Optoelectronics
**diode** | ˈdīˌōd |
noun Electronics
a semiconductor device which allows current to flow in only one direction.

current flows from anode to cathode
fixed voltage drop (typ. 0.6V)
reverse breakdown

hydraulic analogy:

diode :: check valve
Light-Emitting Diodes

anode → cathode
LTE-4206 IR LED

peak wavelength = 940 nm (IR)
max continuous forward current = 60 mA
peak forward current = 1 A
typ. forward voltage = 1.2V
reverse breakdown voltage = 5V

FIG. 1 SPECTRAL DISTRIBUTION

FIG. 6 RADIATION DIAGRAM

FIG. 5 RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT
transistor | tranzistər |

noun Electronics
a semiconductor device used to amplify signals, wherein a voltage or current applied to one terminal changes the current flowing through another pair of terminals.

hydraulic analogy:

transistor :: control valve
LTR-4206 NPN Phototransistor

peak wavelength = 940 nm (IR)

collector−emitter saturation = 0.4V

emitter−collector breakdown = 5V