

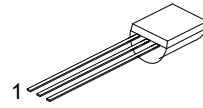
3-TERMINAL 0.1A NEGATIVE VOLTAGE REGULATORS

DESCRIPTION

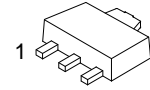
The WD79LXX family is monolithic fixed voltage regulator integrated circuit. They are suitable for applications that required supply current up to 100mA.

FEATURES

- *Output current up to 100mA
- *Fixed output voltage of -5V, -6V, -8V, -9V, -10V, -12V, -15V and -18V available
- *Thermal overload shutdown protection
- *Short circuit current limiting

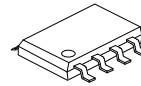


TO-92



SOT-89-3

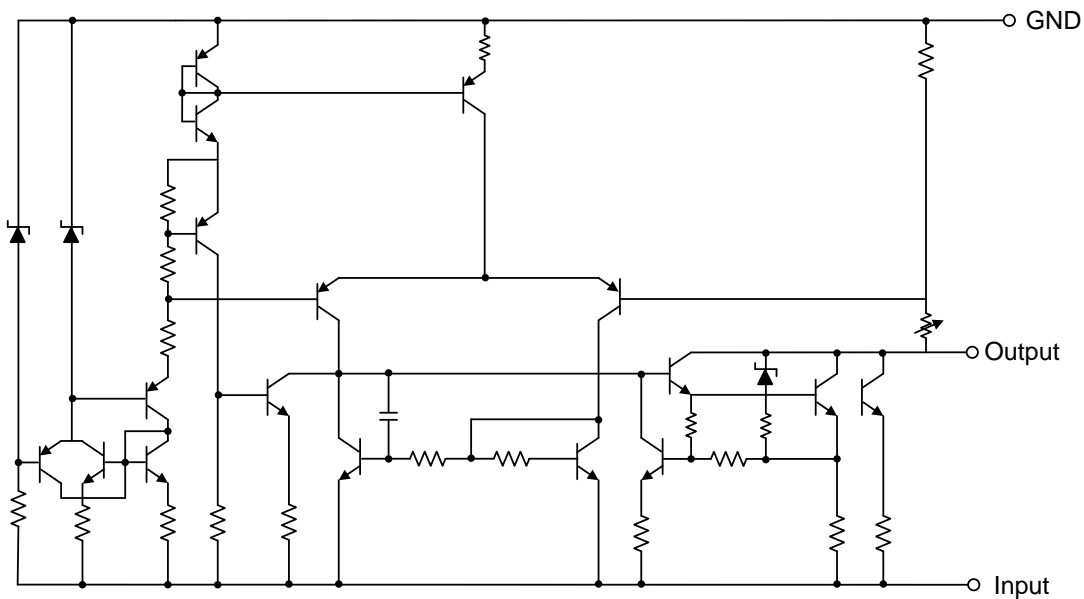
1:GND; 2:Input 3:Output



SOP-8-225-1.27

1:Output; 2,3,6,7:Input 5:GND 4,8:NC

EQUIVALENT CIRCUIT



ABSOLUTE MAXIMUM RATINGS(Operating temperature range applies unless otherwise specified)

| PARAMETERS | SYMBOL | VALUE | UNITS |
|--------------------------------------|--------|----------|-------|
| Input voltage(for $V_o=-5\sim-9V$) | V_i | -30 | V |
| (for $V_o=-12\sim-18V$) | V_i | -35 | V |
| Operating Junction Temperature Range | TOPR | 0~+125 | °C |
| Storage Temperature Range | TSTG | -65~+150 | °C |

WD79L05 ELECTRICAL CHARACTERISTICS

($T_j=25^\circ C$, $C_1=0.33\mu F$, $C_o=1.0\mu F$, unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|----------------------|--------------|---|------|------|------|---------|
| Output Voltage | V_o | $V_{IN}=-10V, I_o=40mA$ | -4.8 | -5.0 | -5.2 | V |
| Line Regulation | V_o-V_{IN} | $V_{IN}=-7\sim-20V, I_o=40mA$ | | 15 | 150 | mV |
| Load Regulation | V_o-I_o | $V_{IN}=-10V, I_o=1\sim 100mA$ | | 7 | 60 | mV |
| Quiescent current | I_Q | $V_{IN}=-10V, I_o=40mA$ | | 2.0 | 6.0 | mA |
| Ripple Rejection | RR | $V_{IN}=-8\sim-18V,$ $I_o=40mA, E_{in}=1Vp-p, f=120Hz$ | 41 | 71 | | dB |
| Output Noise Voltage | V_{NO} | $V_{IN}=-10V,$ $BW=10Hz\sim 100kHz, I_o=40mA$ | | 120 | | μV |

