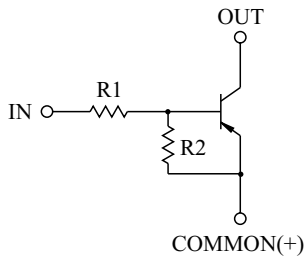


SWITCHING APPLICATION.  
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

### FEATURES

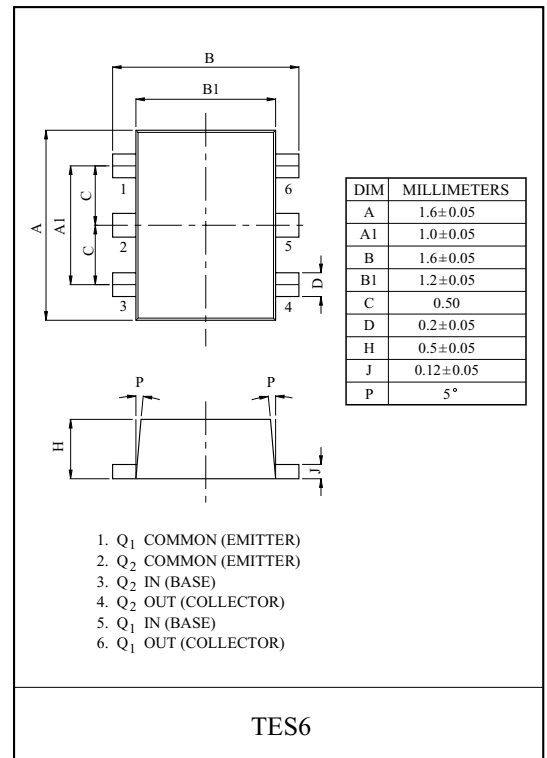
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.
- High Packing Density.
- Suffix U : Qualified to AEC-Q101.  
ex) KRA721E-RTK/HU

### EQUIVALENT CIRCUIT

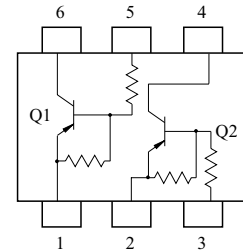


### BIAS RESISTOR VALUES

| TYPE NO. | R1(k $\Omega$ ) | R2(k $\Omega$ ) |
|----------|-----------------|-----------------|
| KRA721E  | 4.7             | 4.7             |
| KRA722E  | 10              | 10              |
| KRA723E  | 22              | 22              |
| KRA724E  | 47              | 47              |
| KRA725E  | 2.2             | 47              |
| KRA726E  | 4.7             | 47              |



### EQUIVALENT CIRCUIT (TOP VIEW)



### MAXIMUM RATING (Ta=25 °C)

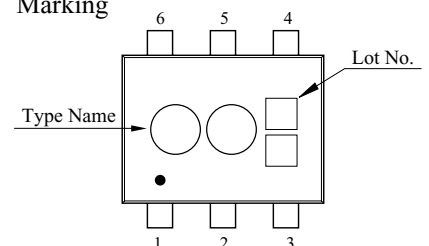
| CHARACTERISTIC            |              | SYMBOL           | RATING  | UNIT |
|---------------------------|--------------|------------------|---------|------|
| Output Voltage            | KRA721E 726E | V <sub>O</sub>   | -50     | V    |
| Input Voltage             | KRA721E      | V <sub>I</sub>   | -20, 10 | V    |
|                           | KRA722E      |                  | -30, 10 |      |
|                           | KRA723E      |                  | -40, 10 |      |
|                           | KRA724E      |                  | -40, 10 |      |
|                           | KRA725E      |                  | -12, 5  |      |
|                           | KRA726E      |                  | -20, 5  |      |
| Output Current            | KRA721E 726E | I <sub>O</sub>   | -100    | mA   |
| Power Dissipation         |              | P <sub>D</sub> * | 200     | mW   |
| Junction Temperature      |              | T <sub>j</sub>   | -55~150 |      |
| Storage Temperature Range |              | T <sub>stg</sub> | -55~150 |      |

\* Total Rating.

