

阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

Read Statement

1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

Dual ground sense operational amplifier

BA10358 / BA10358F / BA10358FV / BA10358N

The BA10358, BA10358F, BA10358FV, and BA10358N are monolithic ICs with two independent built-in operational amplifiers featuring high gain and frequency compensation.

These products offer a particularly wide range of operating voltages, from 3 to 32V (when using a single power supply). Current dissipation is low and remains constant regardless of the power supply voltage. Available packages include an 8-pin DIP (BA10358), an 8-pin SOP (BA10358F), an 8-pin SSOP-B (BA10358FV), and an 8-pin SIP (BA10358N).

●Features

- 1) Can be driven with a single power supply.
- 2) Extremely low current dissipation.
- 3) Level is compatible with any kind of logic circuit.
- 4) Operating voltage range is 3 to 32V for single power supply, ± 1.5 to ± 16 V for dual power supply.
- 5) High DC voltage gain.
- 6) Wide frequency response.
- 7) Pin assignments is the same as the general-purpose 4558 model.
- 8) Compatible with model 358 operation amplifiers of other manufacturers.

●Absolute maximum ratings

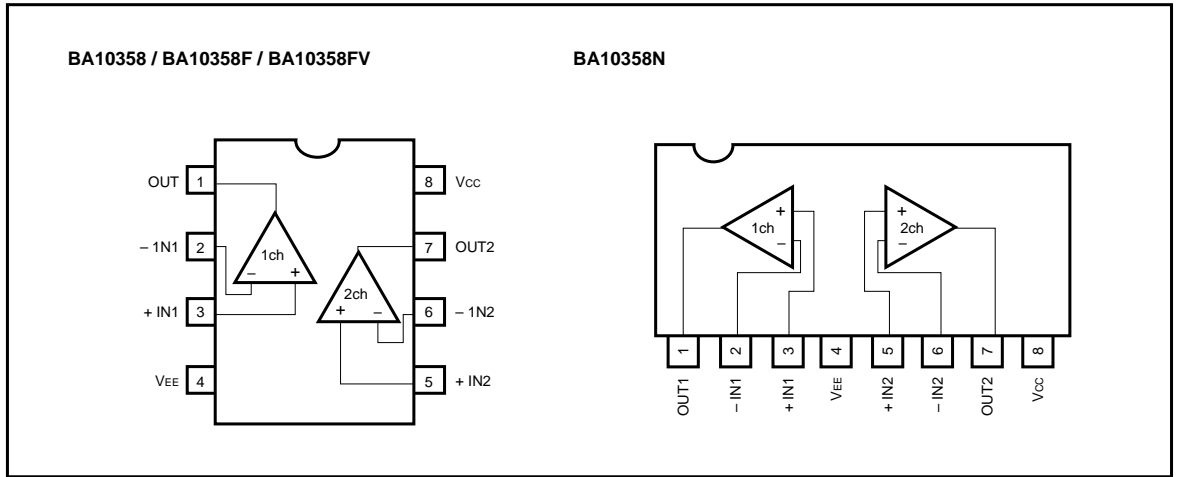
Parameter	Symbol	Limits				Unit
		BA10358	BA10358F	BA10358FV	BA10358N	
Power supply voltage	V_{CC}	32 (± 16)	32 (± 16)	32 (± 16)	32 (± 16)	V
Power dissipation	P_d	800*	550*	350*	900*	mW
Differential input voltage	V_{ID}	$\pm V_{CC}$	$\pm V_{CC}$	$\pm V_{CC}$	$\pm V_{CC}$	V
Common-mode input voltage	V_I	$-0.3 \sim V_{CC}$	$-0.3 \sim V_{CC}$	$-0.3 \sim V_{CC}$	$-0.3 \sim V_{CC}$	V
Operating temperature	T_{opr}	$-40 \sim +85$	$-40 \sim +85$	$-40 \sim +85$	$-40 \sim +85$	$^{\circ}\text{C}$
Storage temperature	T_{stg}	$-55 \sim +125$	$-55 \sim +125$	$-55 \sim +125$	$-55 \sim +125$	$^{\circ}\text{C}$

* Refer to the P_d characteristic diagram.

