Microchip’s Digital High Intensity Discharge (HID) Ballast Reference Design showcases the benefits digital control can bring to an HID ballast. HID ballasts must go through the complicated process of igniting the HID bulb and then transitioning it into steady state operation. Typically HID ballasts require a large set of analog controllers to properly control the HID lamp. However, using digital control techniques a single Microchip dsPIC device is able to control the entire HID ballast, reducing the ballast’s components and costs. Microchip’s Digital HID Ballast Reference Design is designed to interface to a standard automotive HID lamp. The reference design uses 9-16VDC and outputs 35W of steady state power and reaches an efficiency of over 85%. To handle changes in the input voltage and current, the reference design implements under voltage, over voltage, and over current protection. Using the reference design, a standard HID automotive bulb is able to reach steady state light output in under 150 seconds. Finally, since size is important in most ballast applications, the reference design uses planar magnetic to reach a small size of 9mm x 60mm x 80mm, commonly referred to as a "slim" ballast form factor. All documentation, schematics, and software can be found below. This reference design is royalty free when used in accordance with the licensing agreement. For more information view the complete HID Ballast Reference Design Webinar.

Do you want a demonstration?

This reference designs hardware is not currently available for purchase. You can request a demonstration. Please contact local sales office in your geography to request a demonstration.

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### Features

- Full digital control of HID ballast
- Single dsPIC device controls entire ballast
- Standard 12V automotive voltage input
- Flyback DC/DC boost converter
- "Slim" ballast form factor