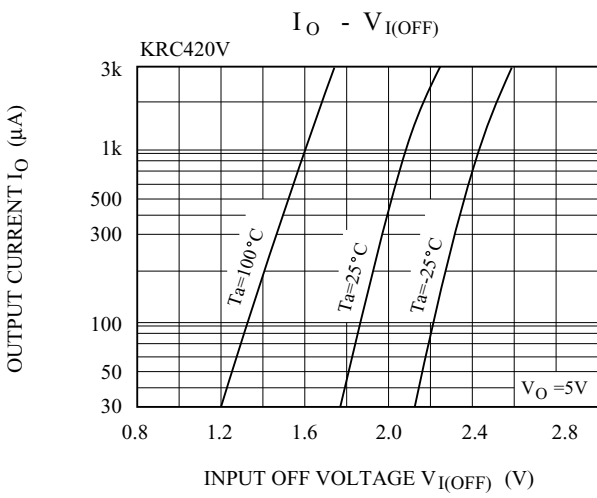
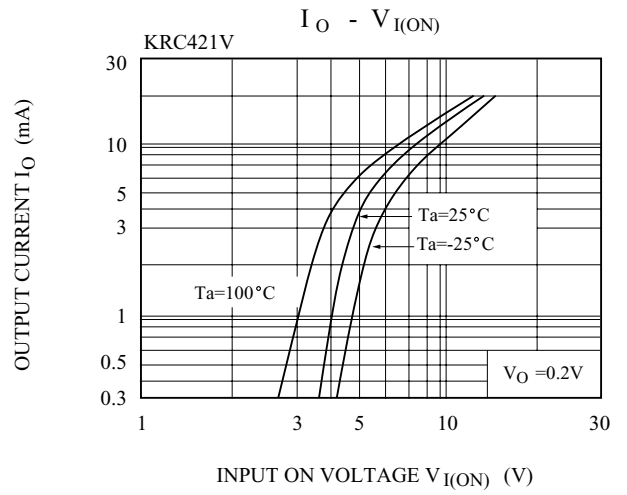
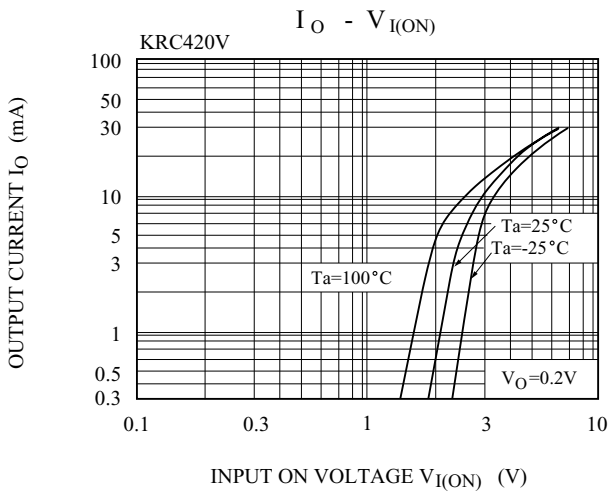
# KRC416V~KRC422V



# KRC416V~KRC422V



# KRC416V~KRC422V



# KRC416V~KRC422V

