First Dual-Output Laser Diode Driver IC

Atmel&reg Corporation announced the availability of the world's smallest dual-output laser diode driver IC T0806 for the next generation of combined DVD/CD-R/RW end products. This new device is the latest member of Atmel's successful family of laser diode drivers. A fully functional embedded microcontroller chip set supporting all DVD and CD Writeable and Re-Writeable standards will be announced soon.

The T0806 is a three-channel laser driver with two selectable outputs. Both outputs can either be used for DVD laser diodes with a wavelength of 650 nm or CD-RW laser diodes with a wavelength of 780 nm. The two identical outputs support currents up to 300 mA. Rise and fall time is in the range of 1 ns. This allows the development of DVD/CD drives with re-write speeds of 4 to 8 for DVD and 16 to 24 for CD, which is about 100% faster than currently available drives.

The two outputs of the T0806 enable support of both CD and DVD functionality in the same end product. The device is the industry's first such product manufactured in a small SSO16 package for space-saving applications. This makes the T0806 the first choice for the popular DVD/CD-RW combo drives that integrate a DVD ROM drive and a re-writeable CD-R/RW drive in one device. Traditional alternatives provide either single outputs that do not support these two functions simultaneously or provide dual outputs but in larger packages.

Due to its architecture, the T0806 can also be used in combined devices with re-write functionality in the DVD and CD channel as well as in all other applications supporting two different laser diodes. All current DVD standards like DVD-R, DVD+RW, DVD-RW and DVD-RAM are supported. A specific Micro Lead Frame (MLF) packaged version for half-high drive applications for use in notebooks is also available.

An on-chip RF oscillator reduces laser mode hopping noise during read mode. One frequency value for both channels can be set by an external resistor. Another two resistors allow the setting of two different values for the amplitude of the oscillator.

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