

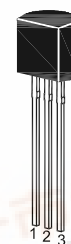
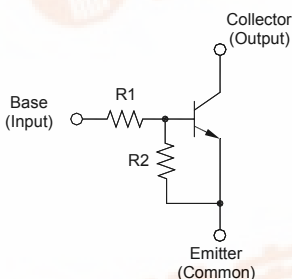
# ST RC241S...RC246S

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## NPN Silicon Epitaxial Planar Transistor

for high current switching, interface circuit and driver circuit application.

- With built-in bias resistor
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process



1. Emitter 2. Collector 3. Base  
TO-92 Plastic Package

### Resistor Values

| Type   | R1 (K $\Omega$ ) | R2 (K $\Omega$ ) |
|--------|------------------|------------------|
| RC241S | 1                | 1                |
| RC242S | 2.2              | 2.2              |
| RC243S | 4.7              | 4.7              |
| RC244S | 10               | 10               |
| RC245S | 1                | 10               |
| RC246S | 2.2              | 10               |

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Parameter                 |        | Symbol    | Value         | Unit             |
|---------------------------|--------|-----------|---------------|------------------|
| Output Voltage            |        | $V_o$     | 50            | V                |
| Input Voltage             | RC241S | $V_i$     | 10, -10       | V                |
|                           | RC242S |           | 12, -10       |                  |
|                           | RC243S |           | 20, -10       |                  |
|                           | RC244S |           | 30, -10       |                  |
|                           | RC245S |           | 10, -5        |                  |
|                           | RC246S |           | 12, -6        |                  |
| Output Current            |        | $I_o$     | 300           | mA               |
| Total Power Dissipation   |        | $P_{tot}$ | 200           | mW               |
| Junction Temperature      |        | $T_j$     | 150           | $^\circ\text{C}$ |
| Storage Temperature Range |        | $T_{stg}$ | - 55 to + 150 | $^\circ\text{C}$ |

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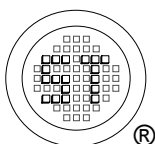
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## Characteristics at $T_a = 25^\circ\text{C}$

| Parameter                                                                                   | Symbol               | Min.                             | Typ.                       | Max.                                    | Unit                       |
|---------------------------------------------------------------------------------------------|----------------------|----------------------------------|----------------------------|-----------------------------------------|----------------------------|
| DC Current Gain<br>at $V_O = 5\text{ V}$ , $I_O = 50\text{ mA}$                             | $G_I$                | 33<br>39<br>47<br>56<br>56<br>56 | -<br>-<br>-<br>-<br>-<br>- | -<br>-<br>-<br>-<br>-<br>-              | -<br>-<br>-<br>-<br>-<br>- |
| Output Cutoff Current<br>at $V_O = 30\text{ V}$                                             | $I_{O(\text{OFF})}$  | -                                | -                          | 10                                      | $\mu\text{A}$              |
| Input Current<br>at $V_I = 5\text{ V}$                                                      | $I_I$                | -<br>-<br>-<br>-<br>-<br>-       | -<br>-<br>-<br>-<br>-<br>- | 7.2<br>3.8<br>1.8<br>0.88<br>7.2<br>3.6 | mA                         |
| Output Voltage<br>at $I_O = 10\text{ mA}$ , $I_I = 0.5\text{ mA}$                           | $V_{O(\text{ON})}$   | -                                | -                          | 0.3                                     | V                          |
| Input Voltage (ON)<br>at $V_O = 0.3\text{ V}$ , $I_O = 20\text{ mA}$                        | $V_{I(\text{ON})}$   | -<br>-<br>-<br>-<br>-<br>-       | -<br>-<br>-<br>-<br>-<br>- | 3<br>3<br>3<br>3<br>3<br>2              | V                          |
| Input Voltage (OFF)<br>at $V_O = 5\text{ V}$ , $I_O = 0.1\text{ mA}$                        | $-V_{I(\text{OFF})}$ | 0.5<br>0.3                       | -<br>-                     | -<br>-                                  | V                          |
| Transition Frequency<br>at $V_O = 10\text{ V}$ , $I_O = 5\text{ mA}$ , $f = 100\text{ MHz}$ | $f_T^{1)}$           | -                                | 200                        | -                                       | MHz                        |

<sup>1)</sup> Characteristic of transistor only.



