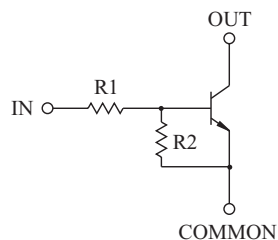


SWITCHING APPLICATION.  
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

### FEATURES

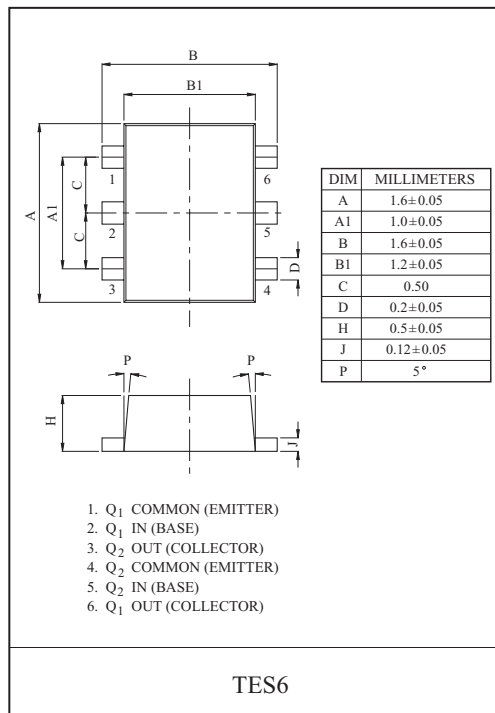
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.
- High Packing Density.

### EQUIVALENT CIRCUIT

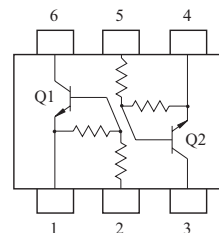


### BIAS RESISTOR VALUES

| TYPE NO. | R1(k Ω) | R2(k Ω) |
|----------|---------|---------|
| KRC857E  | 10      | 47      |
| KRC858E  | 22      | 47      |
| KRC859E  | 47      | 22      |



### EQUIVALENT CIRCUIT (TOP VIEW)



### MAXIMUM RATING (Ta=25°C)

| CHARACTERISTIC            |              | SYMBOL    | RATING  | UNIT |
|---------------------------|--------------|-----------|---------|------|
| Output Voltage            | KRC857E~859E | $V_O$     | 50      | V    |
| Input Voltage             | KRC857E      | $V_I$     | 30, -6  | V    |
|                           | KRC858E      |           | 40, -7  |      |
|                           | KRC859E      |           | 40, -15 |      |
| Output Current            | KRC857E~859E | $I_O$     | 100     | mA   |
| Power Dissipation         |              | $P_D^*$   | 200     | mW   |
| Junction Temperature      |              | $T_j$     | 150     | °C   |
| Storage Temperature Range |              | $T_{stg}$ | -55~150 | °C   |

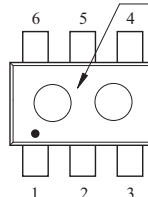
\* Total Rating.

