

Dual high slew rate, low noise operational amplifier

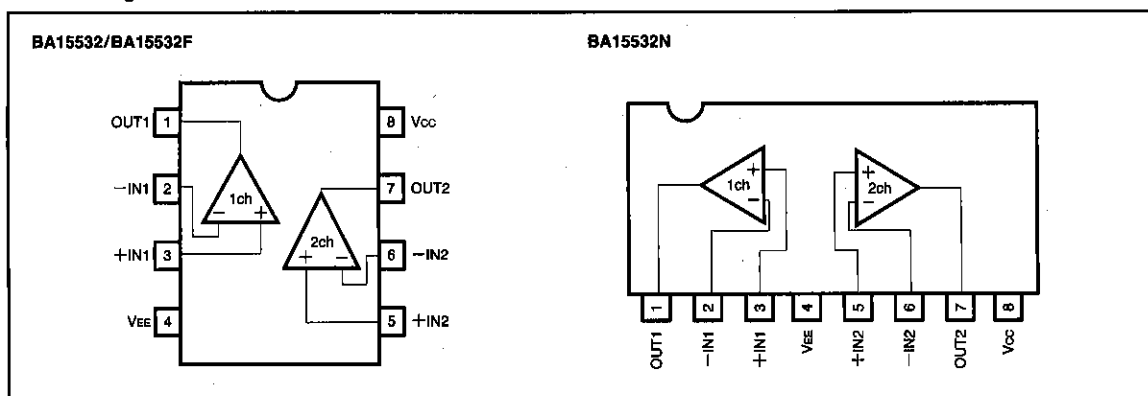
BA15532/BA15532F/BA15532N

The BA15532, BA15532F, and BA15532N are low-noise dual operational amplifiers designed especially for applications involving high-grade audio equipment. Because 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).

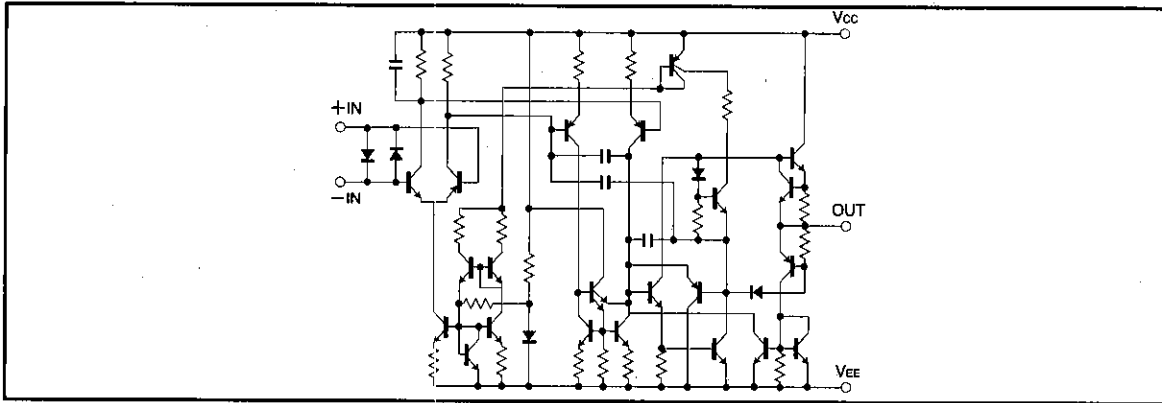
●Features

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

●Block diagram



● Internal circuit configuration diagram



● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits			Unit
		BA15532	BA15532F	BA15532N	
Power supply voltage	V _{CC}	±21	±21	±21	V
Power dissipation	P _d	600*	550*	900*	mW
Differential input voltage	V _{ID}	±0.5	±0.5	±0.5	V
In-phase input voltage	V _I	-V _{CC} ~V _{CC}	-V _{CC} ~V _{CC}	-V _{CC} ~V _{CC}	V
Operating temperature	T _{opr}	-20~75	-20~75	-20~75	°C
Storage temperature	T _{stg}	-55~125	-55~125	-55~125	°C

* For P_d values, please see P_d characteristic diagram.