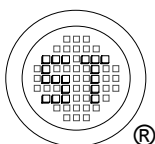
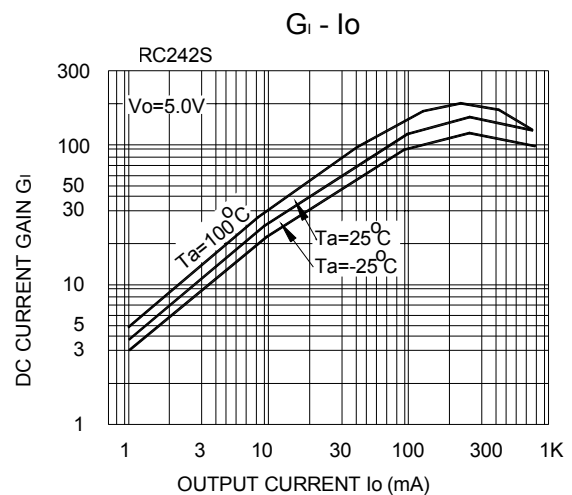
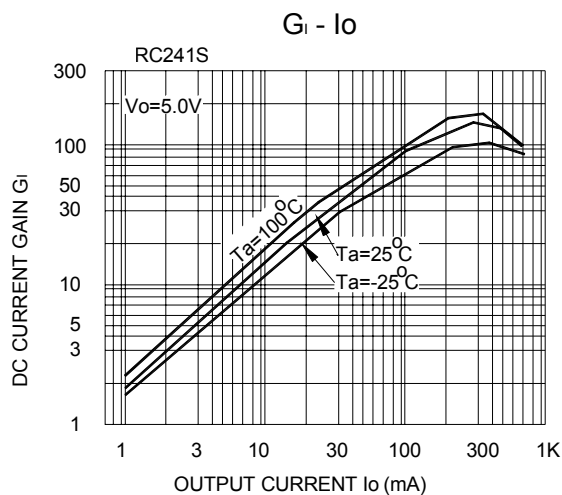
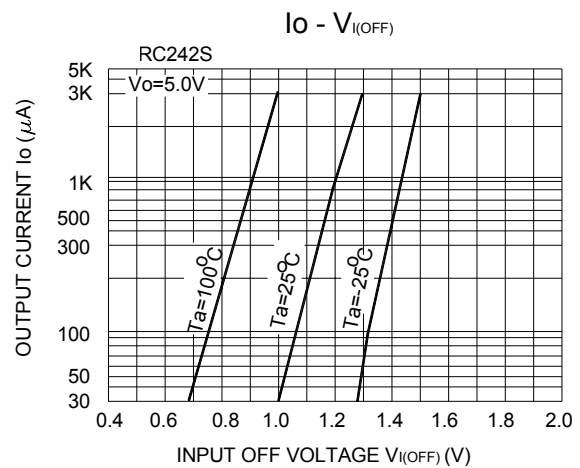
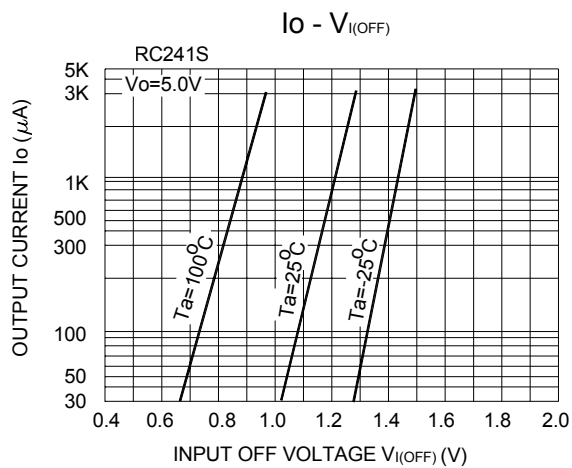
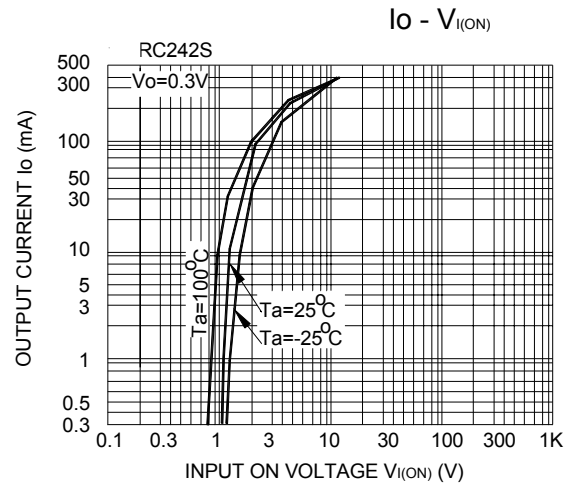
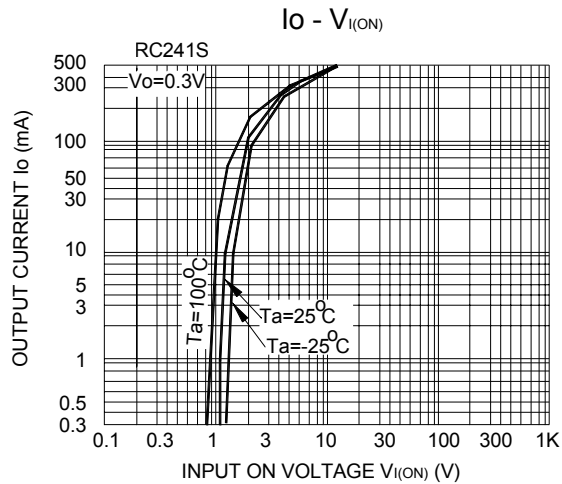
