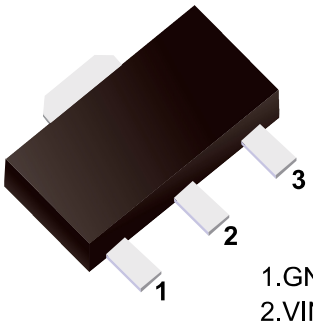
■ Low Dropout Regulators

■ Description

The yfw73xx series is a set of three-terminal low power high voltage regulators implemented in CMOS technology. They allow input voltages as high as 20V. They are available with several fixed output voltages ranging from 2.1V to 9.0V. Because of the low power dissipation,yfw73xx are widely used in a variety of equipment such as audio device, video device, communication device and so on.



1.GND
2.VIN
3.VOUT

■ Simplified outline(SOT-89)

■ Features

- Low power consumption
- Low voltage drop
- Low temperature coefficient
- High input voltage (up to 20V)
- Quiescent current : 1.5μA
- Output voltage tolerance: ±2%
- HAF(halogen and antimony free) is acquired

■ Selection Tablet

Designator	Symbol	Description
YFW73xx	21	2.1V(output)
	23	2.3V
	25	2.5V
	28	2.8V
	30	3.0V
	33	3.3V
	36	3.6V
	40	4.0V
	44	4.4V
	50	5.0V
	90	9.0V

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■ Absolute Maximum Ratings Ta = 25℃

Parameter	Limit	Unit
Supply voltage	-0.3 ~ +22	V
Storage temperature range	-50 ~ +125	℃
Operating temperature range	-40 ~ 85	℃

Note: 1.Stresses beyond those listed under absolute maximum ratings may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those conditions is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

Parameter	Symbol	Value	Unit
Junction-to-Ambient Thermal Resistance	$R_{\theta JA}$	200	℃/W
Power Consumption	P_D	500	mW

■ Electrical Characteristics Ta = 25℃

YFW7321

Parameter	Symbol	Test conditions	Min.	Typ.	Max	Unit
Output voltage	V_{OUT}	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$	2.058	2.10	2.142	V
Output current	I_{OUT}	$V_{IN}=V_{OUT}+2.0V$	300	--	--	mA
Load regulation	ΔV_{OUT}	$V_{IN}=V_{OUT}+2.0V$ $1mA \le I_{OUT} \le 300mA$	--	37	100	mV
Voltage drop Note1	V_{DIF}	$I_{OUT}=10mA$, $\Delta V_{OUT}=2\%$	--	45	55	mV
Quiescent Current	I_Q	No Load	--	1.5	3.0	μA
Line regulation	$\Delta V_{OUT} / V_{OUT} \times \Delta V_{IN}$	$V_{OUT}+1.0V \le V_{IN} \le 20V$, $I_{OUT}=1mA$	--	--	0.2	%/V
Input voltage	V_{IN}	--	--	--	20	V
Temperature coefficient	$\Delta V_{OUT} / V_{OUT} \times \Delta T_A$	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$, $-40℃ \le T_A \le 85℃$	--	100	--	ppm/℃
Short Current	I_{Short}	$V_{OUT}=0V$	--	400	--	mA

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YFW7323

Parameter	Symbol	Test conditions	Min.	Typ.	Max	Unit
Output voltage	V_{OUT}	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$	2.254	2.30	2.346	V
Output current	I_{OUT}	$V_{IN}=V_{OUT}+2.0V$	300	--	--	mA
Load regulation	ΔV_{OUT}	$V_{IN}=V_{OUT}+2.0V$ $1mA \le I_{OUT} \le 300mA$	--	37	100	mV
Voltage drop Note1	V_{DIF}	$I_{OUT}=10mA$, $\Delta V_{OUT}=2\%$	--	40	55	mV
Quiescent Current	I_Q	No Load	--	1.5	3.0	μA
Line regulation	$\Delta V_{OUT} / V_{OUT} \times \Delta V_{IN}$	$V_{OUT}+1.0V \le V_{IN} \le 20V$, $I_{OUT}=1mA$	--	--	0.2	%/V
Input voltage	V_{IN}	--	--	--	20	V
Temperature coefficient	$\Delta V_{OUT} / V_{OUT} \times \Delta T_A$	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$, $-40^{\circ}C \le T_A \le 85^{\circ}C$	--	100	--	ppm/°C
Short Current	I_{Short}	$V_{OUT}=0V$	--	400	--	mA