### MARK SPEC

| TYPE | KRA721E | KRA722E | KRA723E | KRA724E | KRA725E | KRA726E |
|------|---------|---------|---------|---------|---------|---------|
| MARK | JA      | JB      | JC      | JD      | JE      | JF      |

### Marking



# KRA721E~KRA726E

## ELECTRICAL CHARACTERISTICS (Ta=25 °C)

| CHARACTERISTIC         |              | SYMBOL       | TEST CONDITION              | MIN. | TYP.  | MAX.  | UNIT |
|------------------------|--------------|--------------|-----------------------------|------|-------|-------|------|
| Output Cut-off Current | KRA721E 726E | $I_{O(OFF)}$ | $V_O = -50V, V_I = 0$       | -    | -     | -500  | nA   |
| DC Current Gain        | KRA721E      | $G_I$        | $V_O = -5V, I_O = -10mA$    | 30   | 55    | -     |      |
|                        | KRA722E      |              |                             | 50   | 80    | -     |      |
|                        | KRA723E      |              |                             | 70   | 120   | -     |      |
|                        | KRA724E      |              |                             | 80   | 200   | -     |      |
|                        | KRA725E      |              |                             | 80   | 200   | -     |      |
|                        | KRA726E      |              |                             | 80   | 200   | -     |      |
| Output Voltage         | KRA721E 726E | $V_{O(ON)}$  | $I_O = -10mA, I_I = -0.5mA$ | -    | -0.1  | -0.3  | V    |
| Input Voltage (ON)     | KRA721E      | $V_{I(ON)}$  | $V_O = -0.2V, I_O = -5mA$   | -    | -1.5  | -2.0  | V    |
|                        | KRA722E      |              |                             | -    | -1.8  | -2.4  |      |
|                        | KRA723E      |              |                             | -    | -2.1  | -3.0  |      |
|                        | KRA724E      |              |                             | -    | -2.8  | -5.0  |      |
|                        | KRA725E      |              |                             | -    | -0.8  | -1.1  |      |
|                        | KRA726E      |              |                             | -    | -0.9  | -1.3  |      |
| Input Voltage (OFF)    | KRA721E 724E | $V_{I(OFF)}$ | $V_O = -5V, I_O = -0.1mA$   | -1.0 | -1.2  | -     | V    |
|                        | KRA725E 726E |              |                             | -0.5 | -0.65 | -     |      |
| Transition Frequency   | KRA721E 726E | $f_T^*$      | $V_O = -10V, I_O = -5mA$    | -    | 200   | -     | MHz  |
| Input Current          | KRA721E      | $I_I$        | $V_I = -5V$                 | -    | -     | -1.8  | mA   |
|                        | KRA722E      |              |                             | -    | -     | -0.88 |      |
|                        | KRA723E      |              |                             | -    | -     | -0.36 |      |
|                        | KRA724E      |              |                             | -    | -     | -0.18 |      |
|                        | KRA725E      |              |                             | -    | -     | -3.6  |      |
|                        | KRA726E      |              |                             | -    | -     | -1.8  |      |
| Input Resistor         | KRA721E      | R1           | -                           | 3.29 | 4.7   | 6.11  | kΩ   |
|                        | KRA722E      |              |                             | 7    | 10    | 13    |      |
|                        | KRA723E      |              |                             | 15.4 | 22    | 28.6  |      |
|                        | KRA724E      |              |                             | 32.9 | 47    | 61.1  |      |
|                        | KRA725E      |              |                             | 1.54 | 2.2   | 2.86  |      |
|                        | KRA726E      |              |                             | 3.29 | 4.7   | 6.11  |      |
| Resistor Ratio         | KRA721E 724E | R2/R1        | -                           | 0.8  | 1.0   | 1.2   |      |
|                        | KRA725E      |              |                             | 17   | 21    | 26    |      |
|                        | KRA726E      |              |                             | 8    | 10    | 12    |      |