WD79L06 ELECTRICAL CHARACTERISTICS

($T_j=25^\circ C$, $C_1=0.33\mu F$, $C_o=1.0\mu F$, unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|----------------------|--------------|--|-------|------|-------|---------|
| Output Voltage | V_o | $V_{IN}=-12V, I_o=40mA$ | -5.76 | -6.0 | -6.24 | V |
| Line Regulation | V_o-V_{IN} | $V_{IN}=-8.5\sim-20V, I_o=40mA$ | | 18 | 160 | mV |
| Load Regulation | V_o-I_o | $V_{IN}=-12V, I_o=1\sim 100mA$ | | 8 | 72 | mV |
| Quiescent current | I_Q | $V_{IN}=-12V, I_o=40mA$ | | 2.0 | 6.0 | mA |
| Ripple Rejection | RR | $V_{IN}=-9\sim -19V,$ $I_o=40mA, E_{in}=1Vp-p, f=120Hz$ | 40 | 70 | | dB |
| Output Noise Voltage | V_{NO} | $V_{IN}=-12V,$ $BW=10Hz\sim 100kHz, I_o=40mA$ | | 144 | | μV |

WD79L08 ELECTRICAL CHARACTERISTICS

($T_j=25^\circ C$, $C_1=0.33\mu F$, $C_o=1.0\mu F$, unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|----------------------|--------------|---|-------|------|-------|---------|
| Output Voltage | V_o | $V_{IN}=-14V, I_o=40mA$ | -7.68 | -8.0 | -8.32 | V |
| Line Regulation | V_o-V_{IN} | $V_{IN}=-10.5\sim-23V, I_o=40mA$ | | 24 | 175 | mV |
| Load Regulation | V_o-I_o | $V_{IN}=-14V, I_o=1\sim 100mA$ | | 10 | 80 | mV |
| Quiescent current | I_Q | $V_{IN}=-14V, I_o=40mA$ | | 2.0 | 6.0 | mA |
| Ripple Rejection | RR | $V_{IN}=-11\sim -21V,$ $I_o=40mA, E_{in}=1Vp-p, f=140Hz$ | 39 | 68 | | dB |
| Output Noise Voltage | V_{NO} | $V_{IN}=-14V,$ $BW=10Hz\sim 100kHz, I_o=40mA$ | | 190 | | μV |

WD79L09 ELECTRICAL CHARACTERISTICS

(T_j=25°C, C₁=0.33μF, C_o=1.0μF, unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|----------------------|---------------------------------|---|-------|------|-------|------|
| Output Voltage | V _o | V _{IN} =-15V, I _o =40mA | -8.64 | -9.0 | -9.36 | V |
| Line Regulation | V _o -V _{IN} | V _{IN} =-12.5~-24V, I _o =40mA | | 27 | 200 | mV |
| Load Regulation | V _o -I _o | V _{IN} =-15V, I _o =1~100mA | | 12 | 90 | mV |
| Quiescent current | I _q | V _{IN} =-15V, I _o =40mA | | 2.0 | 6.0 | mA |
| Ripple Rejection | RR | V _{IN} =-12~-22V, I _o =40mA, E _{in} =1Vp-p, f=150Hz | 38 | 67 | | dB |
| Output Noise Voltage | V _{NO} | V _{IN} =-15V, BW=10Hz~100kHz, I _o =40mA | | 210 | | μV |