YFW7325

Parameter	Symbol	Test conditions	Min.	Typ.	Max	Unit
Output voltage	V_{OUT}	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$	2.45	2.50	2.55	V
Output current	I_{OUT}	$V_{IN}=V_{OUT}+2.0V$	300	--	--	mA
Load regulation	ΔV_{OUT}	$V_{IN}=V_{OUT}+2.0V$ $1mA \le I_{OUT} \le 300mA$	--	37	100	mV
Voltage drop Note1	V_{DIF}	$I_{OUT}=10mA$, $\Delta V_{OUT}=2\%$	--	35	55	mV
Quiescent Current	I_Q	No Load	--	1.5	3.0	μA
Line regulation	$\Delta V_{OUT} / V_{OUT} \times \Delta V_{IN}$	$V_{OUT}+1.0V \le V_{IN} \le 20V$, $I_{OUT}=1mA$	--	--	0.2	%/V
Input voltage	V_{IN}	--	--	--	20	V
Temperature coefficient	$\Delta V_{OUT} / V_{OUT} \times \Delta T_A$	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$, $-40^{\circ}C \le T_A \le 85^{\circ}C$	--	100	--	ppm/°C
Short Current	I_{Short}	$V_{OUT}=0V$	--	400	--	mA

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YFW7328

Parameter	Symbol	Test conditions	Min.	Typ.	Max	Unit
Output voltage	V_{OUT}	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$	2.744	2.80	2.856	V
Output current	I_{OUT}	$V_{IN}=V_{OUT}+2.0V$	300	--	--	mA
Load regulation	ΔV_{OUT}	$V_{IN}=V_{OUT}+2.0V$ $1mA \le I_{OUT} \le 300mA$	--	37	100	mV
Voltage drop Note1	V_{DIF}	$I_{OUT}=10mA$, $\Delta V_{OUT}=2\%$	--	30	55	mV
Quiescent Current	I_Q	No Load	--	1.5	3.0	μA
Line regulation	$\Delta V_{OUT} / V_{OUT} \times \Delta V_{IN}$	$V_{OUT}+1.0V \le V_{IN} \le 20V$, $I_{OUT}=1mA$	--	--	0.2	%/V
Input voltage	V_{IN}	--	--	--	20	V
Temperature coefficient	$\Delta V_{OUT} / V_{OUT} \times \Delta T_A$	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$, $-40^{\circ}C \le T_A \le 85^{\circ}C$	--	100	--	ppm/℃
Short Current	I_{Short}	$V_{OUT}=0V$	--	400	--	mA

YFW7330

Parameter	Symbol	Test conditions	Min.	Typ.	Max	Unit
Output voltage	V_{OUT}	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$	2.94	3.0	3.06	V
Output current	I_{OUT}	$V_{IN}=V_{OUT}+2.0V$	300	--	--	mA
Load regulation	ΔV_{OUT}	$V_{IN}=V_{OUT}+2.0V$ $1mA \le I_{OUT} \le 300mA$	--	37	100	mV
Voltage drop Note1	V_{DIF}	$I_{OUT}=100mA$, $\Delta V_{OUT}=2\%$	--	210	300	mV
Quiescent Current	I_Q	No Load	--	1.5	3.0	μA
Line regulation	$\Delta V_{OUT} / V_{OUT} \times \Delta V_{IN}$	$V_{OUT}+1.0V \le V_{IN} \le 20V$, $I_{OUT}=1mA$	--	--	0.2	%/V
Input voltage	V_{IN}	--	--	--	20	V
Temperature coefficient	$\Delta V_{OUT} / V_{OUT} \times \Delta T_A$	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$, $-40^{\circ}C \le T_A \le 85^{\circ}C$	--	100	--	ppm/℃
Short Current	I_{Short}	$V_{OUT}=0V$	--	400	--	mA

