

EVVOSEMI[®]

THINK CHANGE DO



ESD



TVS



MOS



LDO



Diode



Sensor



DC-DC

Product Specification

▶ Domestic	Part Number	JRC4558D
▶ Overseas	Part Number	JRC4558D
▶ Equivalent	Part Number	JRC4558D

EV is the abbreviation of name EVVO

Double operational amplifier

1. Overview and characteristics

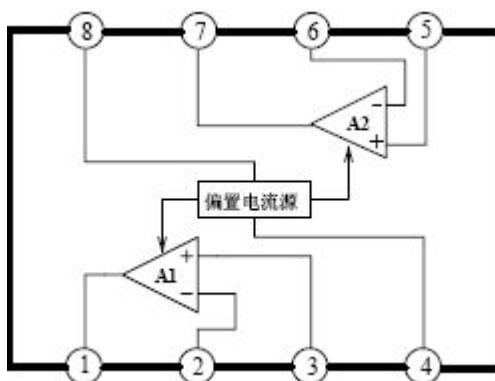
JRC4558D is a low noise dual operational amplifier circuit, which can be used as active filter, compensation amplifier, audio preamplifier, equalization amplifier and linear amplifier in electronic instruments.

Its characteristics are as follows:

- Phase compensation circuit is included;
- Low noise $V_{NI} = 2.5\mu\text{V}$;
- Speed high frequency bandwidth $BW = 3\text{MHz}$;
- Package form: DIP8 / SOP8;

2. Function block diagram and pin description

2.1 functional block diagram



2.2 pin description

Pin	Symbol	function	Pin	Symbol	function
1	OUT ₁	Output 1	5	IN ²⁺	In phase input 2
2	IN ₁₋	Invert input 1	6	IN ²⁻	Invert input 2
3	IN ₁₊	In phase input 1	7	OUT ²	Output 2
4	V _{EE}	Negative power supply	8	V _{CC}	Positive power supply

3. Electrical characteristics

3.1 limit parameters

$T_{amb} = 25^{\circ}\text{C}$ unless otherwise specified

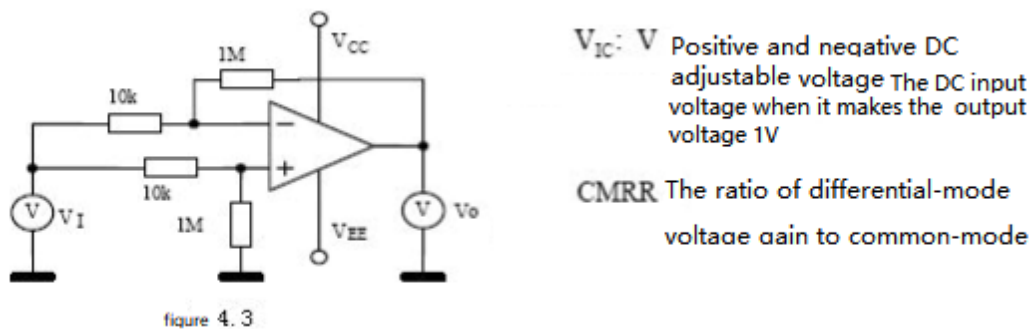
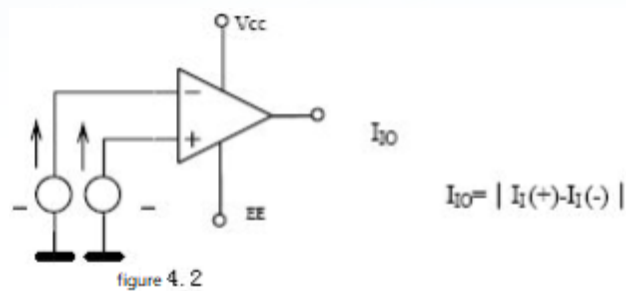
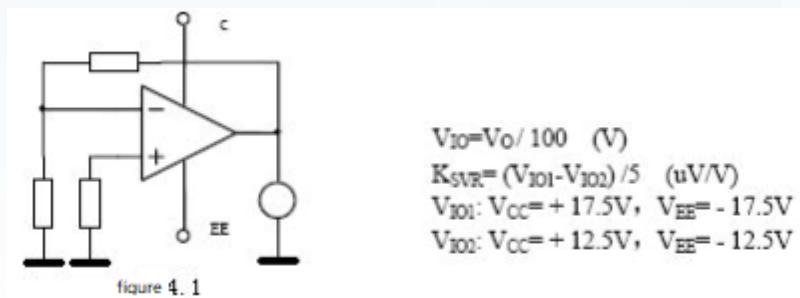
Parameter name		Symbol	Rating	Company
supply voltage		V_{CC}/V_{EE}	± 18	V
Differential mode input voltage		V_{ID}	± 30	V
Common mode input voltage		V_{IC}	± 15	V
power waste	DIP	P_D	500	mW
	SOP		360	
Working environment temperature		T_{amb}	$-20 \sim 70$	$^{\circ}\text{C}$
Storage temperature		T_{stg}	$-55 \sim 125$	$^{\circ}\text{C}$

