

Vishay Semiconductors

Conventions used in Presenting Technical Data

NOMENCLATURE FOR SEMICONDUCTOR DEVICES ACCORDING TO PRO ELECTRON

The type number of semiconductor devices consists of two letters followed by a serial number. For example:



The **first letter** indicates the material used for the active part of the device.

- A GERMANIUM
- (Materials with a band gap 0.6 to 1.0 eV)⁽¹⁾
- B SILICON²⁾ (Materials with a band gap 1.0 to 1.3 eV) ⁽¹⁾
- C GALLIUM-ARSENIDE $^{(2)}$ (Materials with a band gap > 1.3 eV) $^{(1)}$
- R COMPOUND MATERIALS (For instance cadmium-sulfide)

The **second letter** indicates the circuit function:

- A DIODE: detection, switching, mixer
- B DIODE: variable capacitance
- C TRANSISTOR: low power, audio frequency
- D TRANSISTOR: power, audio frequency
- E DIODE: tunnel
- F TRANSISTOR: low power, high frequency
- G DIODE: oscillator, miscellaneous
- H DIODE: magnetic sensitive
- K HALL EFFECT DEVICE: in an open magnetic circuit
- L TRANSISTOR: power, high frequency
- M HALL EFFECT DEVICE: in a closed magnetic circuit
- N PHOTO COUPLER²⁾

- I DIODE: radiation sensitive (2)
- Q DIODE: radiation generating
- R THYRISTOR: low power
- S TRANSISTOR: low power, switching
- T THYRISTOR: power
- U TRANSISTOR: power, switching
- X DIODE: multiplier, e.g. varactor, step recovery
- Y DIODE: rectifying, booster
- Z DIODE: voltage reference or voltage regulator, transient suppressor diode

The serial number consists of:

- Three figures, running from 100 to 999, for devices primarily intended for consumer equipment
- One letter (Z, Y, X, etc.) and two figures, running from 10 to 99, for devices primarily intended for professional equipment

A version letter can be used to indicate a deviation of a single characteristic, either electrically or mechanically.

The letter never has a fixed meaning, the only exception being the letter R, indicating reversed voltage, i.e. collector to case.

Notes

- ⁽¹⁾ The materials mentioned are examples
- ⁽²⁾ Used for optoelectronic products

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TYPE DESIGNATION CODE FOR OPTOCOUPLERS





GENERAL OPTOCOUPLER NOMENCLATURE FOR BRT, IL, AND SFH SERIES