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YFW7333

Parameter	Symbol	Test conditions	Min.	Typ.	Max	Unit
Output voltage	V_{OUT}	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$	3.234	3.30	3.366	V
Output current	I_{OUT}	$V_{IN}=V_{OUT}+2.0V$	300	--	--	mA
Load regulation	ΔV_{OUT}	$V_{IN}=V_{OUT}+2.0V$ $1mA \le I_{OUT} \le 300mA$	--	37	100	mV
Voltage drop Note1	V_{DIF}	$I_{OUT}=100mA$, $\Delta V_{OUT}=2\%$	--	195	300	mV
Quiescent Current	I_Q	No Load	--	1.5	3.0	μA
Line regulation	$\Delta V_{OUT} / V_{OUT} \times \Delta V_{IN}$	$V_{OUT}+1.0V \le V_{IN} \le 20V$, $I_{OUT}=1mA$	--	--	0.2	%/V
Input voltage	V_{IN}	--	--	--	20	V
Temperature coefficient	$\Delta V_{OUT} / V_{OUT} \times \Delta T_A$	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$, $-40^{\circ}C \le T_A \le 85^{\circ}C$	--	100	--	ppm/℃
Short Current	I_{Short}	$V_{OUT}=0V$	--	400	--	mA

YFW7336

Parameter	Symbol	Test conditions	Min.	Typ.	Max	Unit
Output voltage	V_{OUT}	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$	3.528	3.60	3.672	V
Output current	I_{OUT}	$V_{IN}=V_{OUT}+2.0V$	300	--	--	mA
Load regulation	ΔV_{OUT}	$V_{IN}=V_{OUT}+2.0V$ $1mA \le I_{OUT} \le 300mA$	--	37	100	mV
Voltage drop Note1	V_{DIF}	$I_{OUT}=100mA$, $\Delta V_{OUT}=2\%$	--	180	300	mV
Quiescent Current	I_Q	No Load	--	1.5	3.0	μA
Line regulation	$\Delta V_{OUT} / V_{OUT} \times \Delta V_{IN}$	$V_{OUT}+1.0V \le V_{IN} \le 20V$, $I_{OUT}=1mA$	--	--	0.2	%/V
Input voltage	V_{IN}	--	--	--	20	V
Temperature coefficient	$\Delta V_{OUT} / V_{OUT} \times \Delta T_A$	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$, $-40^{\circ}C \le T_A \le 85^{\circ}C$	--	100	--	ppm/℃
Short Current	I_{Short}	$V_{OUT}=0V$	--	400	--	mA

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YFW7340

Parameter	Symbol	Test conditions	Min.	Typ.	Max	Unit
Output voltage	V_{OUT}	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$	3.92	4.0	4.08	V
Output current	I_{OUT}	$V_{IN}=V_{OUT}+2.0V$	300	--	--	mA
Load regulation	ΔV_{OUT}	$V_{IN}=V_{OUT}+2.0V$ $1mA \le I_{OUT} \le 300mA$	--	37	100	mV
Voltage drop Note1	V_{DIF}	$I_{OUT}=100mA$, $\Delta V_{OUT}=2\%$	--	170	300	mV
Quiescent Current	I_Q	No Load	--	1.5	3.0	μA
Line regulation	$\Delta V_{OUT} / V_{OUT} \times \Delta V_{IN}$	$V_{OUT}+1.0V \le V_{IN} \le 20V$, $I_{OUT}=1mA$	--	--	0.2	%/V
Input voltage	V_{IN}	--	--	--	20	V
Temperature coefficient	$\Delta V_{OUT} / V_{OUT} \times \Delta T_A$	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$, $-40^{\circ}C \le T_A \le 85^{\circ}C$	--	100	--	ppm/°C
Short Current	I_{Short}	$V_{OUT}=0V$	--	400	--	mA

YFW7344

Parameter	Symbol	Test conditions	Min.	Typ.	Max	Unit
Output voltage	V_{OUT}	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$	4.312	4.4	4.488	V
Output current	I_{OUT}	$V_{IN}=V_{OUT}+2.0V$	300	--	--	mA
Load regulation	ΔV_{OUT}	$V_{IN}=V_{OUT}+2.0V$ $1mA \le I_{OUT} \le 300mA$	--	37	100	mV
Voltage drop Note1	V_{DIF}	$I_{OUT}=100mA$, $\Delta V_{OUT}=2\%$	--	160	300	mV
Quiescent Current	I_Q	No Load	--	1.5	3.0	μA
Line regulation	$\Delta V_{OUT} / V_{OUT} \times \Delta V_{IN}$	$V_{OUT}+1.0V \le V_{IN} \le 20V$, $I_{OUT}=1mA$	--	--	0.2	%/V
Input voltage	V_{IN}	--	--	--	20	V
Temperature coefficient	$\Delta V_{OUT} / V_{OUT} \times \Delta T_A$	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$, $-40^{\circ}C \le T_A \le 85^{\circ}C$	--	100	--	ppm/°C
Short Current	I_{Short}	$V_{OUT}=0V$	--	400	--	mA

