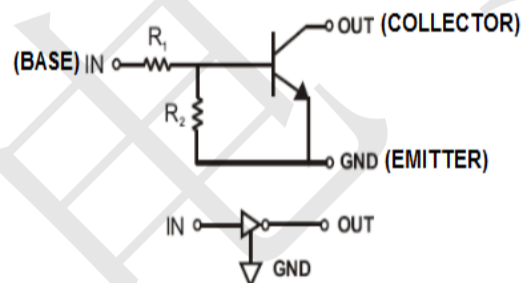
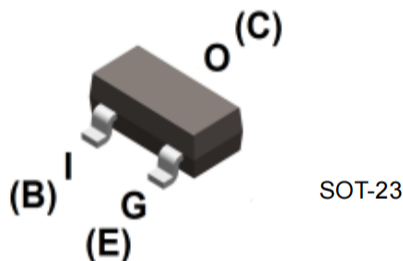


### Features

- Epitaxial planar die construction
- Built-in biasing resistors ( $R_1$ : 10k $\Omega$ ,  $R_2$ : 47k $\Omega$ )
- Also available in lead free version
- RoHS compliant with Halogen-free

### Mechanical Data

- Case: SOT-23
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



### Ordering Information

| Part Number | Package | Shipping Quantity      |
|-------------|---------|------------------------|
| KRC107S     | SOT-23  | 3000 pcs / Tape & Reel |

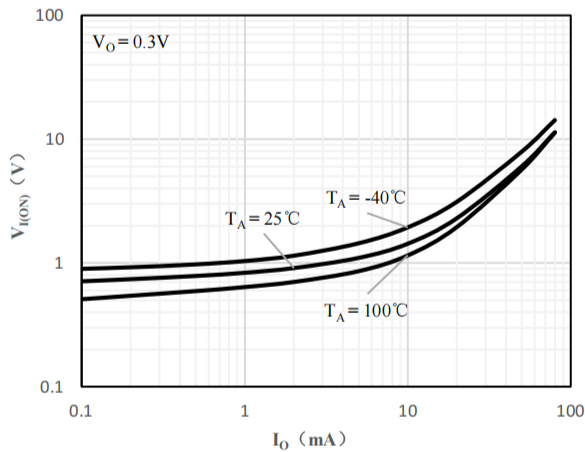
### Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter                  | Symbol              | Value      | Unit             |
|----------------------------|---------------------|------------|------------------|
|                            |                     | SOT-23     |                  |
| Supply Voltage             | $V_{CC}$            | 50         | V                |
| Input Voltage              | $V_I$               | -6 to +40  | V                |
| Output Current             | $I_O$               | 70         | mA               |
| Collector Current          | $I_{C(\text{Max})}$ | 100        | mA               |
| Power Dissipation          | $P_D$               | 200        | mW               |
| Junction Temperature Range | $T_J$               | -55 ~ +150 | $^\circ\text{C}$ |
| Storage Temperature Range  | $T_{STG}$           | -55 ~ +150 | $^\circ\text{C}$ |

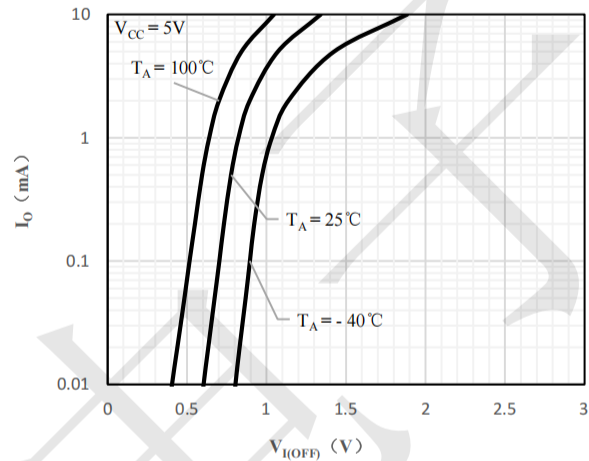
### Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter              | Symbol              | Test Condition                                                 | Min. | Typ. | Max. | Unit          |
|------------------------|---------------------|----------------------------------------------------------------|------|------|------|---------------|
| Input Voltage          | $V_{I(\text{OFF})}$ | $V_{CC} = 5\text{V}, I_o = 100\mu\text{A}$                     | 0.3  | -    | -    | V             |
| Input Voltage          | $V_{I(\text{ON})}$  | $V_o = 0.3\text{V}, I_o = 1\text{mA}$                          | -    | -    | 1.4  | V             |
| Output Voltage         | $V_{O(\text{on})}$  | $I_o = 5\text{mA}, I_i = 0.25\text{mA}$                        | -    | -    | 0.3  | V             |
| Input Current          | $I_i$               | $V_i = 5\text{V}$                                              | -    | -    | 0.88 | mA            |
| Output Current         | $I_{O(\text{off})}$ | $V_{CC} = 50\text{V}, V_i = 0\text{V}$                         | -    | -    | 0.5  | $\mu\text{A}$ |
| DC Current Gain        | $G_i$               | $V_o = 5\text{V}, I_o = 5\text{mA}$                            | 68   | -    | -    | -             |
| Input Resistor         | $R_i$               |                                                                | 7    | 10   | 13   | k $\Omega$    |
| Resistance ratio       | $R_2/R_1$           |                                                                | 3.7  | 4.7  | 5.7  | -             |
| Gain-Bandwidth Product | $f_T$               | $V_{CE} = 10\text{V}, I_E = 5\text{mA}$<br>$f = 100\text{MHz}$ | -    | 250  | -    | MHz           |