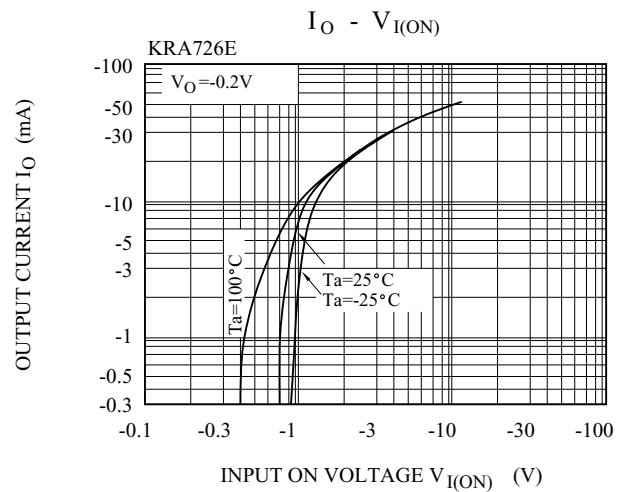
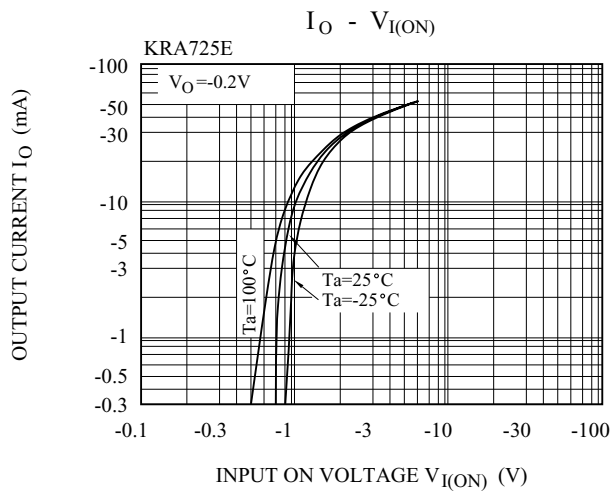
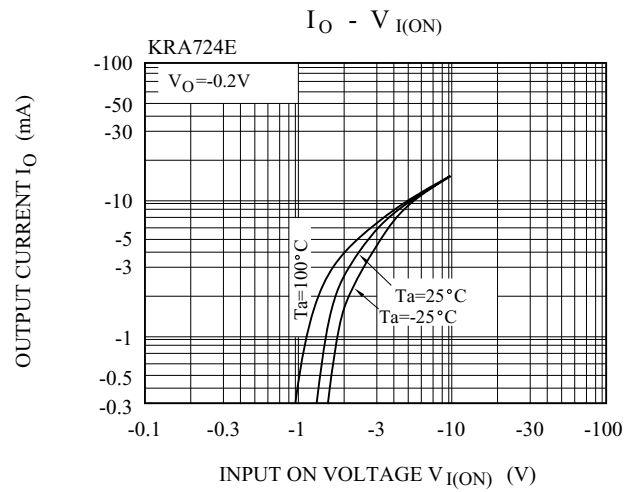
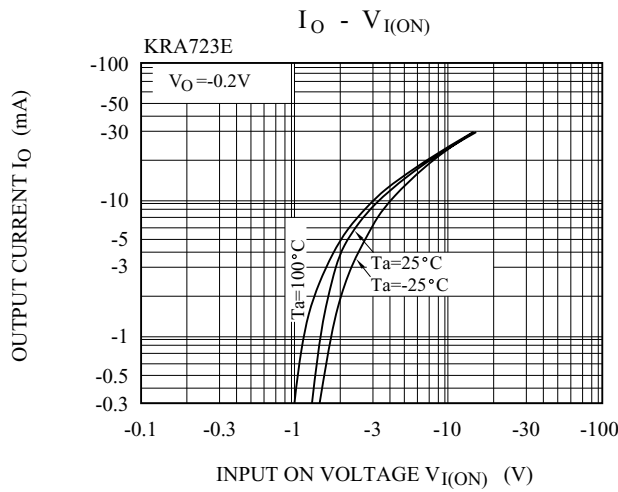
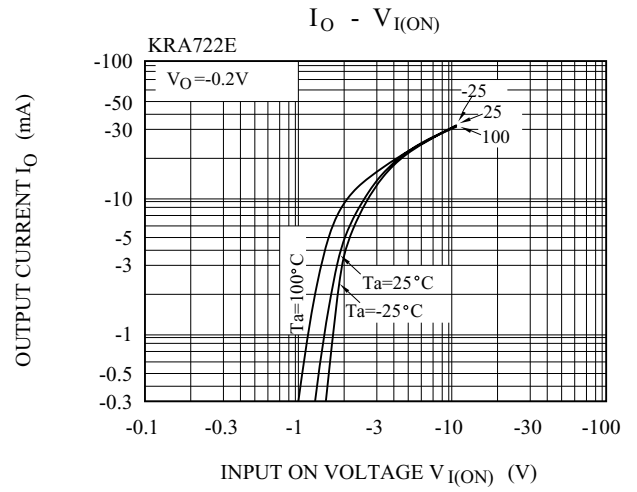
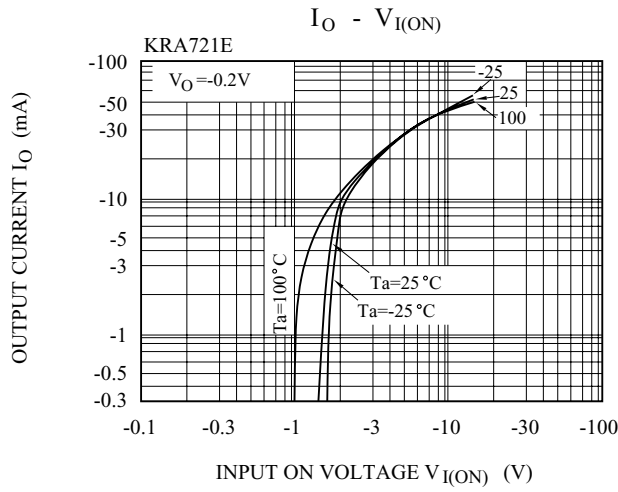
Note : \* Characteristic of Transistor Only.

