

Dual high slew rate, low noise operational amplifier

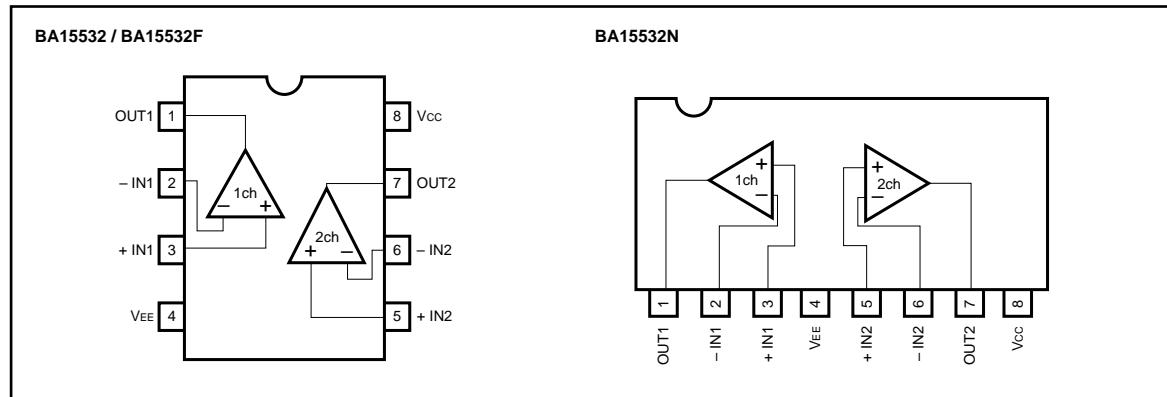
BA15532 / BA15532F / BA15532N

The BA15532, BA15532F, and BA15532N are low-noise dual operational amplifiers designed especially for applications involving high-grade audio equipment. Since they feature low noise, a wide band width, and high power output, these products can also be used in measuring instruments and control circuits. The following packages are available : 8-pin DIP (BA15532), 8-pin SOP (BA15532F), and 8-pin SIP (BA15532N).

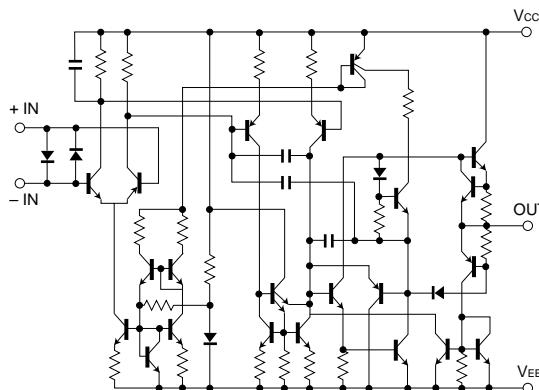
●Features

- 1) High output current capacity.
- 2) High slew rate.
- 3) Low noise.

●Block diagram



● Internal circuit configuration



● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits			Unit
		BA15532	BA15532F	BA15532N	
Power supply voltage	Vcc	± 21	± 21	± 21	V
Power dissipation	Pd	800*	550*	900*	mW
Differential input voltage	Vid	± 0.5	± 0.5	± 0.5	V
Common-mode input voltage	Vi	– Vcc ~ Vcc	– Vcc ~ Vcc	– Vcc ~ Vcc	V
Operating temperature	Topr	– 20 ~ + 75	– 20 ~ + 75	– 20 ~ + 75	°C
Storage temperature	Tstg	– 55 ~ + 125	– 55 ~ + 125	– 55 ~ + 125	°C

* Refer to Pd characteristics diagram.

The values for the BA15532F are those when it is mounted on a glass epoxy board (50mm × 50mm × 1.6mm).

● Electrical characteristics (unless otherwise noted, Ta = 25°C, Vcc = + 15V, Vee = - 15V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input offset voltage	Vi _o	—	0.5	4	mV	R _s = 50Ω, R _L ≥ 10kΩ
Input offset current	I _{io}	—	10	150	nA	R _L ≥ 10kΩ
Input bias current	I _B	—	200	800	nA	R _L ≥ 10kΩ
High-amplitude voltage gain	A _V	80	94	—	dB	R _L ≥ 600Ω, V _o = ± 10V
Common-mode input voltage	V _{ICM}	± 12	± 13	—	V	R _L ≥ 10kΩ
Maximum output voltage	V _{OM}	± 12	± 13	—	V	R _L ≥ 600Ω
Maximum output voltage	V _{OM}	± 15	± 16	—	V	R _L ≥ 600Ω, V _{cc} = 18V, V _{ee} = - 18V
Common-mode rejection ratio	CMRR	70	100	—	dB	R _L ≥ 10kΩ
Power supply voltage rejection ratio	PSRR	80	100	—	dB	R _s = 50Ω, R _L ≥ 10kΩ
Quiescent current	I _Q	—	8	16	mA	R _L = ∞, on All Op - Amps
Output short-circuit current	I _{os}	—	38	—	mA	
Slew rate	S. R.	—	8	—	V / μs	A _V = 1, R _L = 600Ω, C _L = 100pF
Voltage gain band width	GBW	—	20	—	MHz	C _L = 100pF, R _L = 600Ω, f = 10kHz
Maximum frequency	f _r	—	7	—	MHz	
Input conversion noise voltage	V _n	—	0.7	1.5	μV	RIAA, R _s = 100Ω, BW = 20Hz ~ 30kHz
Channel separation	CS	—	110	—	dB	RIAA, f = 1kHz