Values are those when BA15532F is mounted on a glass epoxy PCB (50 mm x 50 mm x 1.6 mm).

● Electrical characteristics (unless otherwise noted, Ta=25°C, V_{CC}=+15V, V_{EE}=-15V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input offset voltage	V _{IO}	—	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 range	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 circuit 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 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

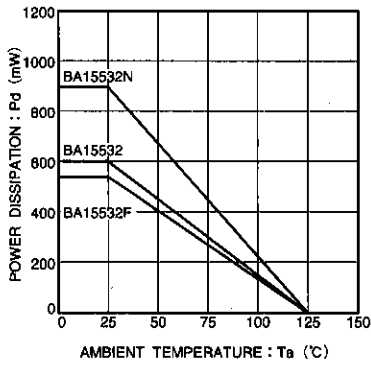


Fig.1 Power dissipation - ambient temperature characteristic

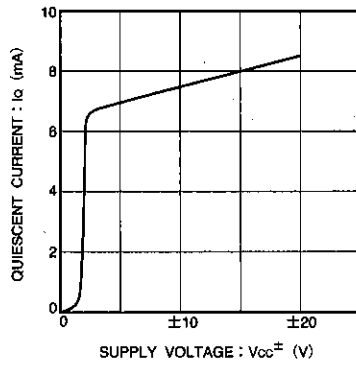


Fig.2 Quiescent current - power supply voltage characteristic

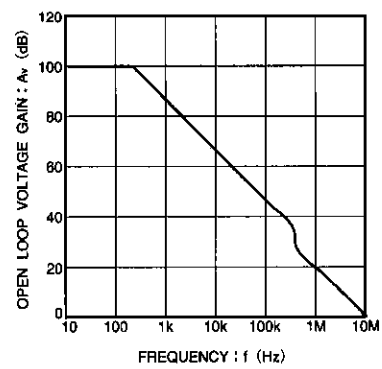


Fig.3 Open loop voltage gain - frequency characteristic

