

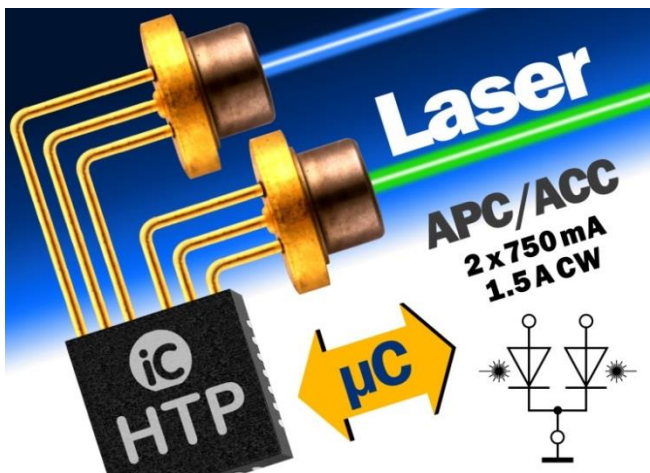
iC-HTP 2-Channel CW laser diode driver with a microcontroller interface

Integrated laser diode driver for digital control with a microcontroller

Two colors with one laser driver

The new laser diode driver iC-HTP permits microcontroller-based driving of laser diodes with common cathodes or P-type laser diodes in CW mode (Continuous Wave). With this device either Automatic Power Control (APC), Automatic Current Control (ACC), or a full controller-based power regulation can be used. For driving N-type and M-type laser diodes in CW mode, the similar laser diode driver iC-HT can be used. The maximum laser diode current per channel is 750 mA. Both channels can be connected in parallel for higher laser diode currents of up to 1.5 A. A current limit can also be configured for each channel. Due to the high integration level of the analog functions for driving the laser diodes with a microcontroller interface, multi-channel laser diode control units can be implemented directly. Apart from the iC-HTP only a microcontroller and laser diodes with different wavelengths, for example, are required.

Product photo iC-HTP packaged in a QFN28 5 mm x 5 mm



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Internal operating points and voltages can be output through analog/digital converters. The integrated temperature sensor permits the system temperature to be monitored and can also be used for feedback in the control circuit.

Logarithmic digital/analog converters allow optimal power regulation across a large dynamic range enabling a variety of laser diodes to be used.

The relevant configuration is stored in two equivalent memory areas; internal current limits, a supply voltage monitor, channel-specific interrupt switching inputs, and a watchdog secure the operation of the laser diodes through iC-HTP.

Alternatively, the device can be operated by pin configuration instead of the SPI or I²C interface, where external resistors define the APC performance targets.

An external supply voltage can be controlled through the current output DCO to reduce the system power dissipation to a minimum, such as in battery-operated devices or systems.

iC-HTP uses supply voltages of 2.8 to 11 V and can thereby drive both blue and green laser diodes. Operating temperatures range from -40 to +85 °C. The device is packaged in a 28-pin 5 mm x 5 mm QFN.

The design-in process is supported by ready-to-operate demo boards and software for evaluation with a PC.

Further information is provided at <http://www.ichaus.com/iC-HTP>.

Introducing iC-Haus

iC-Haus GmbH is a leading, independent German manufacturer of standard iCs (ASSP) and customized ASiC semiconductor solutions with worldwide representation. The company has been active in the design, production, and sales of application-specific iCs for industrial, automotive, and medical applications for 30 years now.

The iC-Haus cell libraries in CMOS, bipolar, and BCD technologies are specifically suited to realize the design of sensor, laser/opto, and actuator ASiCs, amongst others. The iCs are assembled in standard plastic packages or using the iC-Haus chip-on-board technology to manufacture complete microsystems, multichip modules, and optoBGA/QFN in conjunction with sensors.

Further information is provided at <http://www.ichaus.com>

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