3.2 electrical characteristics

Unless otherwise specified, $t_{amb} = 25^{\circ}\text{C}$, $V_{CC} = +15\text{V}$, $V_{EE} = -15\text{V}$

Parameter name	symbol	Test conditions	Canonical value			Unit	Figure number
			Min.	Typ.	Max.		
Supply current	I_{CC}			± 4.0	± 6.0	mA	4.5
Input offset current	I_{IO}			5	200	nA	4.2
Input bias current	I_{IB}			60	500	nA	4.2
Common-mode input voltage	V_{IC}		± 12	± 14		V	4.3
Maximum output voltage	V_{OM}	$R_L = 10\text{K}\Omega$	± 12	± 14		V	4.4
		$R_L = 2\text{K}\Omega$	± 10	± 13		V	4.4
Output short-circuit current	I_{OS}			40		mA	4.4
Output sink current	I_{OSink}			40		mA	4.4
Open-loop voltage gain	A_{VO}	$V_O = \pm 10\text{V}, R_L = 2\text{K}\Omega$	86	100		dB	4.7
Common mode rejection ratio	CMRR		70	90		dB	4.3
Supply voltage rejection ratio	K_{SVR}			30	150	$\mu\text{V/V}$	4.1
Input offset voltage	V_{IO}			0.5	6	mV	4.1
Output voltage slew rate	S_R	$A_v = 1, R_L = 2\text{K}\Omega$		1		V/ μS	4.6
Unit incremental bandwidth	BW	0dB		3		MHz	4.7
Equivalent input noise voltage	V_{NI}	$R_s = 1\text{K}\Omega$ $f = 30\text{Hz} \sim 30\text{KHz}$		2.5		μV	

4. Test line



The switch positions in the left figure are as follows

V_{OM} :

S1=output voltage when S3 is disconnected when BS2 is disconnected

S1=output voltage when S3 is disconnected

S1=output voltage when S3 is disconnected when BS2 is disconnected

S1=output voltage when S3 is disconnected when BS2 is disconnected:

I_{OS}, I_{OSink} :

S1=input current when S3 is switched on when BS2 is disconnected,

S1=output current when S3 is switched on when BS2 is disconnected

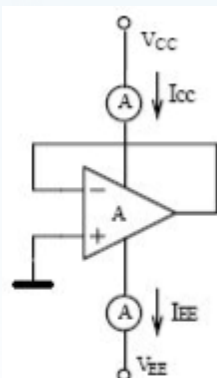


figure4. 5

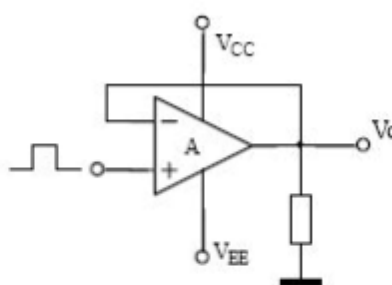


figure 4. 6

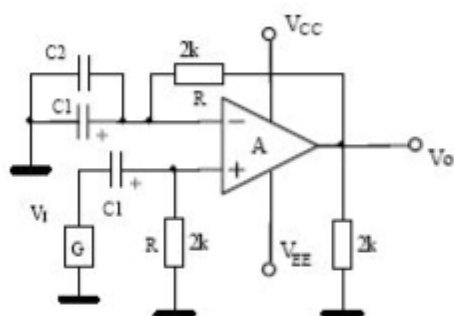
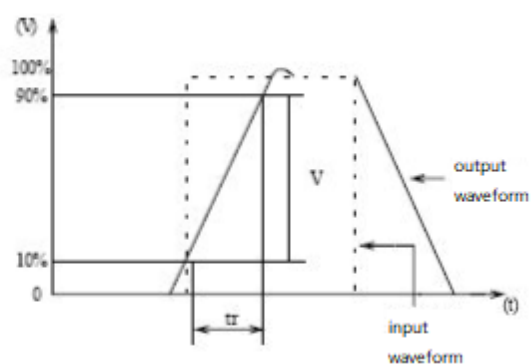


figure 4.7



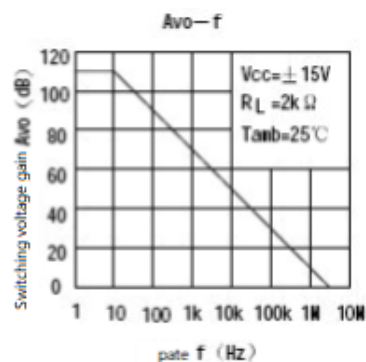
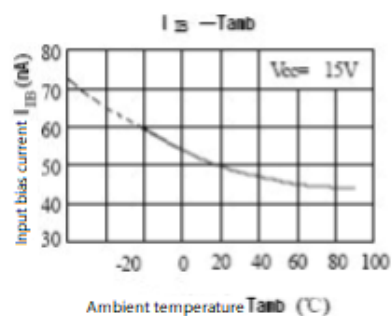
$$A_{VD} = 20 \log(V_o/V)$$

