

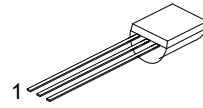
3-TERMINAL 0.1A NEGATIVE VOLTAGE REGULATORS

DESCRIPTION

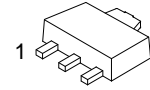
The WD79LXX family is monolithic fixed voltage regulator integrated circuit. They are suitable for applications that required supply current up to 100mA.

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

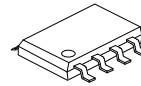


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SOT-89-3

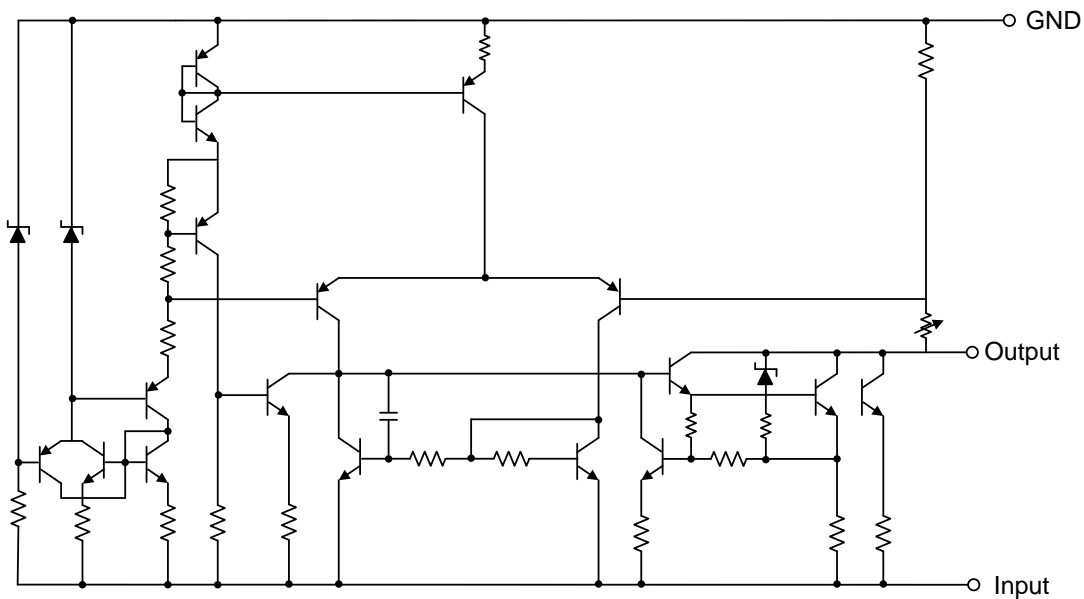
1:GND; 2:Input 3:Output



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)

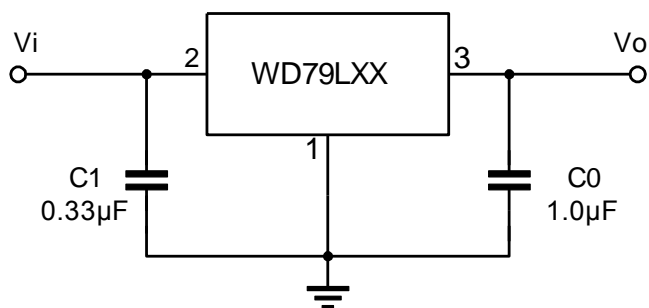
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output Voltage	V _o	V _{IN} =-23V, I _o =40mA	-14.4	-15.0	-15.6	V
Line Regulation	V _o -V _{IN}	V _{IN} =-17.5~-30V, I _o =40mA		45	300	mV
Load Regulation	V _o -I _o	V _{IN} =-23V, I _o =1~100mA		20	150	mV
Quiescent current	I _q	V _{IN} =-23V, I _o =40mA		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