# KRA721E~KRA726E

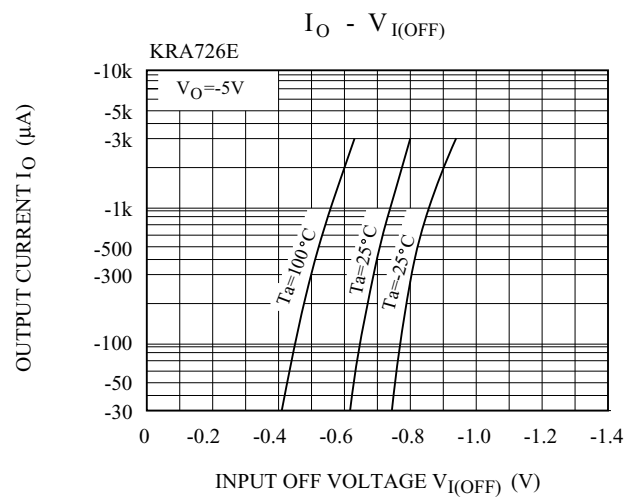
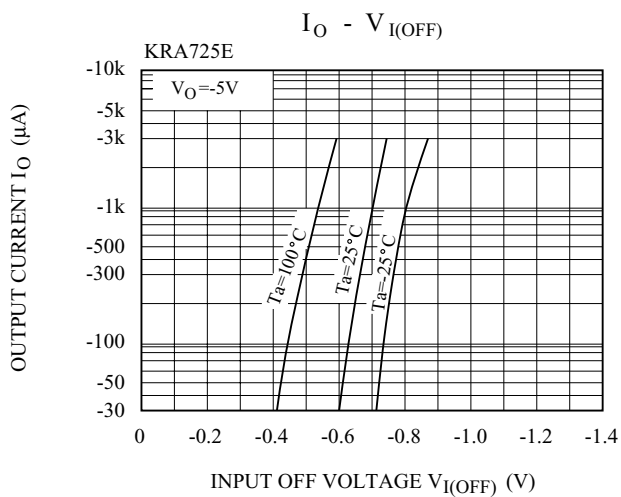
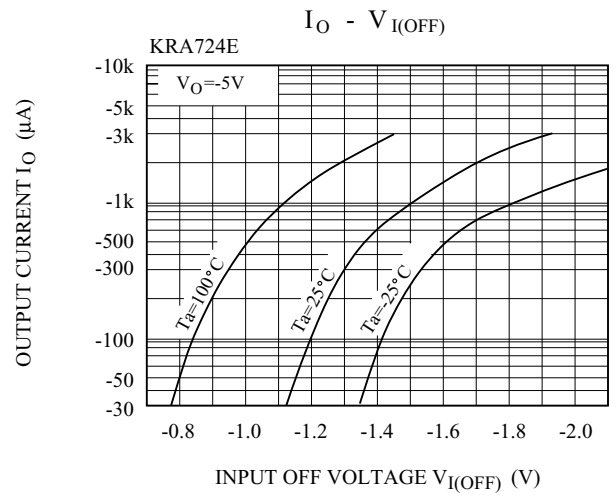
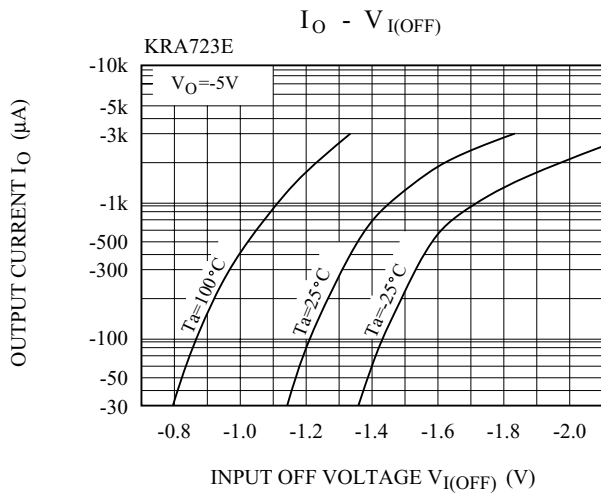
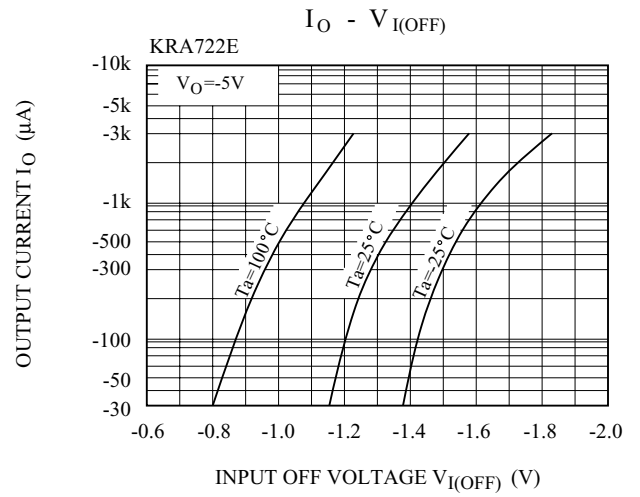
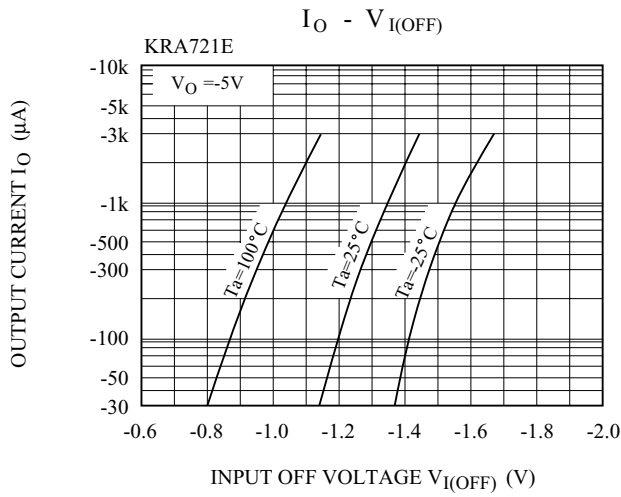
## ELECTRICAL CHARACTERISTICS (Ta=25 )

