



Data Sheet Structure

Data sheet information is generally presented in the following sequence:

- Description
- Features
- Applications
- Absolute maximum ratings
- Optical and electrical characteristics
- Typical characteristics (diagrams)
- Dimensions (mechanical data)

Additional information on device performance is provided if necessary.

Description

The following information is provided: Type number, semiconductor materials used, sequence of zones, technology used, device type and, if necessary, construction.

Also, short-form information on the typical applications and special features is given.

Absolute Maximum Ratings

These define maximum permissible operational and environmental conditions. If any one of these conditions is exceeded, this could result in the destruction of the device. Unless otherwise specified, an ambient temperature of 25 ± 3 °C is assumed for all absolute maximum ratings. Most absolute ratings are static characteristics; if they are measured by a pulse method, the associated measurement conditions are stated. Maximum ratings are absolute (i.e., interdependent).

Any equipment incorporating semiconductor devices must be designed so that even under the most unfavorable operating conditions, the specified maximum ratings of the devices used are never exceeded. These ratings could be exceeded because of changes in supply voltage, the properties of other components used in this equipment, control settings, load conditions, drive level, environmental conditions and the properties of the devices themselves (i.e., ageing).

Some thermal data is given under the heading "Absolute Maximum Ratings" (e.g., junction temperature, storage temperature range, total power dissipation). This is because it imposes a limit on the application range of the device.

The thermal resistance junction ambient (R_{thJA}) quoted is that which would be measured without artificial cooling, i.e., under worst-case conditions.

Temperature coefficients, on the other hand, are listed together with the associated parameters under "Optical and Electrical Characteristics".

Optical and Electrical Characteristics

The most important operational optical and electrical characteristics (minimum, typical and maximum values) are grouped under this heading, together with associated test conditions supplemented with curves.

Typical Characteristics (Diagrams)

Besides the static (dc) and dynamic (ac) characteristics, a family of curves is given for specified operating conditions. Here, the typical independence of individual characteristics is shown.

Dimensions (Mechanical Data)

In this section, important dimensions and connection sequences are given, supplemented by a circuit diagram. Case outline drawings carry DIN-, JEDEC or commercial designations. Information on angle of sensitivity or intensity and weight completes the list of mechanical data.

Note:

If the dimensional information does not include any tolerances, then the following applies:

Lead length and mounting hole dimensions are minimum values. Radiant sensitive or emitting area respectively are typical, all other dimensions are maximum.

Any device accessories must be ordered separately and the order number must be quoted.

Additional Information

Preliminary specifications

This heading indicates that some information given here may be subject to changes.

Not for new developments

This heading indicates that the device concerned should not be used in equipment under development. The device is, however, available for present production.