WD79L12 ELECTRICAL CHARACTERISTICS

(T_j=25°C, C₁=0.33μF, C_o=1.0μF, unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|----------------------|---------------------------------|---|-------|-------|-------|------|
| Output Voltage | V _o | V _{IN} =-19V, I _o =40mA | -11.5 | -12.0 | -12.5 | V |
| Line Regulation | V _o -V _{IN} | V _{IN} =-14.5~-27V, I _o =40mA | | 36 | 250 | mV |
| Load Regulation | V _o -I _o | V _{IN} =-19V, I _o =1~100mA | | 16 | 100 | mV |
| Quiescent current | I _q | V _{IN} =-19V, I _o =40mA | | 2.0 | 6.0 | mA |
| Ripple Rejection | RR | V _{IN} =-15~-25V, I _o =40mA, E _{in} =1Vp-p, f=190Hz | 36 | 65 | | dB |
| Output Noise Voltage | V _{NO} | V _{IN} =-19V, BW=10Hz~100kHz, I _o =40mA | | 290 | | μV |

WD79L15 ELECTRICAL CHARACTERISTICS

(T_j=25°C, C₁=0.33μF, C_o=1.0μF, unless otherwise specified)

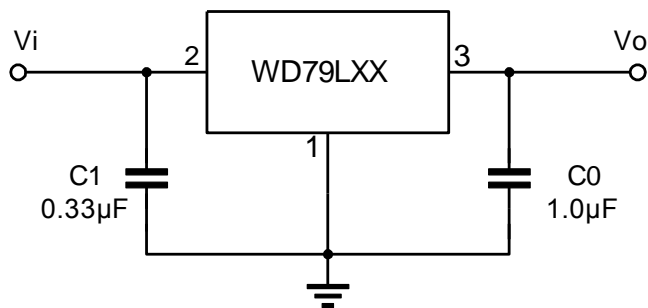
| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|----------------------|---------------------------------|---|-------|-------|-------|------|
| Output Voltage | V _o | V _{IN} =-23V, I _o =40mA | -14.4 | -15.0 | -15.6 | V |
| Line Regulation | V _o -V _{IN} | V _{IN} =-17.5~-30V, I _o =40mA | | 45 | 300 | mV |
| Load Regulation | V _o -I _o | V _{IN} =-23V, I _o =1~100mA | | 20 | 150 | mV |
| Quiescent current | I _q | V _{IN} =-23V, I _o =40mA | | 2.0 | 6.0 | mA |
| Ripple Rejection | RR | V _{IN} =-18.5~-28.5V, I _o =40mA, E _{in} =1Vp-p, f=230Hz | 34 | 63 | | dB |
| Output Noise Voltage | V _{NO} | V _{IN} =-23V, BW=10Hz~100kHz, I _o =40mA | | 340 | | μV |

