

STR2000 Series

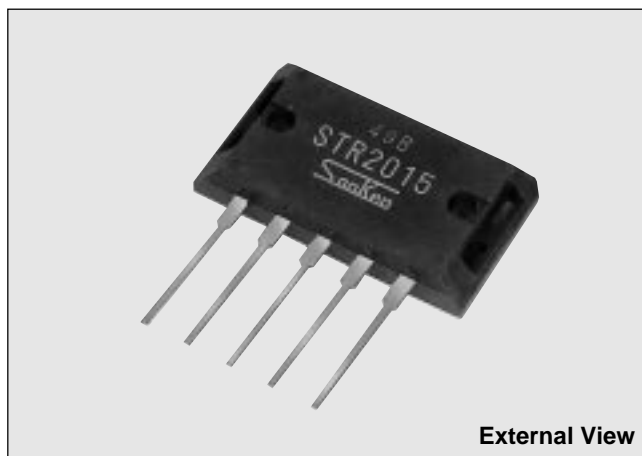
Switching Type — Chopper • Self Oscillation Type

Features

- Requires only 3 external components
- Small size and high efficiency
- Low switching noise
- Variable output voltage
- Use of SANKEN's semiconductor elements ensures high reliability

Applications

- For power supplies in office equipment such as electronic typewriters, printers, and copiers
- For power supplies in VCRs and personal CB radios (fixed station)



Absolute Maximum Ratings (Ta=25°C)

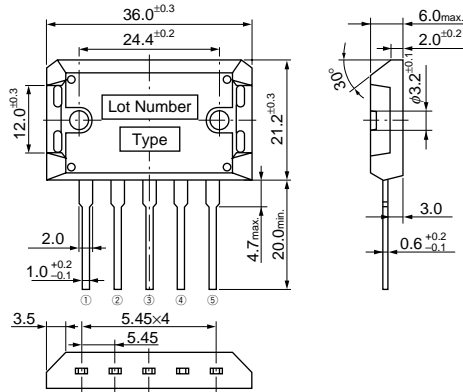
| Parameter | Symbol | Ratings | | | | | Unit |
|--|----------------------|----------------------------|---------|---------|---------|---------|------|
| | | STR2005 | STR2012 | STR2013 | STR2015 | STR2024 | |
| DC Input Voltage | V _{IN} | 45 | | | | 50 | V |
| DC Output Current | I _o | 2.0 (pulse 3.0) | | | | | A |
| Power Dissipation | P _D | 75 (T _C =25°C) | | | | | W |
| | | 15 (T _C =100°C) | | | | | |
| Operating Temperature | T _{op} | -20 to +100 | | | | | °C |
| Storage Temperature | T _{stg} | -20 to +125 | | | | | °C |
| Thermal Resistance (junction-to-case) | R _{th(j-c)} | 1.25 | | | | | °C/W |

Electrical Characteristics (Ta=25°C)