### MARK SPEC

| TYPE | KRC857E | KRC858E | KRC859E |
|------|---------|---------|---------|
| MARK | NH      | NI      | NJ      |

### Marking

Type Name



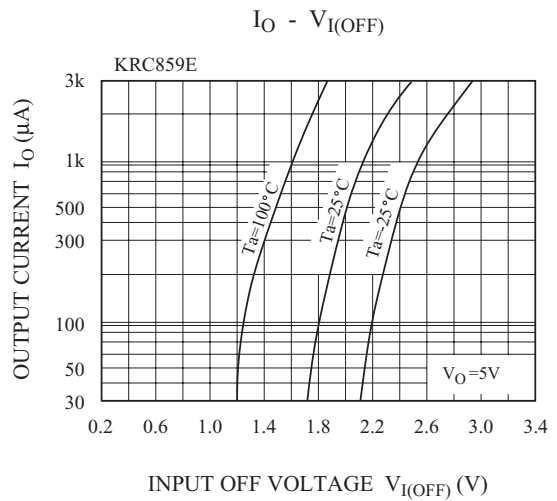
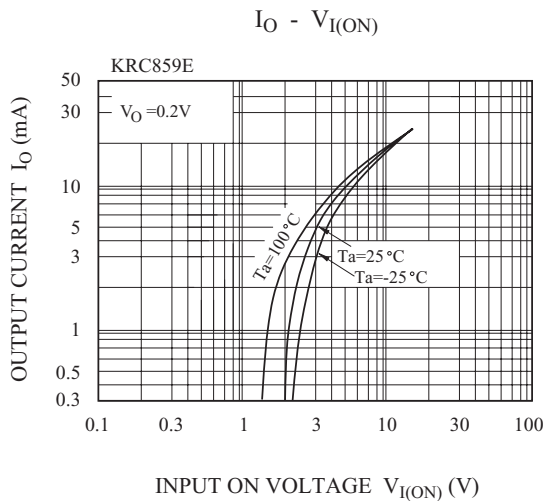
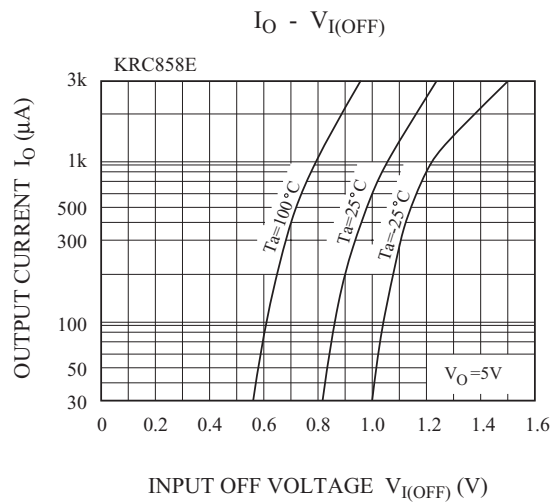
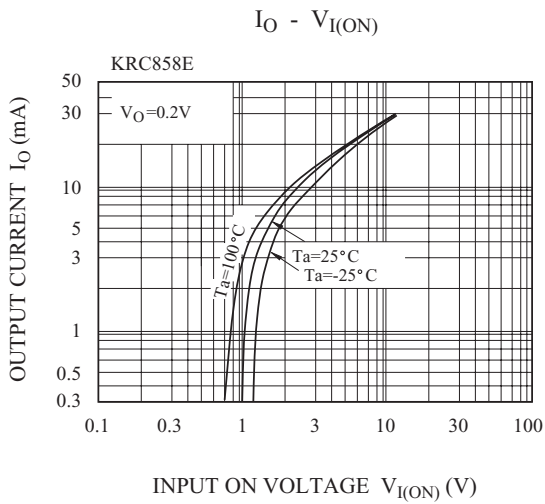
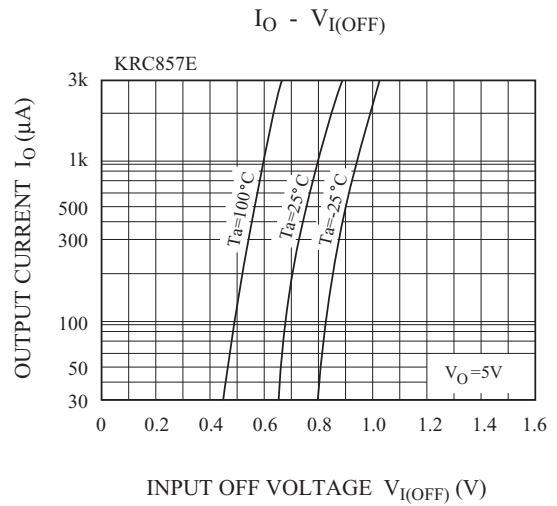
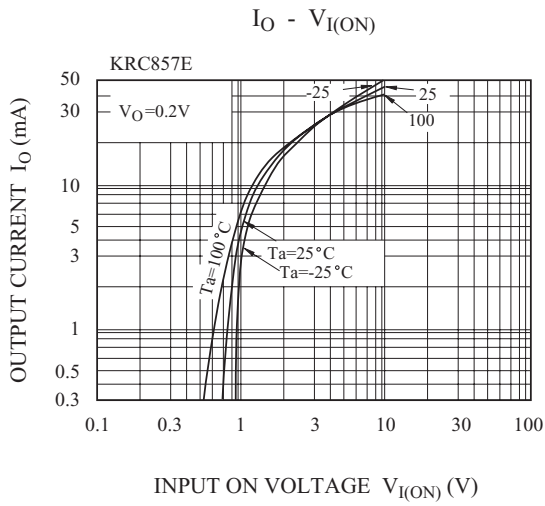
# KRC857E~KRC859E

