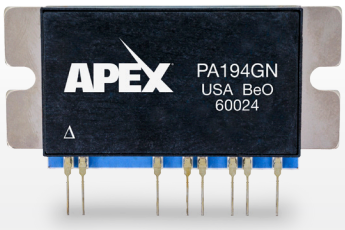
PA194

900V, 1700 V/µs Power Operational Amplifier



8-PIN, POWER SIP STYLE GN WITH METAL HEAT TAB

Footprint 57 mm x 30 mm

FEATURES

- Very low noise – ~5 nV/√Hz @ 1 kHz
- High slew rate – 1700 V/µs
- High supply voltage – 900 V
- High continuous output current – 100 mA
- High internal power dissipation – 30 W
- Integrated standby mode, low quiescent current – 4 mA

Product Overview

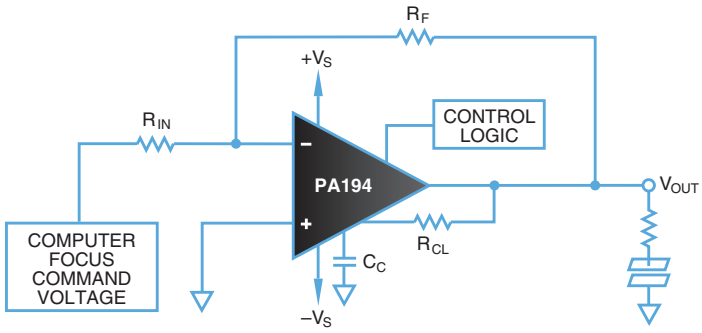
The PA194 is a high voltage, high speed power operational amplifier with extremely low noise. Low noise density in an electrical circuit is paramount for overall system performance, especially in applications that need to apply high voltages at very precise levels.

The PA194 combines a low noise level of ~5 nV/√Hz @ 1 kHz with a very fast 1700 V/µs slew rate to enable fast rise times and fall times. Working with voltages of up to 900 V, this amplifier also provides 100 mA of continuous output current and a low 4 mA of quiescent current in standby mode thanks to an integrated standby mode for increased efficiency.

The PA194 is housed in a small footprint, 8-pin power SIP package with metal heat tab that can dissipate up to 30 W of internally generated power.

Typical Applications

Designers can us the PA194 for the precision application of voltage where speed and accuracy are a must, including electrostatic deflection and dynamic focusing control for the semi-cap, defense-aerospace and high voltage instrumentation market segments.



Typical Charged Particle Beam Deflection Circuit

Product Specifications - Key Parameters

Specifiction Parameter	Parameter	Min	Typ	Max	Unit
Supply Voltage, Total, $+V_S$ to $-V_S$				900	V
Output Current, PEAK, Within SOA				200	mA
Output Current, Continuous, DC		100			mA
Gain Bandwidth Product @ 1MHz	R_L = 5 KΩ		140		MHz
Power Bandwidth	R_L = 5 KΩ		675		kHz
Slew Rate	A_V = 100 V/V		1700		V/µs
Noise Density	R_{IN} = 100 Ω		5		nV/√Hz

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