| Parameter | Symbol | Ratings | | | | | | | | | | | | | | | Unit |
|------------------------|---------------------|---|-----|-----|---|------|------|---|------|------|---|------|------|---------|------|------|------|
| | | STR2005 | | | STR2012 | | | STR2013 | | | STR2015 | | | STR2024 | | | |
| | | min | typ | max | min | typ | max | min | typ | max | min | typ | max | min | typ | max | |
| DC Input Voltage Range | V _{IN} | 11 | | 40 | 18 | | 45 | 19 | | 45 | 21 | | 45 | 30 | | 50 | V |
| | Condition | I _o =1.0A | | | | | | | | | | | | | | | |
| Output Voltage | V _o | 5.0 | 5.1 | 5.2 | 11.8 | 12.0 | 12.2 | 12.8 | 13.0 | 13.2 | 14.8 | 15.0 | 15.2 | 23.7 | 24.0 | 24.3 | V |
| | Condition | V _{IN} =20V, I _o =1.0A | | | V _{IN} =24V, I _o =1.0A | | | V _{IN} =27V, I _o =1.0A | | | V _{IN} =35V, I _o =1.0A | | | | | | |
| Efficiency | η | | 72 | | | 85 | | | 85 | | | 85 | | | 85 | | % |
| | Condition | V _{IN} =20V, I _o =1.0A | | | V _{IN} =24V, I _o =1.0A | | | V _{IN} =27V, I _o =1.0A | | | V _{IN} =35V, I _o =1.0A | | | | | | |
| Line Regulation | ΔV _{OLINE} | | | 50 | | | 60 | | | 60 | | | 60 | | | 60 | mV |
| | Condition | V _{IN} =15 to 25V, I _o =1.0A | | | V _{IN} =20 to 28V, I _o =1.0A | | | V _{IN} =23 to 31V, I _o =1.0A | | | V _{IN} =30 to 40V, I _o =1.0A | | | | | | |
| Load Regulation | ΔV _{OLOAD} | | | 100 | | | 100 | | | 100 | | | 100 | | | 100 | mV |
| | Condition | V _{IN} =20V, I _o =0.5 to 1.5A | | | V _{IN} =24V, I _o =0.5 to 1.5A | | | V _{IN} =27V, I _o =0.5 to 1.5A | | | V _{IN} =35V, I _o =0.5 to 1.5A | | | | | | |
| Ripple Rejection | R _{REJ} | | 45 | | | 45 | | | 45 | | | 45 | | | 45 | | dB |
| | Condition | f=100 to 120Hz | | | | | | | | | | | | | | | |
| Switching Frequency | f | | 25 | | | 25 | | | 25 | | | 25 | | | 25 | | kHz |
| | Condition | V _{IN} =20V, I _o =1.0A | | | V _{IN} =24V, I _o =1.0A | | | V _{IN} =27V, I _o =1.0A | | | V _{IN} =35V, I _o =1.0A | | | | | | |

STR2000 Series

■ Outline Drawing/Terminal Connections (unit:mm)



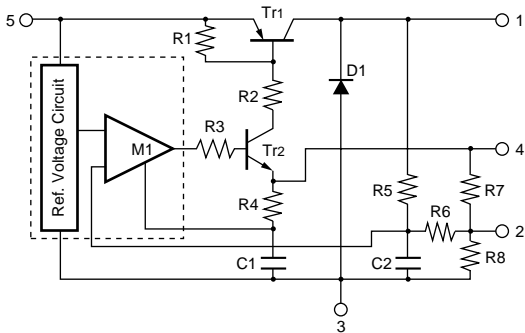
Plastic Mold Package Type
Flammability: UL94V-0

Terminal Connections

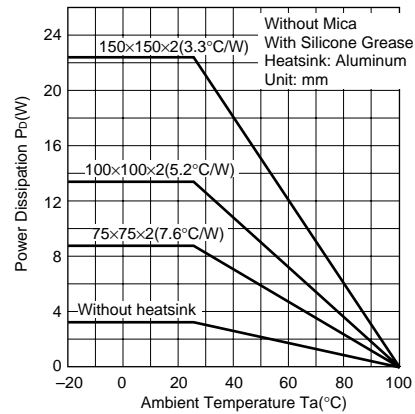
- ① Switching Output (backside of case)
- ② Output Voltage Adjustment
- ③ Ground
- ④ Output Voltage Detection
- ⑤ Input

Weight: Approx. 14.5g

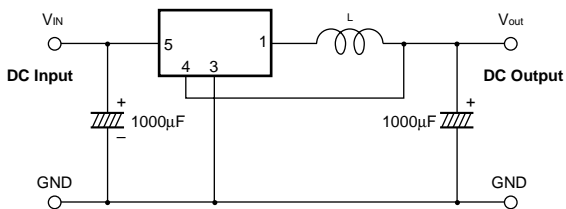
■ Block Diagram



■ Ta-PD Characteristics

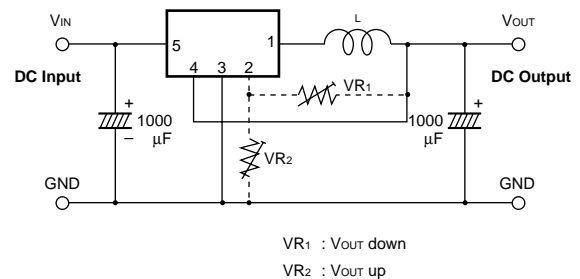


■ Standard External Circuit



| Type | Inductance L |
|---------|--------------|
| STR2005 | 200µH |
| STR2012 | 300µH |
| STR2013 | 300µH |
| STR2015 | 350µH |
| STR2024 | 400µH |