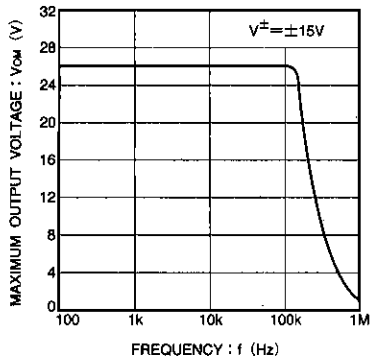


Fig.4 Maximum output voltage - frequency characteristic

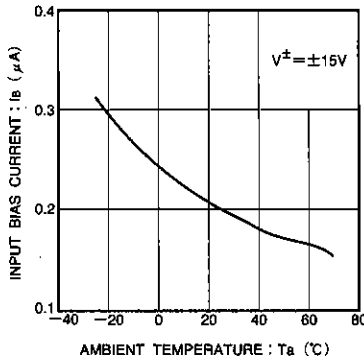


Fig.5 Input bias current - ambient temperature characteristic

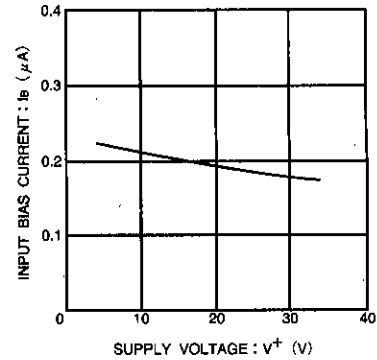


Fig.6 Input bias current - power supply voltage characteristic

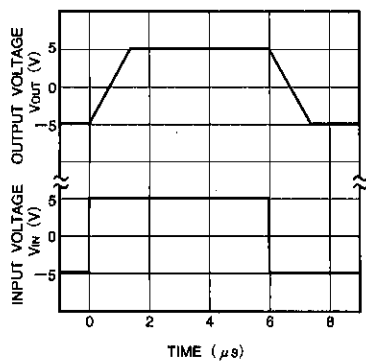


Fig.7 Output response characteristic

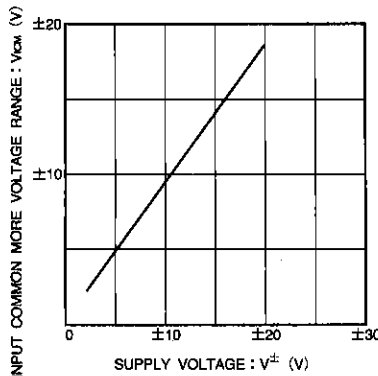


Fig.8 Common mode input voltage - power supply voltage characteristic

● Operation notes

• Unused circuit connections

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}).

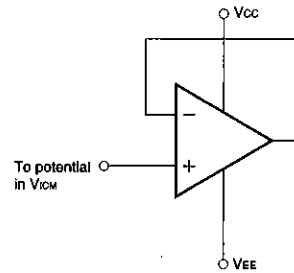
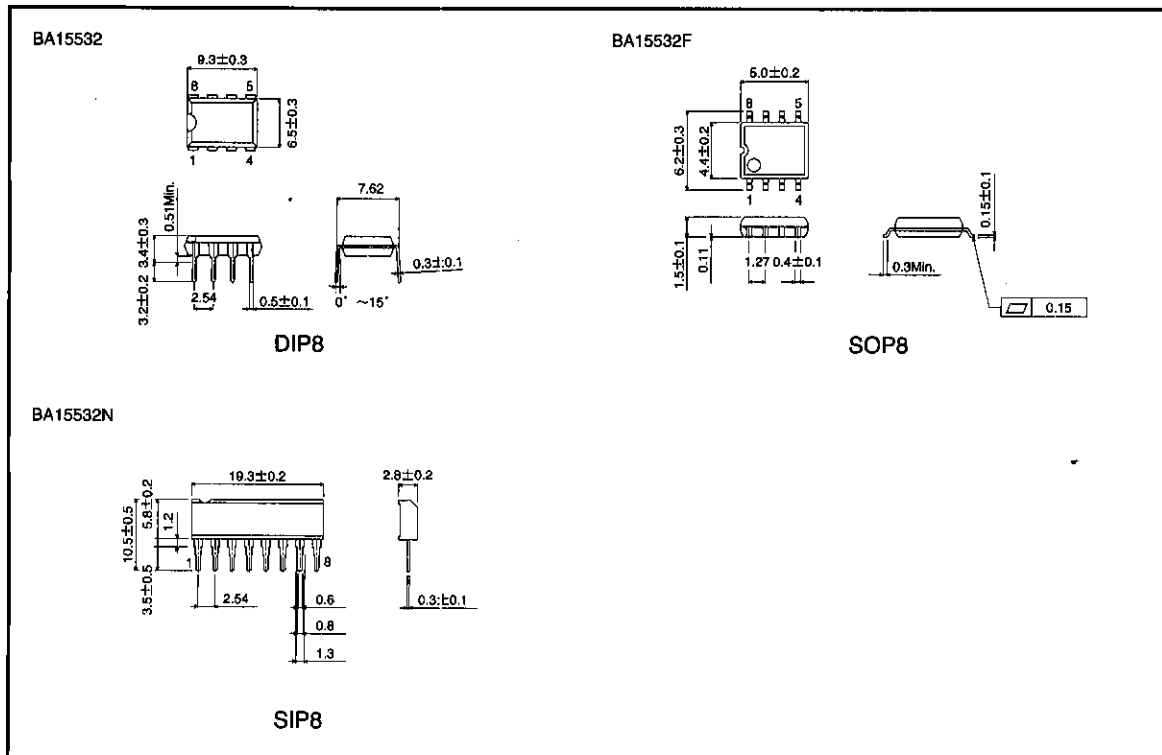


Fig.9 Unused circuit connections

● External dimensions (Units: mm)



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