

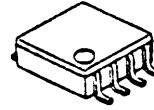
3OUTPUT LOW DROPOUT VOLTAGE REGULATOR

■GENERAL DESCRIPTION

The NJM2893 is a 3ch low dropout voltage regulator with ON/OFF Control in TVSP-8 package.

It is suitable for camcorder, IC decoder, camera and other portable items.

■PACKAGE OUTLINE

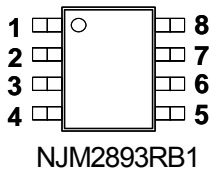


NJM2893RB1

■FEATURES

- High Ripple Rejection 70dB typ. at f=1kHz
- Low Noise 45 μ Vrms typ.
- Output capacitor with 1.0 μ F ceramic capacitor at $V_{O} \geq 2.7V$
- Output Current $I_{O(max.)} = 100mA \times 3ch$
- High Precision Output $\pm 1.0\%$
- Low Dropout Voltage 0.1V typ. at $I_{O} = 60mA$
- ON/OFF Control
- Internal Thermal Overload Protection
- Internal Short Circuit Current Limit
- Bipolar Technology
- Package Outline TVSP-8

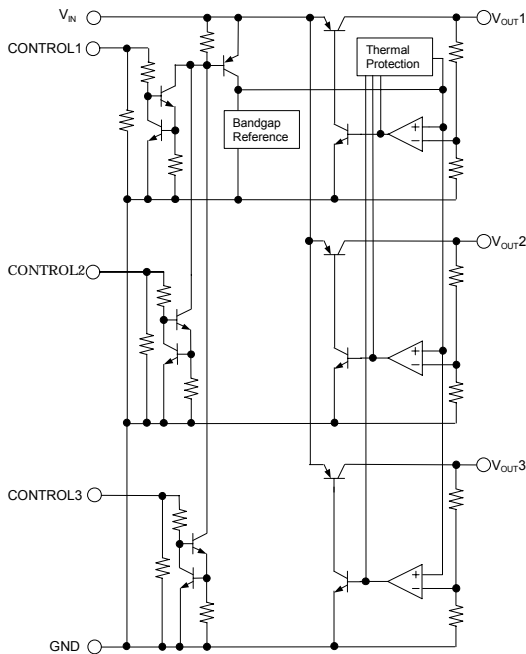
■PIN CONFIGURATION



PIN FUNCTION

1. V_{OUT1}	5. CONTROL3
2. V_{OUT2}	6. CONTROL2
3. V_{OUT3}	7. CONTROL1
4. GND	8. V_{IN}

■EQUIVALENT CIRCUIT



■ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V _{IN}	+14	V
Control Voltage	V _{CONT}	+14(note1)	V
Power Dissipation	P _D	320	mW
Operating Temperature	T _{opr}	-40 to +85	°C
Storage Temperature	T _{stg}	-40 to +125	°C

(note1)When input voltage is less than +14V, the absolute maximum control voltage is equal to the input voltage.

■RECRICAL CHARACTERISTICS

(V_{IN}=Vo+1V, C_{IN}=0.1μF, Co=1.0μF: Vo≥2.7V (Co=2.2μF: Vo≤2.6V), Ta=25°C)

