IrDA Transceiver Family

Vishay Intertechnology released three new additions to its MicroFace series of IrDA compliant transceivers. The expanded series now offers increased operating distance and varying power supply options, and it is optimized for use in space limited, power restricted products, including PDAs, cellular phones, pagers, and other handheld battery operated equipment.

With typical dimensions of 7.3 mm &#215 4.55 mm &#215 2.8 mm, the new TFDU4202, TFDU4203, and TFDU4204 all feature a wide supply voltage range from 2.4 V to 5.5 V, and they are operational down to 2 V. With high electromagnetic interference immunity and built-in current control, the transceivers require few external components for a complete infrared data communications solution.

Compared with the first MicroFace transceiver, the TFDU4201, Vishay's new TFDU4203 provides increased output intensity, allowing for a greater operating distance. TFDU4203 features a maximum operating distance close to 70 cm. It operates on 65 &#956A in the receive mode and 0.01 &#956A in the shutdown mode.

At lower operating voltages up to 3.3 V, the new TFDU4202 can be operated without an external current limiting resistor to achieve a range above 1 m. It additionally features a split power supply. With a split power supply connection, power supply costs are reduced since only the receiver circuit is connected to a regulated power supply, while the high IR current is generated by a less controlled power line or directly from the battery.

Vishay's TFDU4204 provides input and output logic levels adapted to 1.8 V logic. Providing a typical operating distance of 70 cm, the device can function at maximum distances of 70 cm and has a power consumption of 70 &#956A in the receive mode and 0.01 &#956A in the shutdown mode. Like the TFDU4202, it features a split power supply connection that reduces the current consumption from the controlled supply and draws the emitter current directly from the uncontrolled power supply.

All MicroFace transceivers provide a tri-state output on the RXD pin, allowing several devices &#151 either IrDA transceivers or other components &#151 to share the same communication bus. All devices provide the option to adjust the output intensity through an external resistor, are compatible with the IrDA IrPHY specification version 1.4, and include eye safety features such as limited optical output pulse duration and optical output intensity.

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