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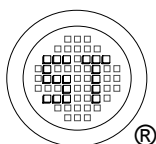
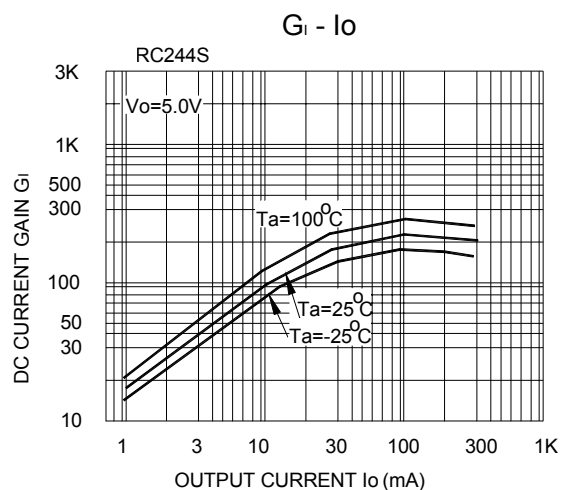
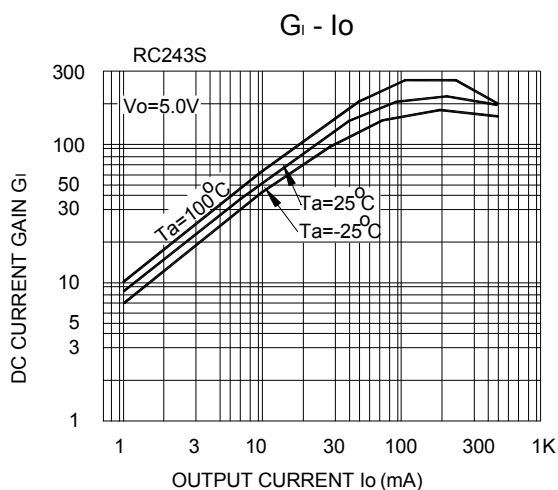
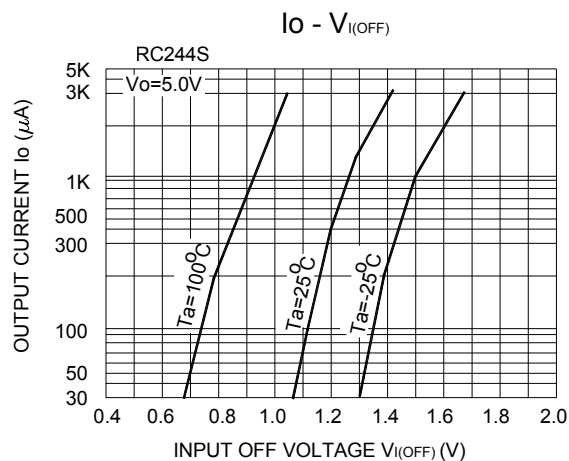
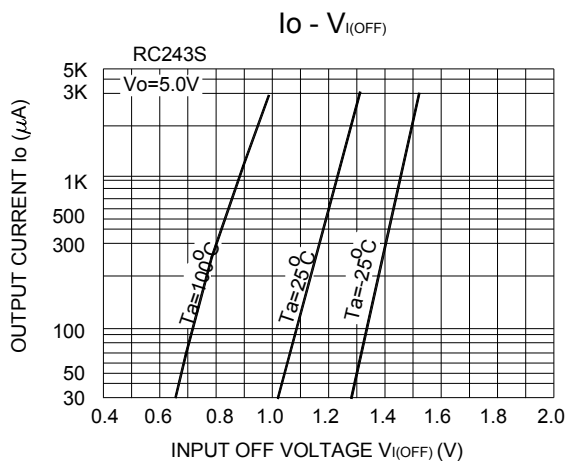
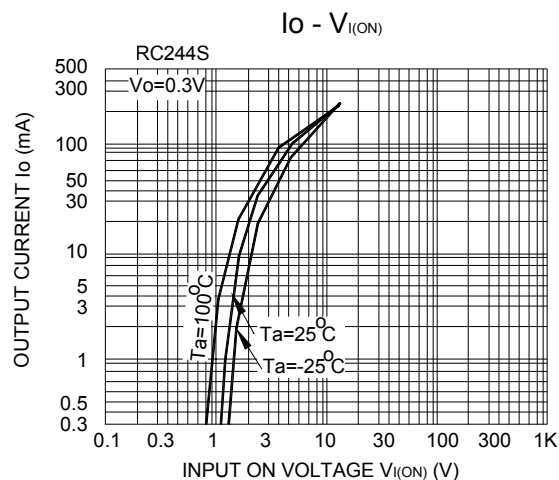
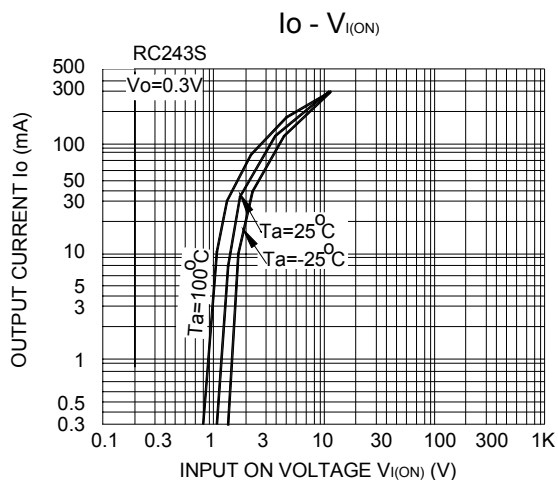