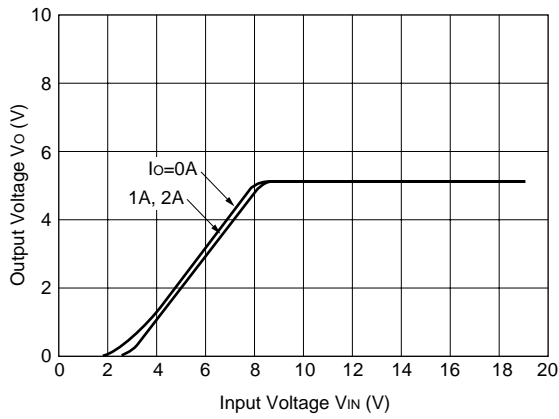
■ Variable Output Voltage Circuit



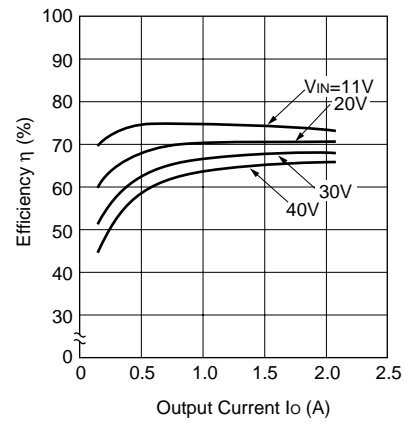
STR2000 Series Typical Characteristics (Ta=25°C)

STR2005

Rise Characteristics

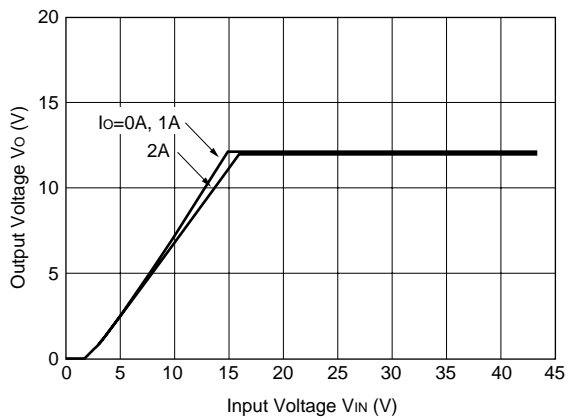


Efficiency Characteristics

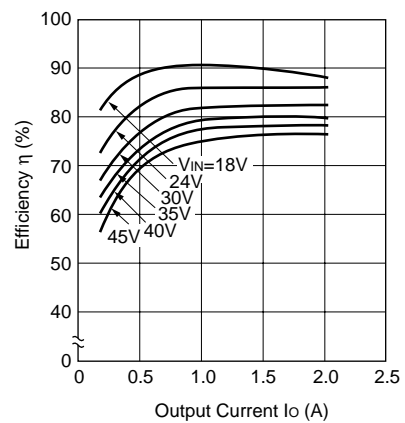


STR2012

Rise Characteristics

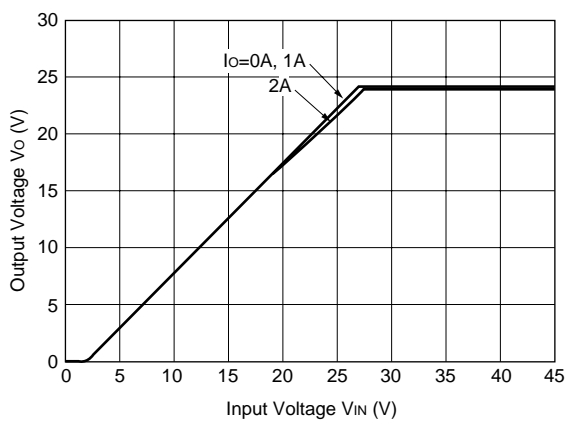


Efficiency Characteristics



STR2024

Rise Characteristics



Efficiency Characteristics