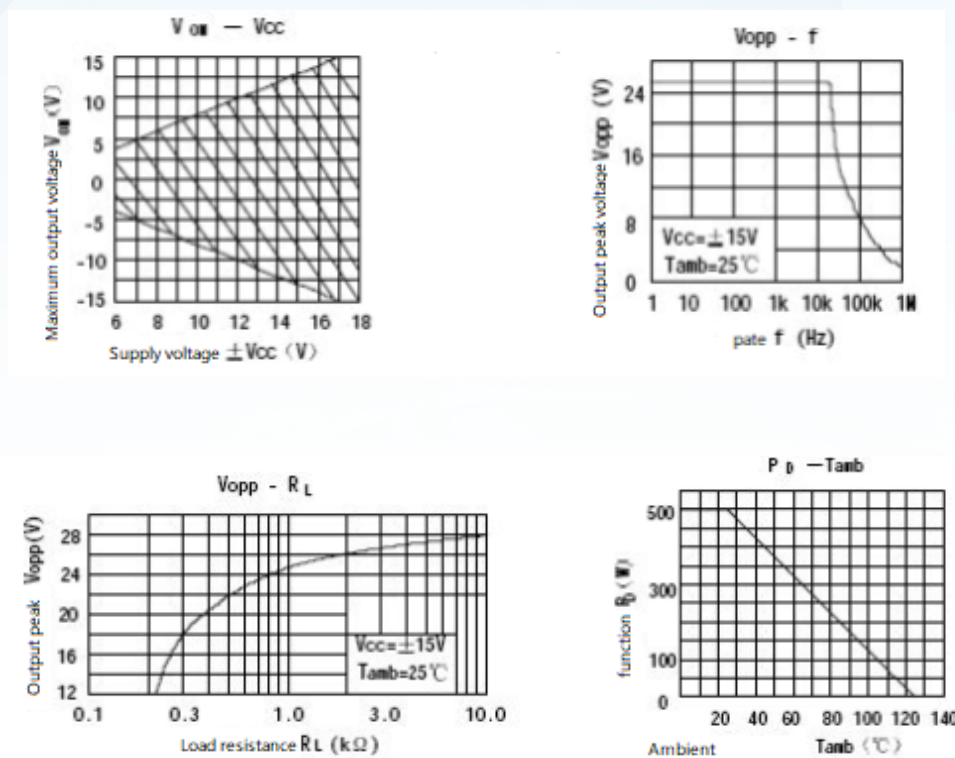
BW is the V frequency at $V_O = V$ (MHz)

C1: DC isolation capacitor

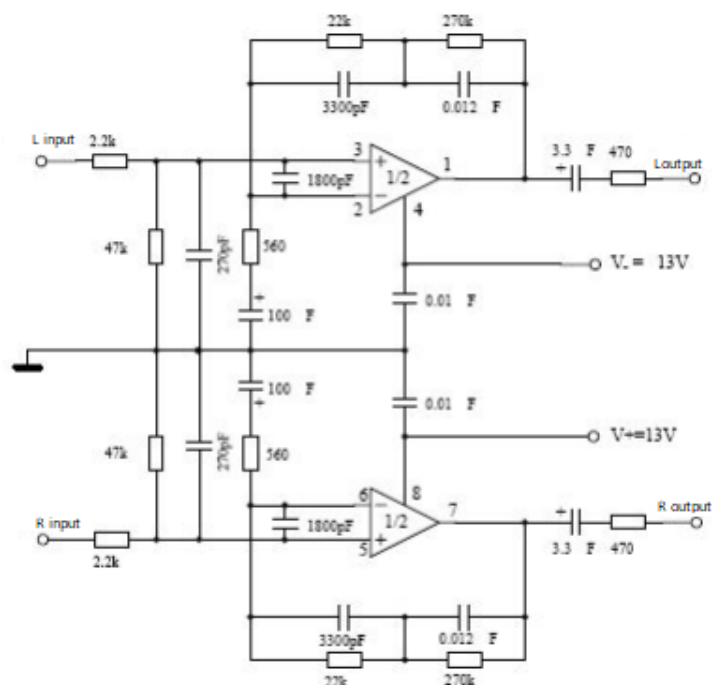
C2: high frequency capacitor of mica foil

5. Characteristic curve





6. Application line



Disclaimer

EVVOSEMI ("EVVO") reserves the right to make corrections, enhancements, improvements, and other changes to its products and services at any time, and to discontinue any product or service without notice.

EVVO warrants the performance of its hardware products to the specifications applicable at the time of sale in accordance with its standard warranty. Testing and other quality control techniques are used as deemed necessary by EVVO to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

Customers should obtain and confirm the latest product information and specifications before final design, purchase, or use. EVVO makes no warranty, representation, or guarantee regarding the suitability of its products for any particular purpose, nor does EVVO assume any liability for application assistance or customer product design. EVVO does not warrant or accept any liability for products that are purchased or used for any unintended or unauthorized application.

EVVO products are not authorized for use as critical components in life support devices or systems without the express written approval of EVVOSEMI.

The EVVO logo and EVVOSEMI are trademarks of EVVOSEMI or its subsidiaries in relevant jurisdictions. EVVO reserves the right to make changes without further notice to any products herein.