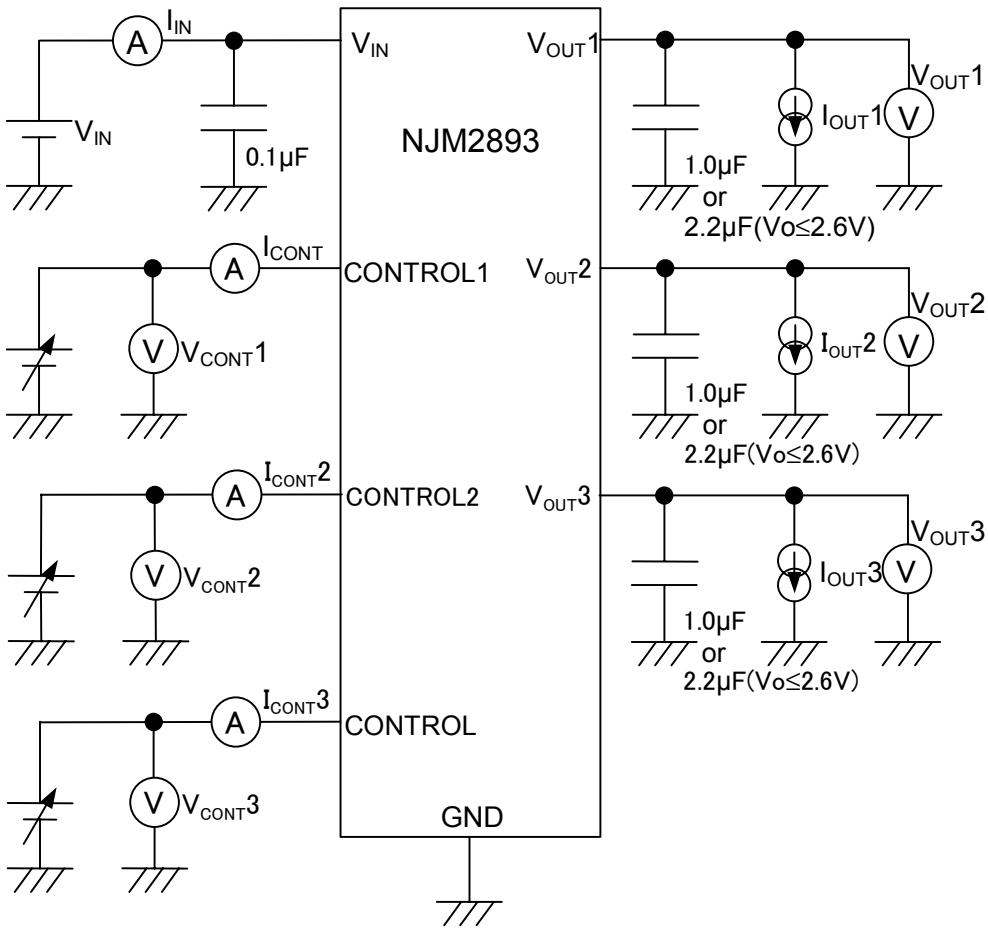
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	Vo	Io=30mA	-1.0%	-	+1.0%	V
Quiescent Current1	I _{Q1}	V _{CONT1} = V _{IN} , V _{CONT2} = V _{CONT3} = 0V *1ch ON Io=0mA, expect Icont	-	140	220	μA
Quiescent Current2	I _{Q2}	V _{CONT1} = V _{CONT2} = V _{IN} , V _{CONT3} = 0V *2ch ON Io=0mA, expect Icont	-	240	370	μA
Quiescent Current3	I _{Q3}	V _{CONT1} = V _{CONT2} = V _{CONT3} = V _{IN} Io=0mA, expect Icont	-	340	520	μA
Quiescent Current at Control OFF	I _{Q(OFF)}	V _{CONT} =0V	-	-	100	nA
Output Current	Io	Vo-0.3V	100	130	-	mA
Line Regulation	ΔVo/ΔV _{IN}	V _{IN} =Vo+1V to Vo+6V, Io=30mA	-	-	0.10	%/V
Load Regulation	ΔVo/ΔIo	Io=0 to 60mA	-	-	0.03	%/mA
Dropout Voltage	ΔV _{ΓO}	Io=60mA	-	0.10	0.18	V
Ripple Rejection	RR	ein=200mVrms, f=1kHz, Io=10mA, Vo=3V	-	70	-	dB
Average Temperature Coefficient of Output Voltage	ΔVo/ΔTa	Ta=0 to 85°C, Io=10mA	-	±50	-	ppm/°C
Output Noise Voltage	V _{NO}	f=10Hz to 80kHz, Io=10mA, Vo=3V	-	45	-	μVrms
Control Voltage for ON-state	V _{CONT(ON)}		1.6	-	-	V
Control Voltage for OFF-state	V _{CONT(OFF)}		-	-	0.6	V

(note2) Please confirm the specification separately because some parameters depend on output voltage.

■OUTPUT VOLTAGE RANK LIST

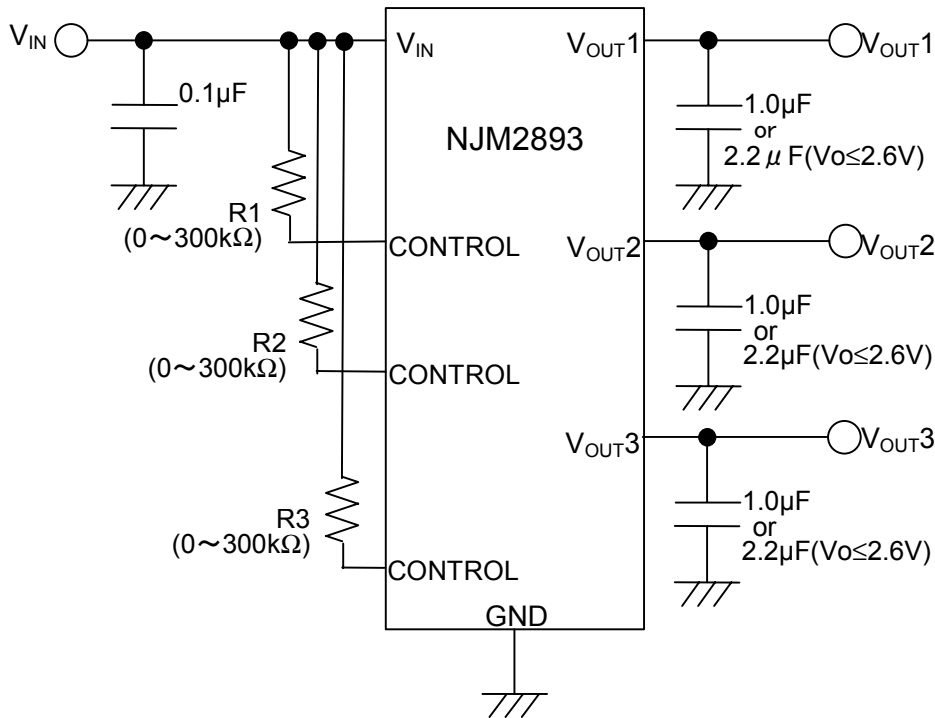
Device Name	VOUT		
	CH1	CH2	CH3
NJM2893RB1-CCC	2.1V	2.1V	2.1V
NJM2893RB1-LLL	3.0V	3.0V	3.0V
NJM2893RB1-YLC	5.0V	3.0V	2.1V