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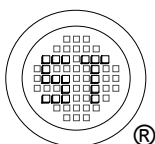
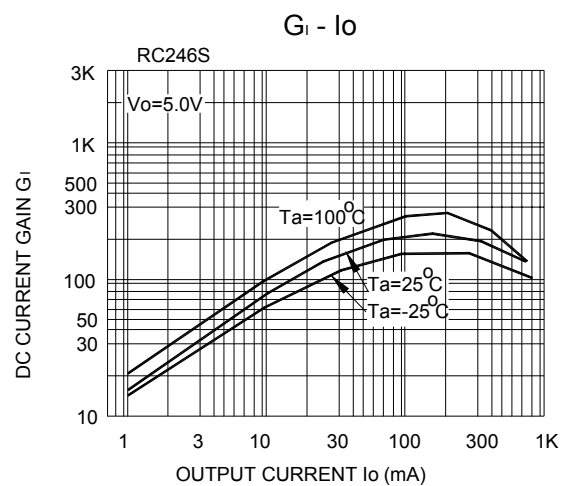
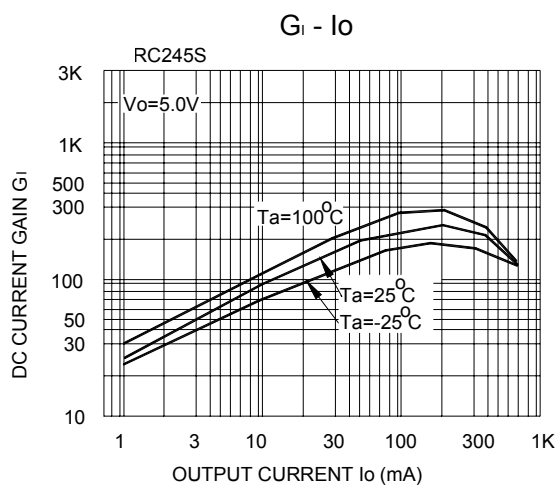
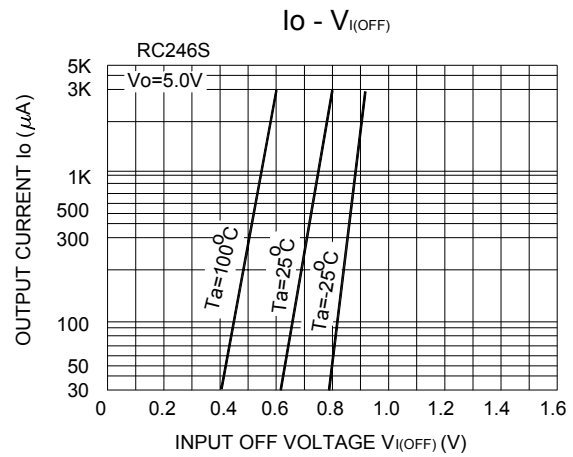
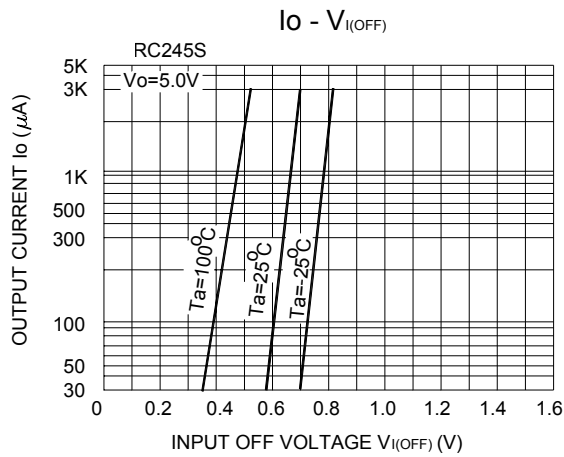
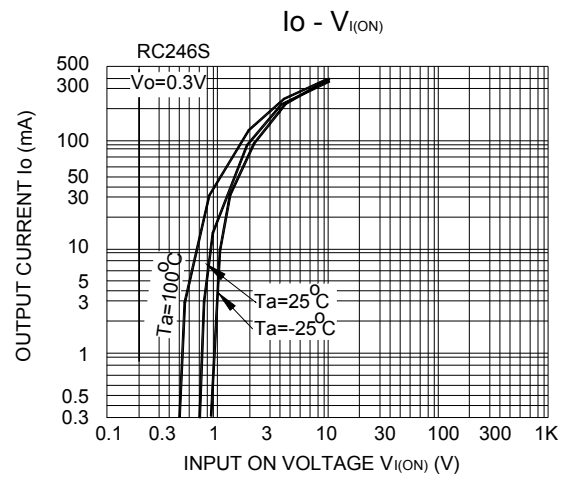
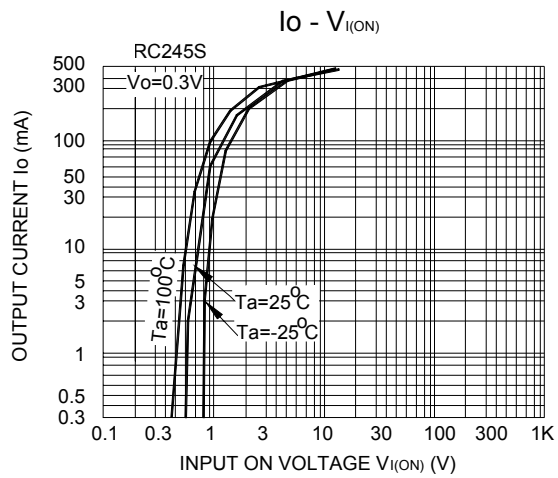


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ISO14001 : 2004 Certificate No. 7116  
ISO 9001 : 2008 Certificate No. 0500088  
BS-OHSAS 18001:2007 Certificate No. 7116  
IECQ QC 080000 Certificate No. RC-1894-1454

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