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YFW7350

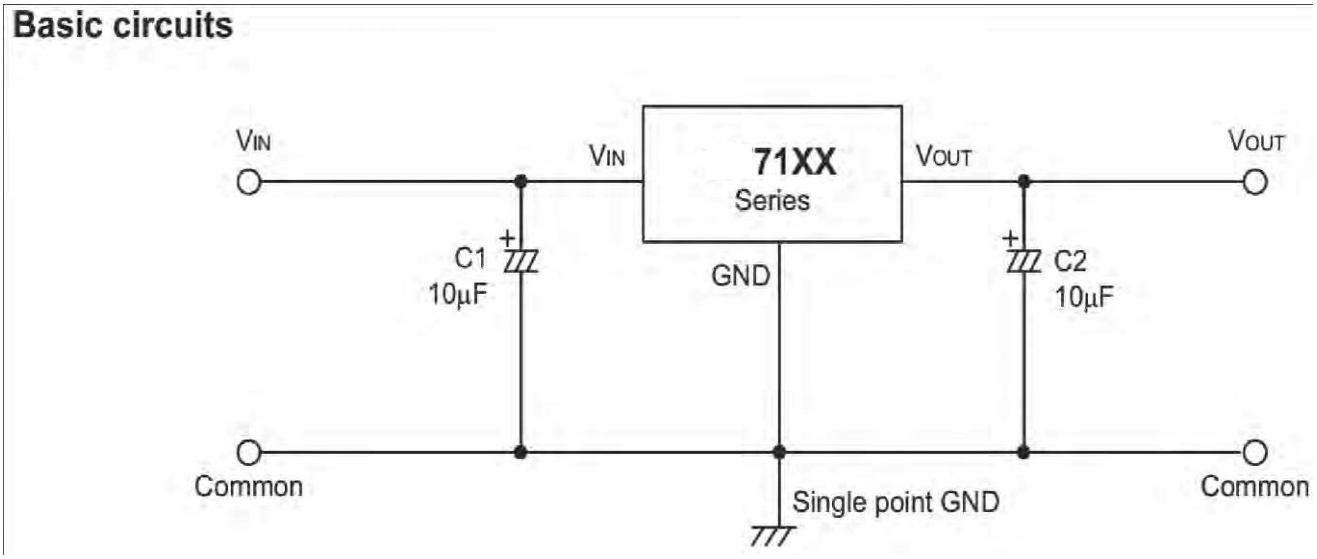
Parameter	Symbol	Test conditions	Min.	Typ.	Max	Unit
Output voltage	V_{OUT}	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$	4.90	5.0	5.10	V
Output current	I_{OUT}	$V_{IN}=V_{OUT}+2.0V$	300	--	--	mA
Load regulation	ΔV_{OUT}	$V_{IN}=V_{OUT}+2.0V$ $1mA \le I_{OUT} \le 300mA$	--	37	100	mV
Voltage drop Note1	V_{DIF}	$I_{OUT}=100mA$, $\Delta V_{OUT}=2\%$	--	150	300	mV
Quiescent Current	I_Q	No Load	--	1.5	3.0	μA
Line regulation	$\Delta V_{OUT} / V_{OUT} \times \Delta V_{IN}$	$V_{OUT}+1.0V \le V_{IN} \le 20V$, $I_{OUT}=1mA$	--	--	0.2	%/V
Input voltage	V_{IN}	--	--	--	20	V
Temperature coefficient	$\Delta V_{OUT} / V_{OUT} \times \Delta T_A$	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$, $-40^{\circ}C \le T_A \le 85^{\circ}C$	--	100	--	ppm/°C
Short Current	I_{Short}	$V_{OUT}=0V$	--	400	--	mA