| CHARACTERISTIC |              |         | SYMBOL           | TEST CONDITION                                                     | MIN. | TYP. | MAX. | UNIT |
|----------------|--------------|---------|------------------|--------------------------------------------------------------------|------|------|------|------|
| Switching Time | Rise Time    | KRA721E | t <sub>r</sub>   | V <sub>O</sub> =-5V<br>V <sub>IN</sub> =-5V<br>R <sub>L</sub> =1kΩ | -    | 0.07 | -    | μs   |
|                |              | KRA722E |                  |                                                                    | -    | 0.06 | -    |      |
|                |              | KRA723E |                  |                                                                    | -    | 0.2  | -    |      |
|                |              | KRA724E |                  |                                                                    | -    | 0.24 | -    |      |
|                |              | KRA725E |                  |                                                                    | -    | 0.02 | -    |      |
|                |              | KRA726E |                  |                                                                    | -    | 0.07 | -    |      |
|                | Storage Time | KRA721E | t <sub>stg</sub> |                                                                    | -    | 1.1  | -    |      |
|                |              | KRA722E |                  |                                                                    | -    | 1.1  | -    |      |
|                |              | KRA723E |                  |                                                                    | -    | 1.1  | -    |      |
|                |              | KRA724E |                  |                                                                    | -    | 1.1  | -    |      |
|                |              | KRA725E |                  |                                                                    | -    | 1.1  | -    |      |
|                |              | KRA726E |                  |                                                                    | -    | 1.1  | -    |      |
|                | Fall Time    | KRA721E | t <sub>f</sub>   |                                                                    | -    | 0.15 | -    |      |
|                |              | KRA722E |                  |                                                                    | -    | 0.24 | -    |      |
|                |              | KRA723E |                  |                                                                    | -    | 0.38 | -    |      |
|                |              | KRA724E |                  |                                                                    | -    | 0.63 | -    |      |
|                |              | KRA725E |                  |                                                                    | -    | 0.1  | -    |      |
|                |              | KRA726E |                  |                                                                    | -    | 0.2  | -    |      |

# KRA721E~KRA726E



# KRA721E~KRA726E



# KRA721E~KRA726E

