

AN6541

3-pin Positive Voltage Regulator

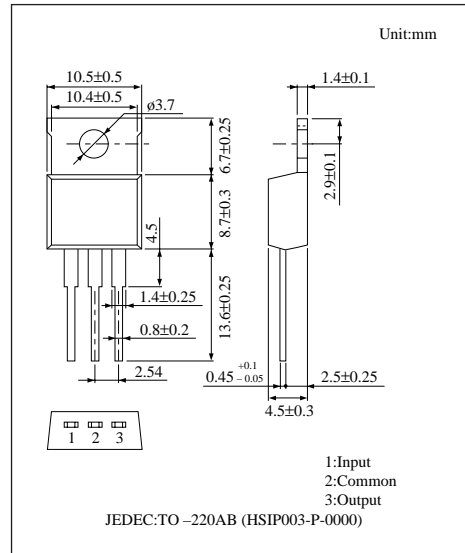
■ Overview

The AN6541 is a 3-pin 9V voltage regulator which performs stable operations up to the minimum input/output voltage difference 0.3V (typ.). Stabilized fixed output voltage is obtained from unstable DC input voltage.

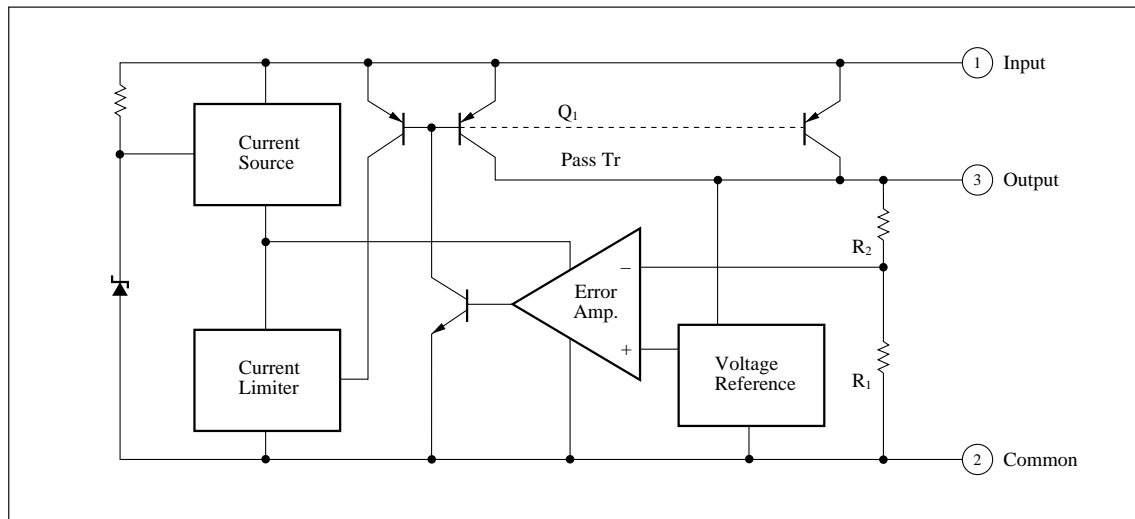
The AN6541 can be used in power circuits with current capacitance up to 300mA.

■ Features

- Low drop-out voltage:0.3V (typ.)
- Internal short-circuit current protection
- Low temperature coefficient of output voltage



■ Block Diagram



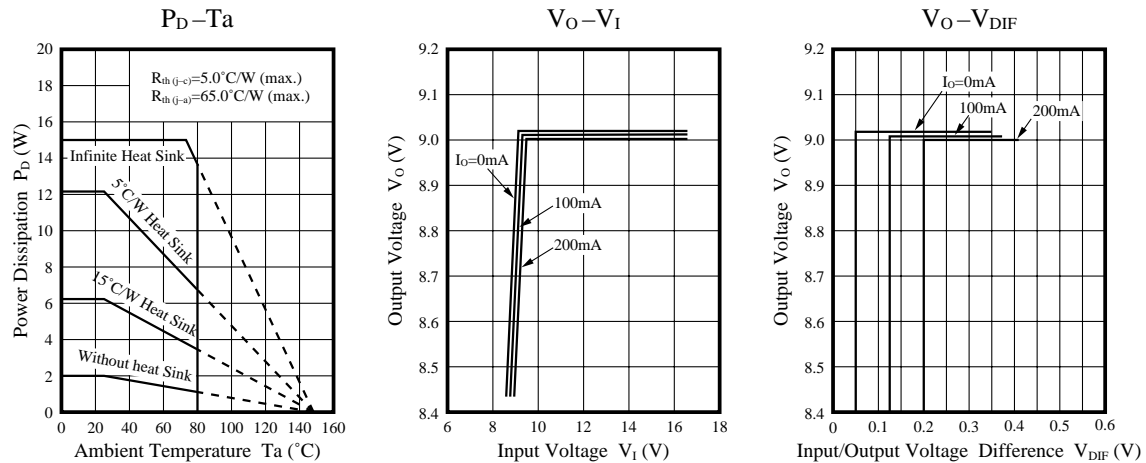
■ Absolute Maximum Ratings (Ta=25°C)