YFW7390

Parameter	Symbol	Test conditions	Min.	Typ.	Max	Unit
Output voltage	V_{OUT}	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$	8.82	9.0	9.18	V
Output current	I_{OUT}	$V_{IN}=V_{OUT}+2.0V$	300	--	--	mA
Load regulation	ΔV_{OUT}	$V_{IN}=V_{OUT}+2.0V$ $1mA \le I_{OUT} \le 300mA$	--	37	100	mV
Voltage drop Note1	V_{DIF}	$I_{OUT}=100mA$, $\Delta V_{OUT}=2\%$	--	130	300	mV
Quiescent Current	I_Q	No Load	--	1.5	3.0	μA
Line regulation	$\Delta V_{OUT} / V_{OUT} \times \Delta V_{IN}$	$V_{OUT}+1.0V \le V_{IN} \le 20V$, $I_{OUT}=1mA$	--	--	0.2	%/V
Input voltage	V_{IN}	--	--	--	20	V
Temperature coefficient	$\Delta V_{OUT} / V_{OUT} \times \Delta T_A$	$V_{IN}=V_{OUT}+2.0V$, $I_{OUT}=10mA$, $-40^{\circ}C \le T_A \le 85^{\circ}C$	--	100	--	ppm/°C
Short Current	I_{Short}	$V_{OUT}=0V$	--	400	--	mA

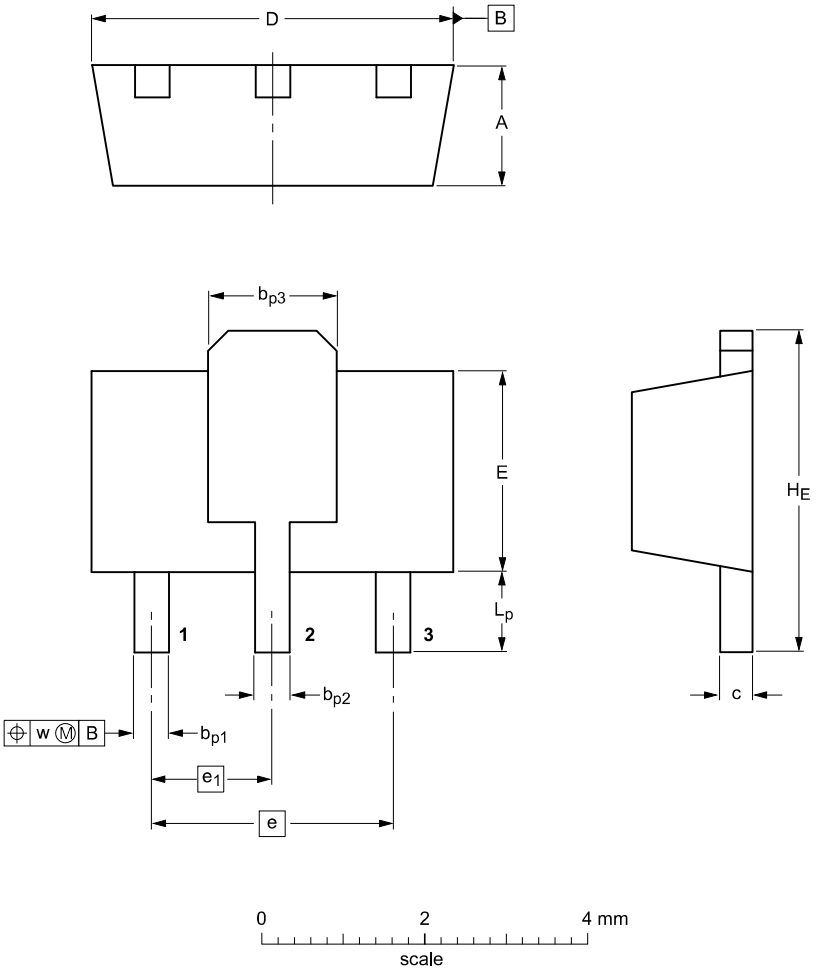
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Application Circuit



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Package Outline SOT-89



DIMENSIONS (mm are the original dimensions)

UNIT	A	b_{p1}	b_{p2}	b_{p3}	c	D	E	e	e_1	H_E	L_p	w
mm	1.6 1.4	0.48 0.35	0.53 0.40	1.8 1.4	0.44 0.23	4.6 4.4	2.6 2.4	3.0	1.5	4.25 3.75	1.2 0.8	0.13

Summary of Packing Options

Package	Package Description	Packing Quantity	Industry Standard
SOT-89	Tape/Reel,7"reel	1000	EIA-481-1

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