## ELECTRICAL CHARACTERISTICS (Ta=25 °C)

| CHARACTERISTIC         |              | SYMBOL        | TEST CONDITION      | MIN.                                   | TYP.      | MAX. | UNIT |         |   |
|------------------------|--------------|---------------|---------------------|----------------------------------------|-----------|------|------|---------|---|
| Output Cut-off Current |              | KRC857E ~859E | $I_{O(OFF)}$        | $V_O=50V, V_I=0$                       | -         | -    | 500  | nA      |   |
| DC Current Gain        | KRC857E      | $G_I$         | $V_O=5V, I_O=10mA$  | 80                                     | 150       | -    |      |         |   |
|                        | KRC858E      |               |                     | 80                                     | 150       | -    |      |         |   |
|                        | KRC859E      |               |                     | 70                                     | 140       | -    |      |         |   |
| Output Voltage         |              | KRC857E ~859E | $V_{O(ON)}$         | $I_O=10mA, I_I=0.5mA$                  | -         | 0.1  | 0.3  | V       |   |
| Input Voltage (ON)     | KRC857E      | $V_{I(ON)}$   | $V_O=0.2V, I_O=5mA$ | -                                      | 1.2       | 1.8  | V    |         |   |
|                        | KRC858E      |               |                     | -                                      | 1.8       | 2.6  |      |         |   |
|                        | KRC859E      |               |                     | -                                      | 3.0       | 5.8  |      |         |   |
| Input Voltage (OFF)    | KRC857E      | $V_{I(OFF)}$  | $V_O=5V, I_O=0.1mA$ | 0.5                                    | 0.75      | -    | V    |         |   |
|                        | KRC858E      |               |                     | 0.6                                    | 0.88      | -    |      |         |   |
|                        | KRC859E      |               |                     | 1.5                                    | 1.82      | -    |      |         |   |
| Transition Frequency   |              | KRC857E ~859E | $f_T^*$             | $V_O=10V, I_O=5mA$                     | -         | 200  | -    | MHz     |   |
| Input Current          | KRC857E      | $I_I$         | $V_I=5V$            | -                                      | -         | 0.88 | mA   |         |   |
|                        | KRC858E      |               |                     | -                                      | -         | 0.36 |      |         |   |
|                        | KRC859E      |               |                     | -                                      | -         | 0.16 |      |         |   |
| Switching Time         | Rise Time    | KRC857E       | $t_r$               | $V_O=5V, V_{IN}=5V$<br>$R_L=1k \Omega$ | -         | 0.05 | -    | $\mu s$ |   |
|                        |              | KRC858E       |                     |                                        | -         | 0.12 | -    |         |   |
|                        |              | KRC859E       |                     |                                        | -         | 0.26 | -    |         |   |
|                        | Storage Time | KRC857E       |                     |                                        | $t_{stg}$ | -    | 2.0  |         | - |
|                        |              | KRC858E       |                     |                                        |           | -    | 2.4  |         | - |
|                        |              | KRC859E       |                     |                                        |           | -    | 1.5  |         | - |
|                        | Fall Time    | KRC857E       |                     |                                        | $t_f$     | -    | 0.36 |         | - |
|                        |              | KRC858E       |                     |                                        |           | -    | 0.4  |         | - |
|                        |              | KRC859E       |                     |                                        |           | -    | 0.41 |         | - |

Note : \* Characteristic of Transistor Only.

# KRC857E~KRC859E



# KRC857E~KRC859E

