ABSOLUTE MAXIMUM RATINGS[1]

Supply Voltage . . . . . 13.2 V
Internal Power Dissipation[2]
  Plastic DIP Package (N) . . . . . 1.3 W
  Small Outline Package (R) . . . . . 0.9 W
  μSOIC Package (RM) . . . . . 0.6 W
Input Voltage (Common Mode) . . . . . $\pm V_S$
Differential Input Voltage . . . . . ±1.2 V
Output Short Circuit Duration
  . . . . . Observe Power Derating Curves
Storage Temperature Range N, R, RM . . . . . –65°C to +125°C
Operating Temperature Range (A Grade) . . . –40°C to +85°C
Lead Temperature Range (Soldering 10 sec) . . . . . 300°C

NOTES

[1]Stresses above those listed under Absolute Maximum Ratings may cause permanent damage to the device. This is a stress rating only; functional operation of the device at these or any other conditions above those indicated in the operational section of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

[2]Specification is for device in free air:
8-Lead Plastic DIP Package: θ_{JA} = 90°C/W
8-Lead SOIC Package: θ_{JA} = 155°C/W
8-Lead μSOIC Package: θ_{JA} = 200°C/W

MAXIMUM POWER DISSIPATION

The maximum power that can be safely dissipated by the AD8002 is limited by the associated rise in junction temperature. The maximum safe junction temperature for plastic encapsulated devices is determined by the glass transition temperature of the plastic, approximately 150°C. Exceeding this limit temporarily may cause a shift in parametric performance due to a change in the stresses exerted on the die by the package. Exceeding a junction temperature of 175°C for an extended period can result in device failure.

While the AD8002 is internally short circuit protected, this may not be sufficient to guarantee that the maximum junction temperature (150°C) is not exceeded under all conditions. To ensure proper operation, it is necessary to observe the maximum power derating curves.

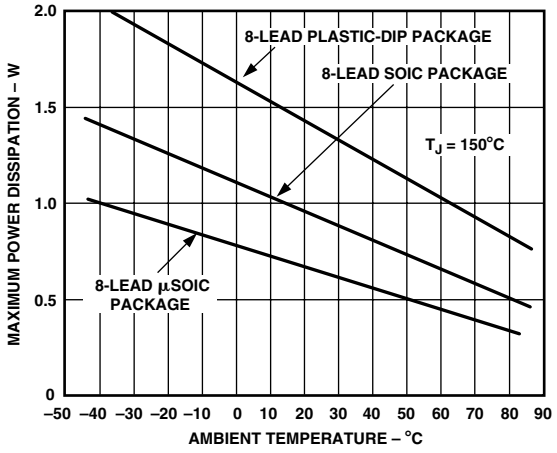

Figure 3. Plot of Maximum Power Dissipation vs. Temperature

ORDERING GUIDE

Model	Temperature Range	Package Description	Package Option	Brand Code
AD8002AN	–40°C to +85°C	8-Lead PDIP	N-8	Standard
AD8002AR	–40°C to +85°C	8-Lead SOIC	SO-8	Standard
AD8002AR-REEL	–40°C to +85°C	8-Lead SOIC 13" REEL	SO-8	Standard
AD8002AR-REEL7	–40°C to +85°C	8-Lead SOIC 7" REEL	SO-8	Standard
AD8002ARM	–40°C to +85°C	8-Lead μSOIC	RM-8	HFA
AD8002ARM-REEL	–40°C to +85°C	8-Lead μSOIC 13" REEL	RM-8	HFA
AD8002ARM-REEL7	–40°C to +85°C	8-Lead μSOIC 7" REEL	RM-8	HFA

CAUTION

ESD (electrostatic discharge) sensitive device. Electrostatic charges as high as 4000 V readily accumulate on the human body and test equipment and can discharge without detection. Although the AD8002 features proprietary ESD protection circuitry, permanent damage may occur on devices subjected to high-energy electrostatic discharges. Therefore, proper ESD precautions are recommended to avoid performance degradation or loss of functionality.