WD79L18 ELECTRICAL CHARACTERISTICS

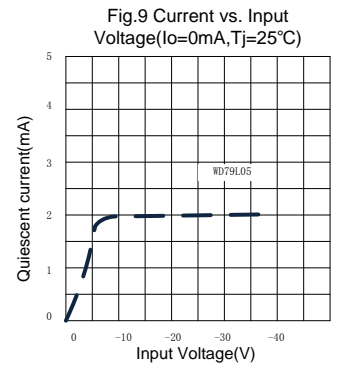
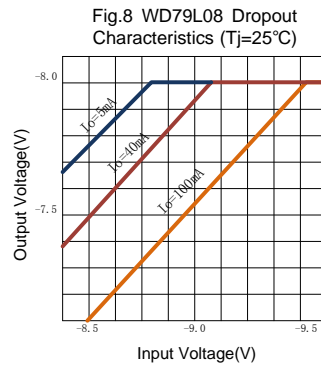
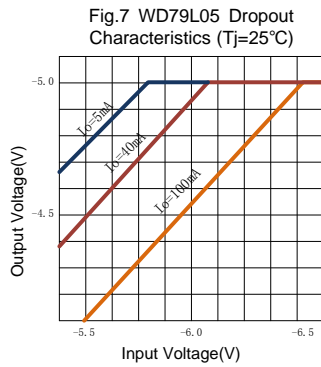
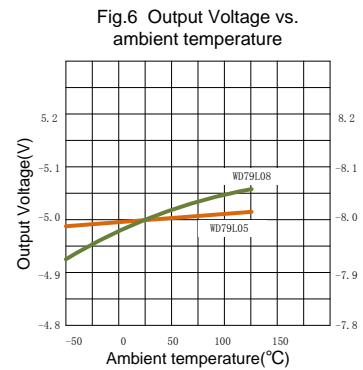
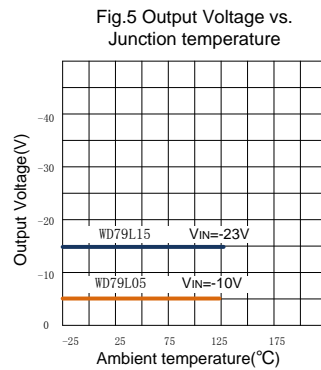
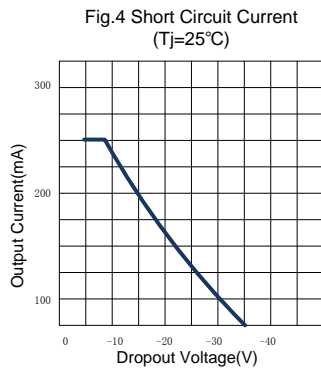
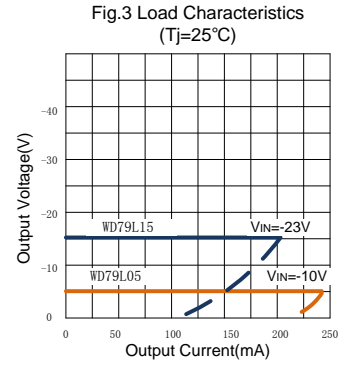
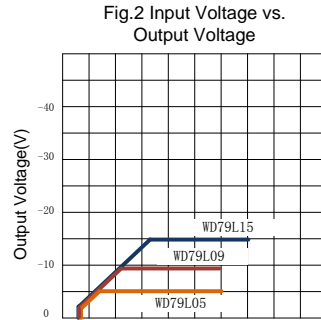
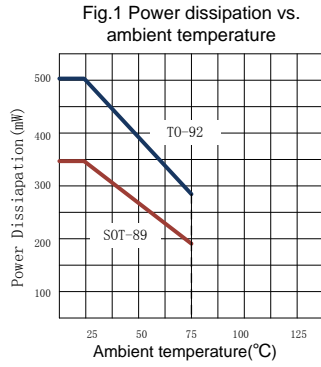
(T_j=25°C, C₁=0.33μF, C_o=1.0μF, unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|----------------------|---------------------------------|---|-------|-------|-------|------|
| Output Voltage | V _o | V _{IN} =-27V, I _o =40mA | -17.3 | -18.0 | -18.7 | V |
| Line Regulation | V _o -V _{IN} | V _{IN} =-20.5~-33V, I _o =40mA | | 54 | 300 | mV |
| Load Regulation | V _o -I _o | V _{IN} =-27V, I _o =1~100mA | | 23 | 170 | mV |
| Quiescent current | I _q | V _{IN} =-27V, I _o =40mA | | 3.5 | 6.0 | mA |
| Ripple Rejection | RR | V _{IN} =-23~-33V, I _o =40mA, E _{in} =1Vp-p, f=270Hz | 33 | 60 | | dB |
| Output Noise Voltage | V _{NO} | V _{IN} =-27V, BW=10Hz~100kHz, I _o =40mA | | 410 | | μV |