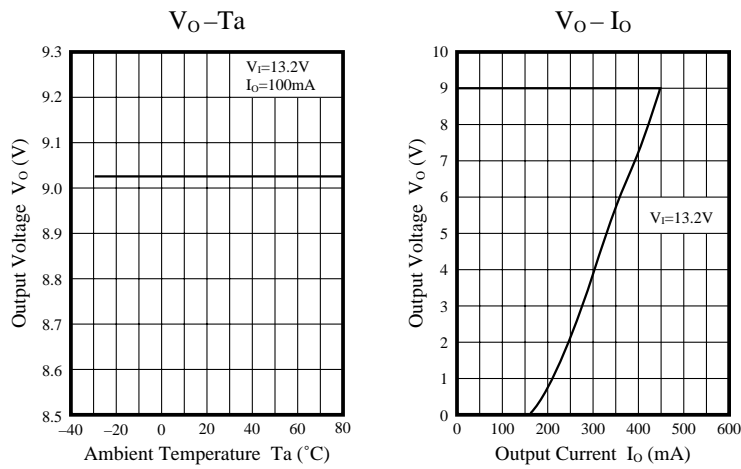
| Parameter | Symbol | Rating | Unit |
|-------------------------------|------------------|------------|------|
| Supply voltage | V _{CC} | 20 | V |
| Power dissipation | P _D | 15 | W |
| Operating ambient temperature | T _{opr} | -30 to+80 | °C |
| Storage temperature | T _{stg} | -40 to+150 | °C |

■ Electrical Characteristics (Ta=25°C)

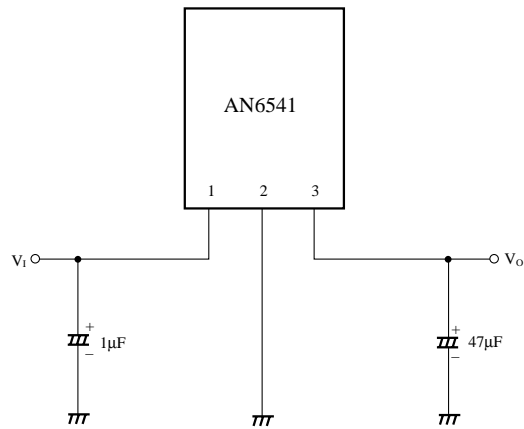
| Parameter | Symbol | Condition | min | typ | max | Unit |
|---|------------------------|--|-----|-------|-----|------|
| Output voltage | V _O | V _I =13.2V, I _O =200mA | 8.6 | 9.0 | 9.4 | V |
| Bias current | I _{bias} | V _I =13.2V, I _O =200mA | — | 25 | 50 | mA |
| Load regulation | REG _L | V _I =13.2V, I _O =0 to 200mA | — | — | ±50 | mV |
| Line regulation | REG _{IN} | V _I =10 to 16V, I _O =100mA | — | — | ±50 | mV |
| Output voltage temperature coefficient | ΔV _O /Ta | V _I =13.2V, I _O =100mA, T _{opr} =-30 to+80°C | — | ±0.01 | — | %/°C |
| Minimum input output voltage difference | V _{DIF(min.)} | V _I =8.5V, I _O =100mA | — | 0.4 | 0.6 | V |
| Ripple rejection ratio | Regin | V _I =13.2V, I _O =100mA, f=100Hz, e _{in} =1V _{P-P} | 45 | — | — | dB |
| Maximum output current | I _{O(max.)} | V _I =13.2V | 300 | — | 600 | mA |
| Output short current | I _{OS} | V _I =13.2V | 50 | — | 250 | mA |

■ Characteristics Curve





■ Block Diagram



Note) Choose the oscillation control capacitor 47μF which has a small capacitance reduction even at a low temperature. For example, use a tantalum capacitor.