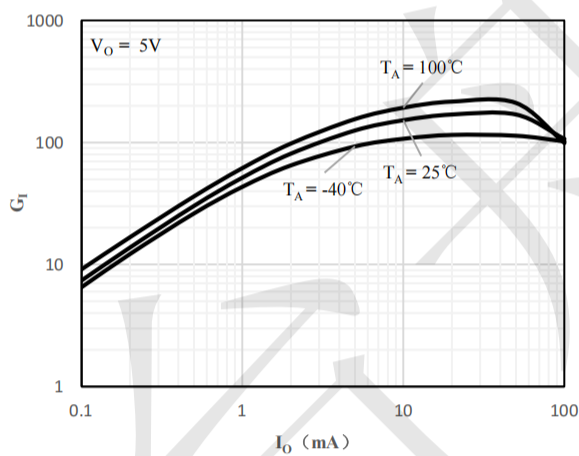
**Ratings and Characteristic Curves (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)**



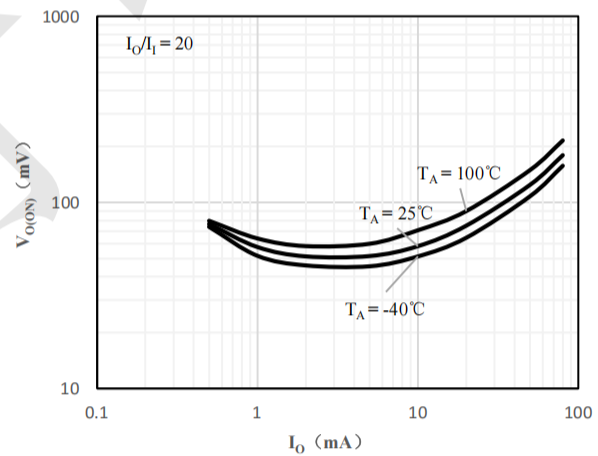
**Fig 1 Input Voltage vs Output Current**



**Fig 2 Output Current vs Input Voltage**



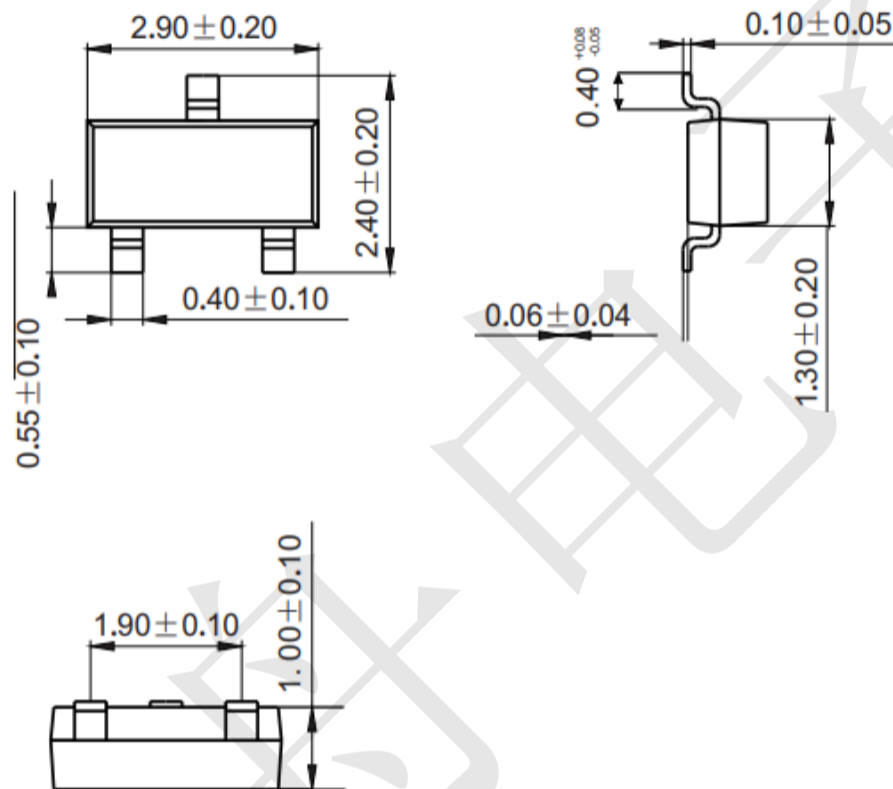
**Fig 3 DC Current Gain vs Output Current**



**Fig 4 Output Voltage vs Output Current**

**Package information (Unit: mm)**

**SOT-23**



**Mounting Pad Layout (Unit: mm)**