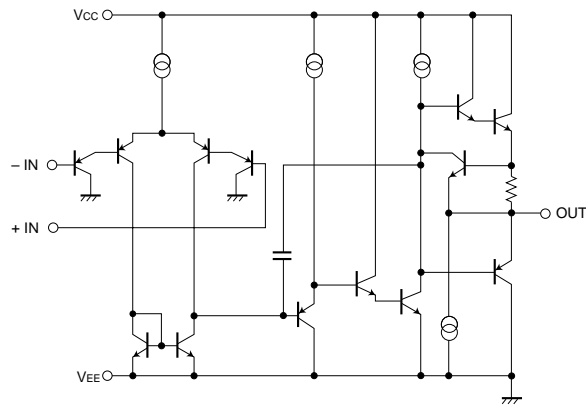
The values for the BA10358F are those when it is mounted on a glass epoxy board (50mm \times 50mm \times 1.6mm).

The values for the BA10358FV are those when it is mounted on a glass epoxy board (70mm \times 70mm \times 1.6mm).

●Block diagram



●Internal circuit configuration (diagram shows only one channel)



●Electrical characteristics (unless otherwise noted, $T_a = 25^\circ\text{C}$, $V_{CC} = +5\text{ V}$)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input offset voltage		V_{IO}	—	2	7	mV	$R_s = 50\Omega$
Input offset current		I_{IO}	—	5	50	nA	—
Input bias current		I_B	—	45	250	nA	—
High-amplitude voltage gain		A_v	25	100	—	V / mV	$R_L \geq 2\text{k}\Omega$, $V_{CC} = 15\text{V}$
Common-mode input voltage		V_{ICM}	0	—	$V_{CC} - 1.5$	V	—
Output voltage		V_O	0	—	$V_{CC} - 1.5$	V	$R_L = 2\text{k}\Omega$
Common-mode rejection ratio		CMRR	65	80	—	dB	—
Power supply voltage rejection ratio		PSRR	65	100	—	dB	$R_s = 50\Omega$
Quiescent current		I_Q	—	0.7	1.2	mA	$R_L = \infty$, on All Op - Amps
Channel separation		CS	—	120	—	dB	$f = 1\text{ kHz}$ input conversion
Maximum output current	source	I_{source}	10	20	—	mA	$V_{IN}^+ = 1\text{V}$, $V_{IN}^- = 0\text{V}$, $V_O = 0\text{V}$
	sink	I_{sink}	10	20	—	mA	$V_{IN}^- = 1\text{V}$, $V_{IN}^+ = 0\text{V}$, $V_O = V_{CC}$