TYPICAL APPLICATION CIRCUIT



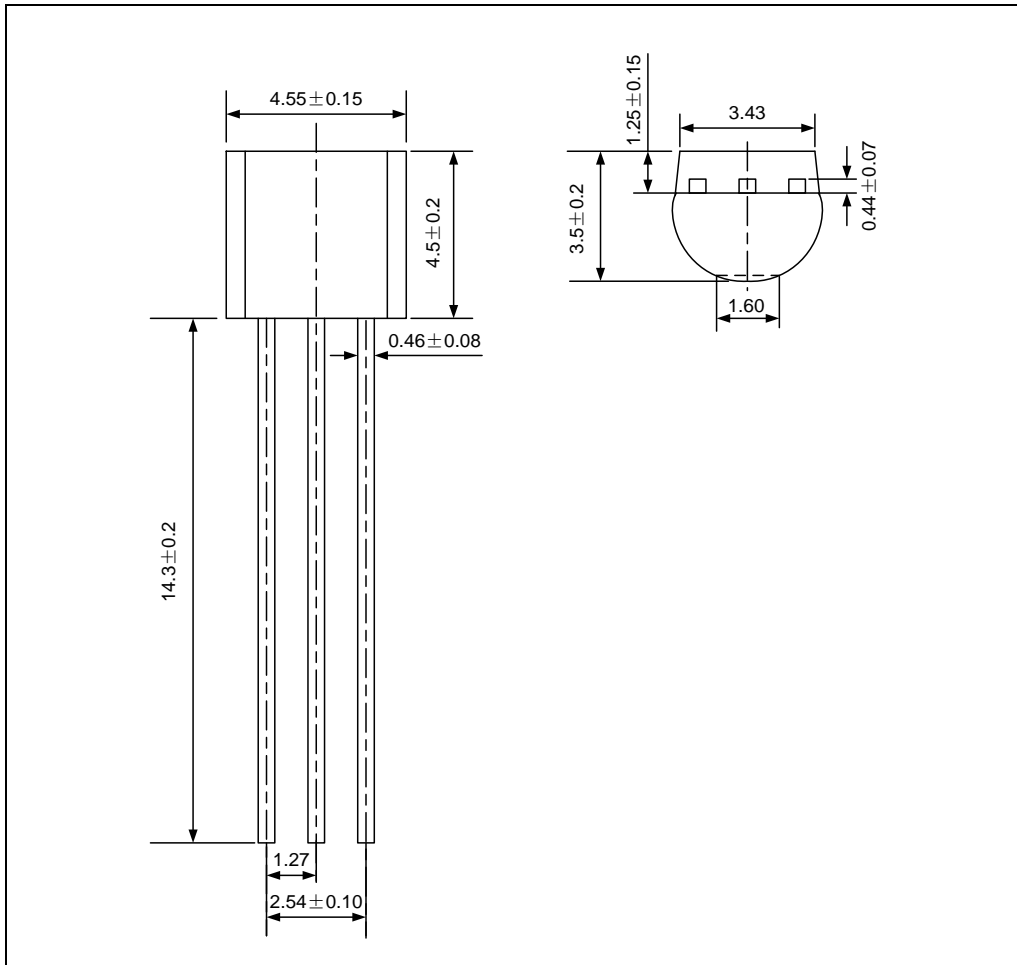
TYPICAL PARAMETERS PERFORMANCES



PACKAGE OUTLINE

TO-92

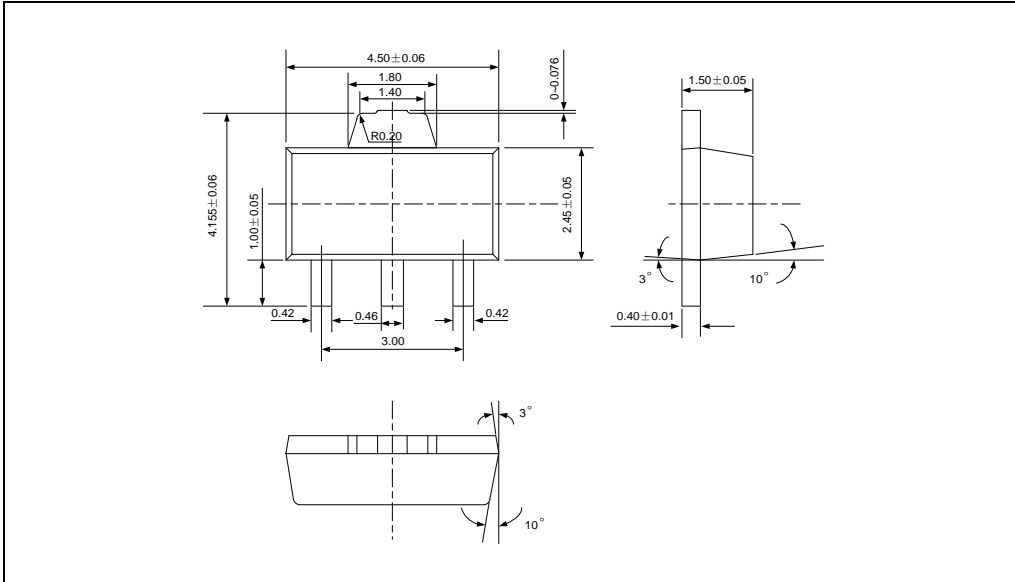
UNIT: mm



PACKAGE OUTLINE

SOT-89-3

UNIT: mm



SOP-8-225-1.27

UNIT: mm