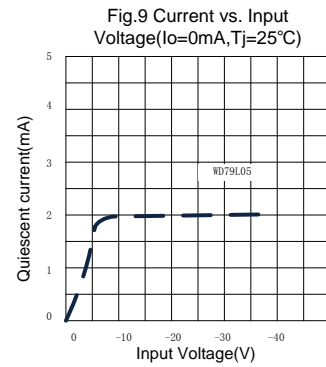
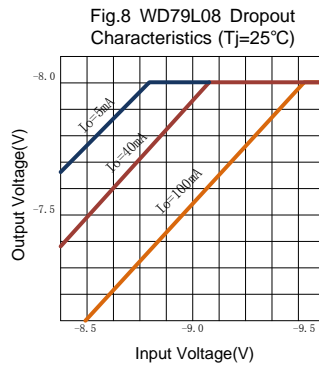
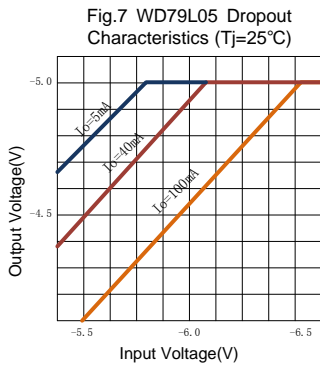
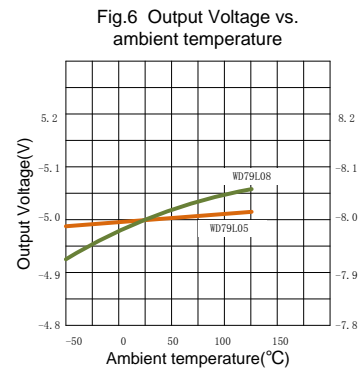
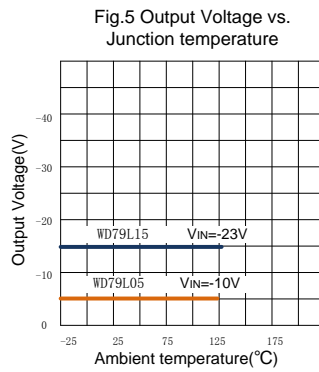
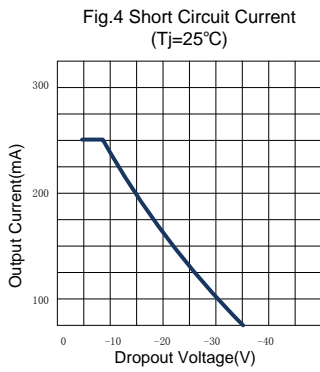
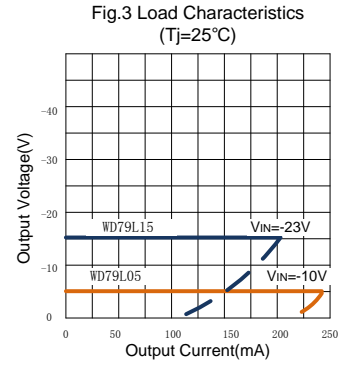
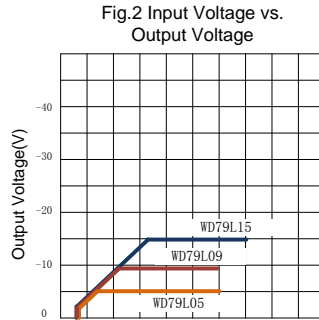
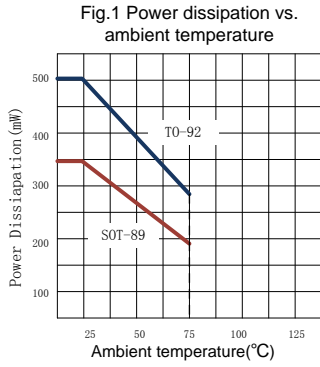
(T_j=25°C, C₁=0.33μF, C_o=1.0μF, unless otherwise specified)