●Electrical characteristic curves

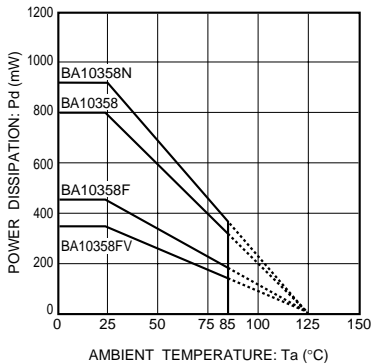


Fig. 1 Power dissipation vs. ambient temperature

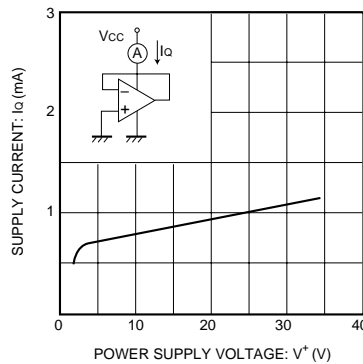


Fig. 2 Quiescent current vs. power supply voltage

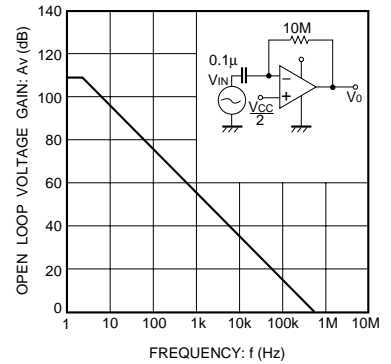


Fig. 3 Open loop voltage gain vs. frequency

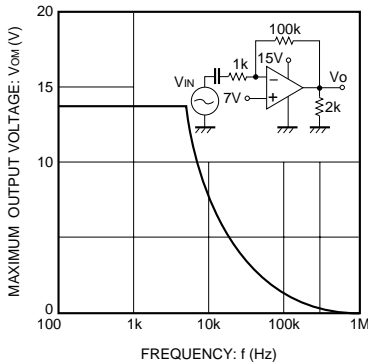


Fig. 4 Maximum output voltage vs. frequency

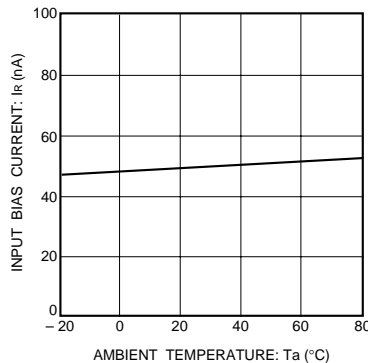


Fig. 5 Input bias current vs. ambient temperature

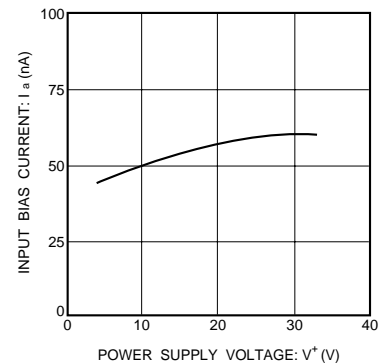


Fig. 6 Input bias current vs. power supply voltage

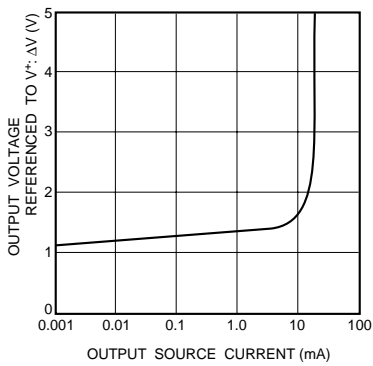


Fig. 7 Voltage difference during power supply output vs. output source current

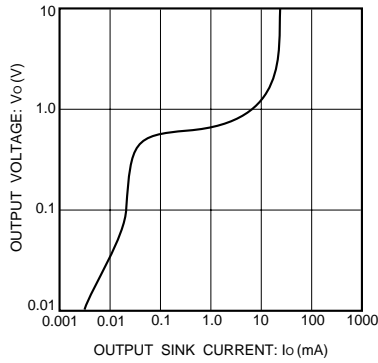


Fig. 8 Output voltage vs. output sink current

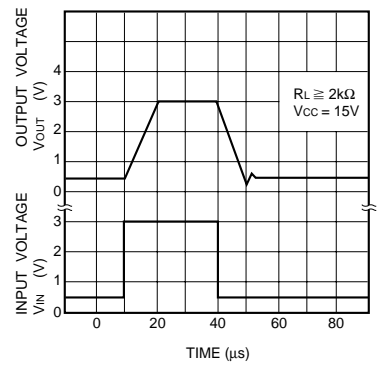


Fig. 9 Output response characteristics

● Operation notes

(1) Handling unused circuits

If there are any circuits which are not being used, we recommend making connections as shown in Figure 10, with the non-inverted input pin connected to the potential within the in-phase input voltage range (V_{ICM}).

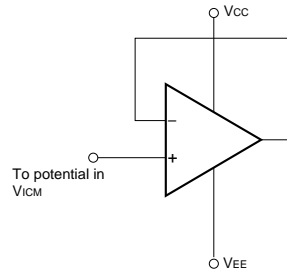


Fig. 10 Handling unused circuits

● External dimensions (Units: mm)