● Electrical characteristic curves

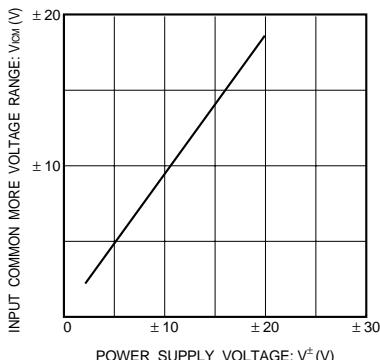
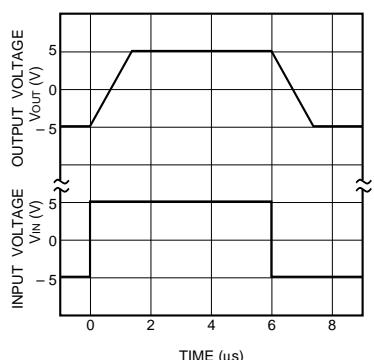
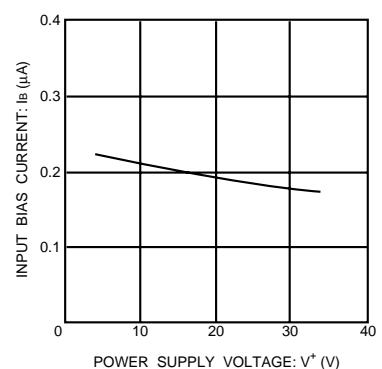
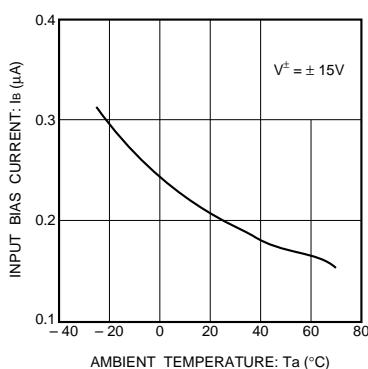
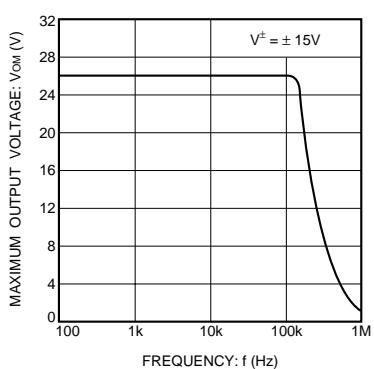
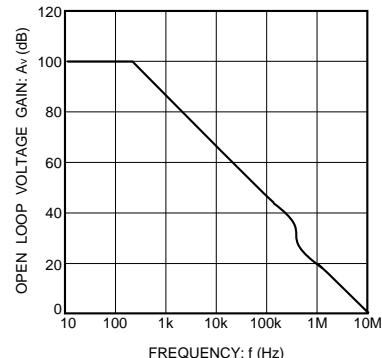
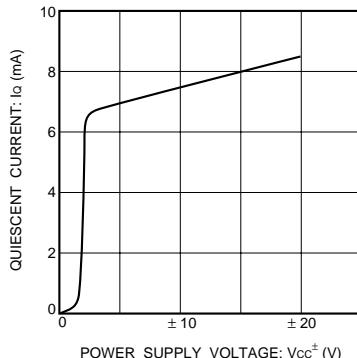
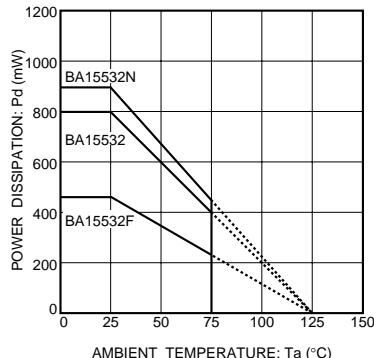


Fig.7 Output response characteristics

Fig.8 Common mode input voltage vs. power supply voltage

● Operation notes

(1) Handling unused circuits

If there are any circuits which are not being used, we recommend making connections as shown in Figure 9, with the non-inverted input pin connected to the potential within the in-phase input voltage range (V_{ICM}).

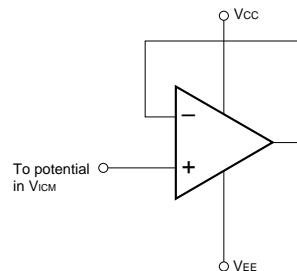
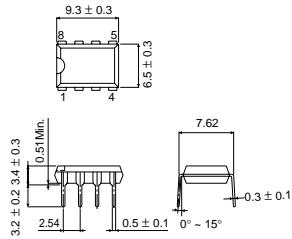


Fig.9 Unused circuit connections

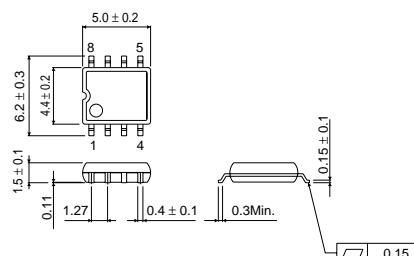
● External dimensions (Units: mm)

BA15532



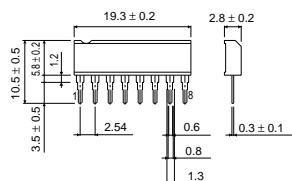
DIP8

BA15532F



SOP8

BA15532N



SIP8

Appendix

Notes

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