■ TEST CIRCUIT



■ TYPICAL APPLICATION

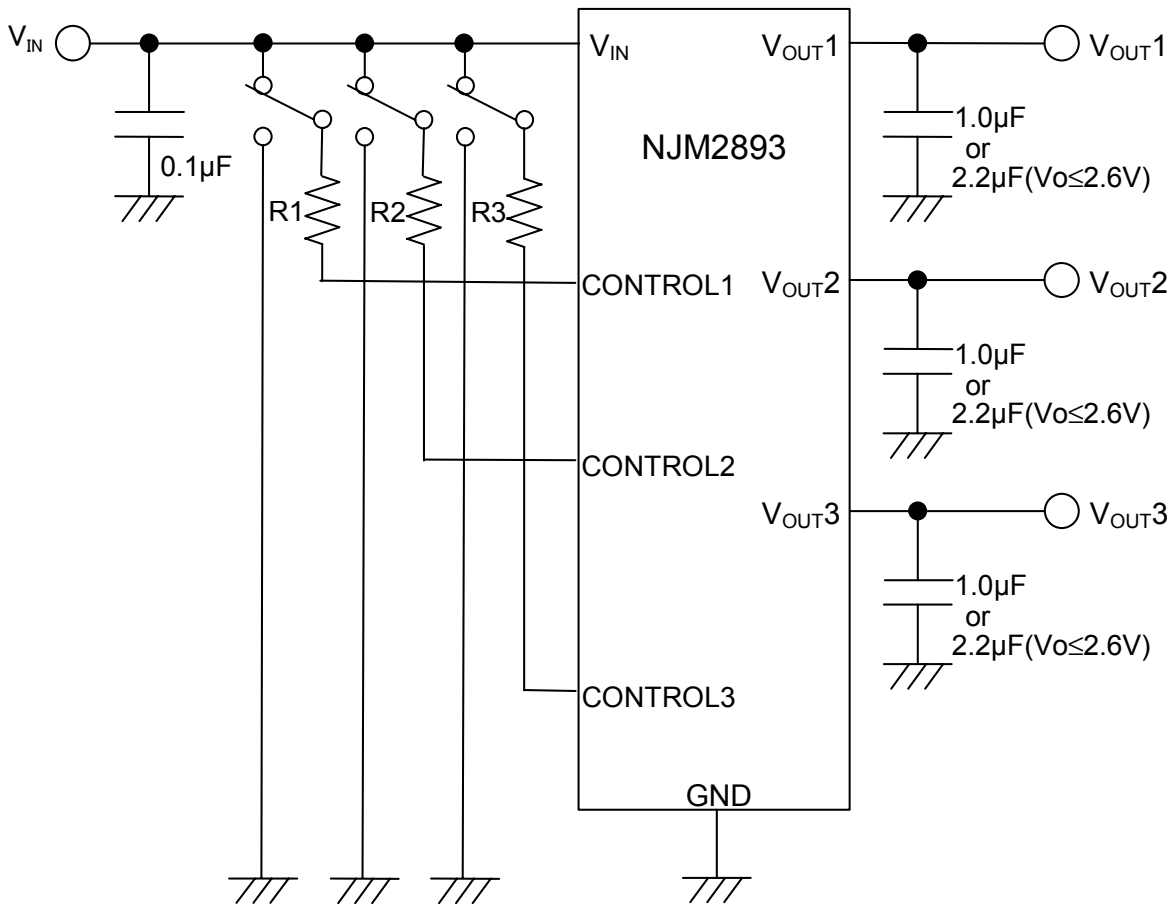
(1) In the case where ON/OFF Control is not required:



Connect control terminal to VIN terminal

In case a resistance "R" is used, the quiescent current will be decreased. However, the but minimum operating voltage will be increase as well. Please refer to a figure of Output Voltage vs. Control Voltage.

(2) In use of ON/OFF Control:



In case the control terminal is "H", the output is enabled.
 The control terminal is "L" or "open", the output is disabled.

[CAUTION]

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