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



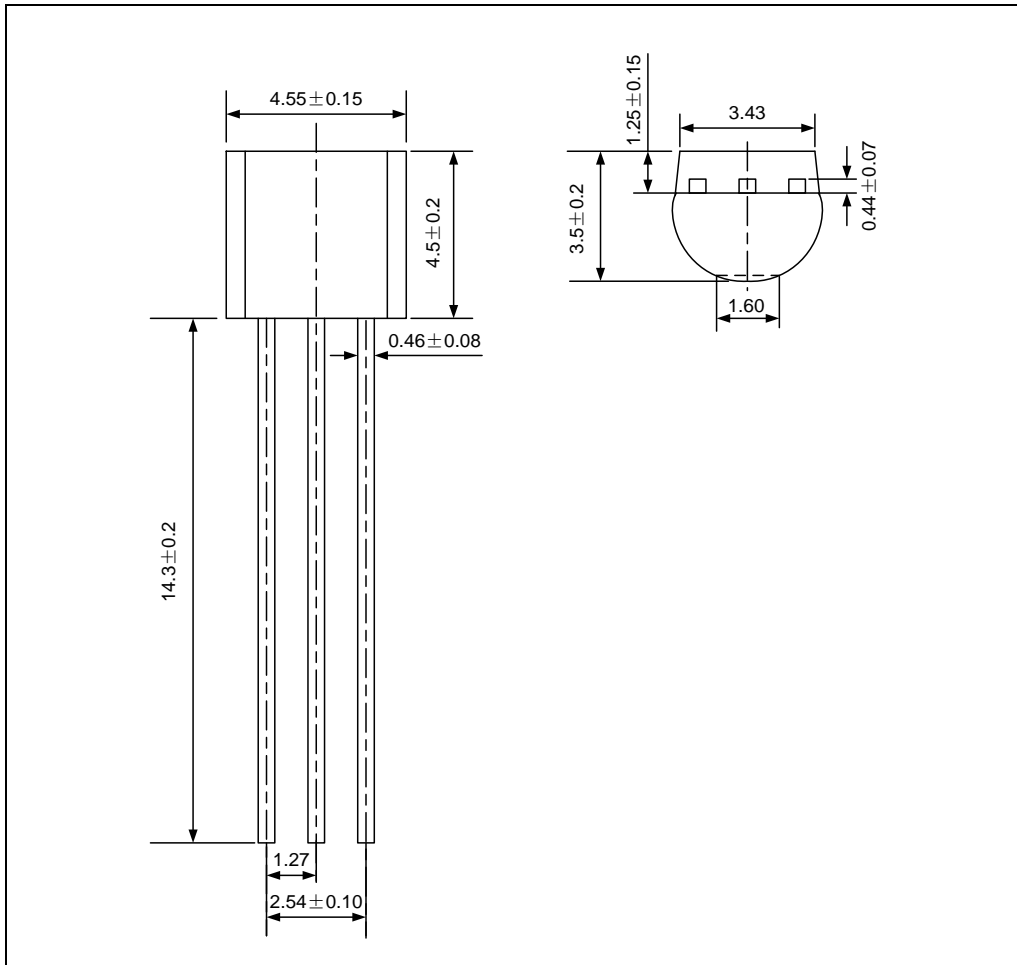
TYPICAL PARAMETERS PERFORMANCES



PACKAGE OUTLINE

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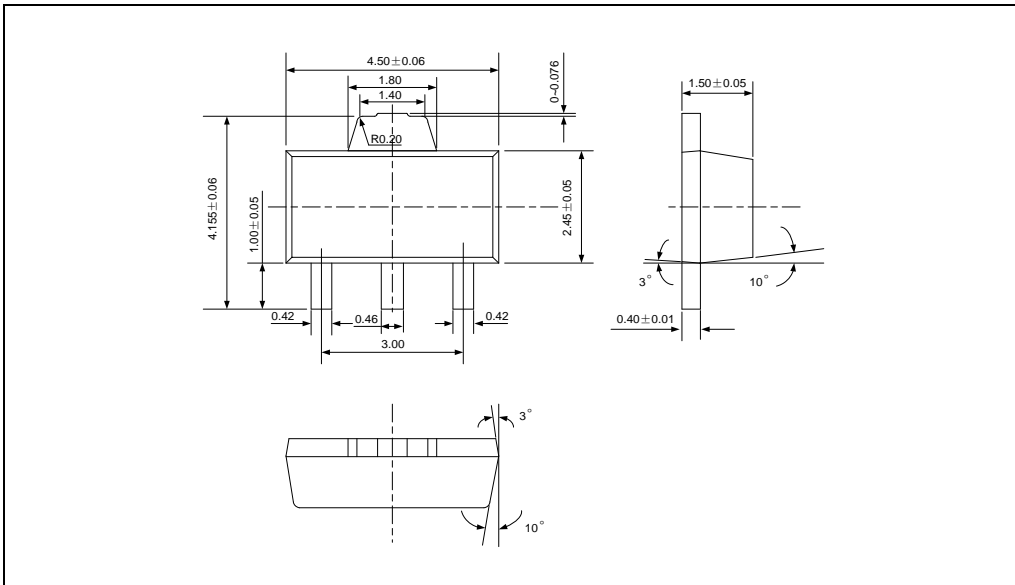
UNIT: mm



PACKAGE OUTLINE

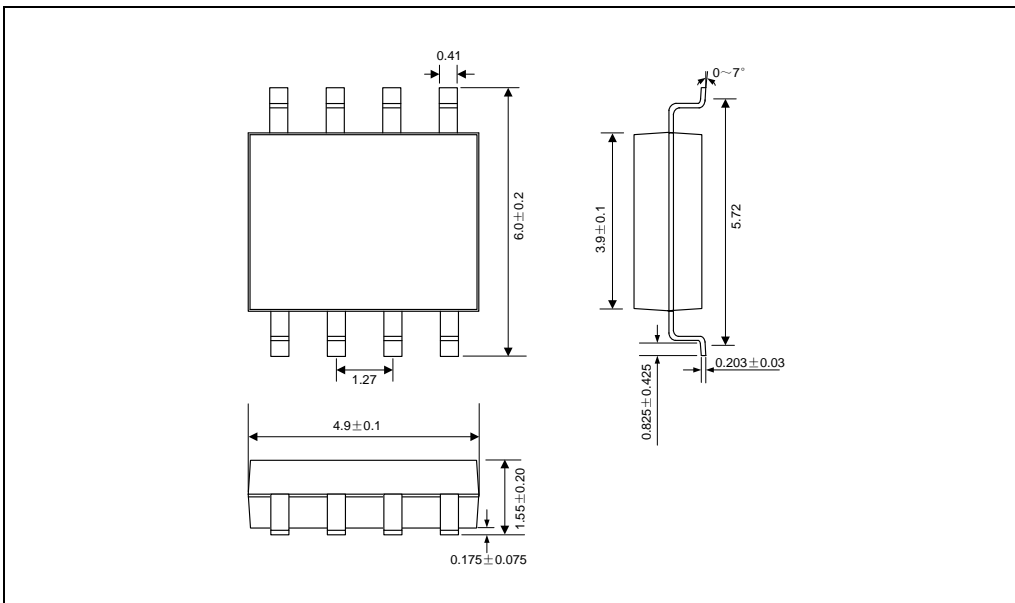
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UNIT: mm



SOP-8-225-1.27

UNIT: mm



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