Comparison of Diodes in Low-Power Circuits

Diode Type	Typical Number	Uses
Silicone Rectifier	1N4001, 1N4007, etc.	• AC-DC Conversion in power supply. • Able to withstand high reverse-bias voltages. • Good for reverse polarity protection but it drops .7V from the source. • PIV is 50-1000 volts depending on which one you choose.
Signal or Switching (Germanium)	1N4148	• Fast switching (4ns) for radio/computer circuits. • Good flyback/snubber for relays. • OK for LOW current reverse polarity protection. • Cannot handle more than 200mA PIV. • Still has .7-1.0V forward voltage drop. • Good for detecting weak signal radio waves.
Schottky	1N5817	• Low (.3V) forward voltage drop. • Very fast switching. • Protection for MOSFET/IC's. • Not good for reverse polarity or in rectifier >50V. • They can't handle PIV of AC to DC rectification. • Not a good choice for relay protection diode. • Used in solar panels to prevent battery discharging into the panel.
Zener	1N47xx family. The 1N4733 (5.1V) for instance.	• Low power voltage regulators. • Designed to work in reverse-bias mode. • Great for supplying a known/specific voltage to other components (OP AMP comparator, for instance.