

# Digilent PmodOC1™ Open Collector Output Module Board Reference Manual

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## Overview

The Digilent PmodOC1 Open Collector Output Module Board (the OC1™) can drive high current devices using MMBT3904 output transistors. The transistors are driven by logic signals from a Digilent system board.

The transistors function as switches and can drive relays and turn on LEDs, motors, and other outside devices.

Features include:

- four 100mA (200mA max) MMBT3904 transistors
- a 6-pin header and 6-pin connector
- four output clamp diodes
- 40V voltage threshold
- small form factor (0.75" x 0.80").

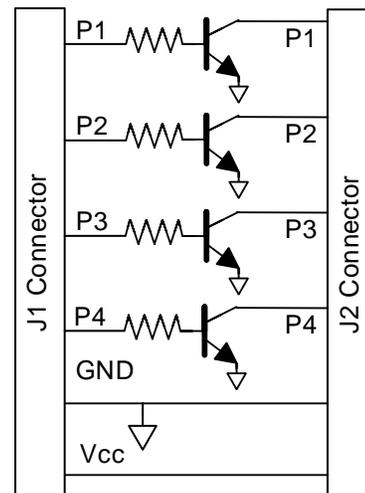
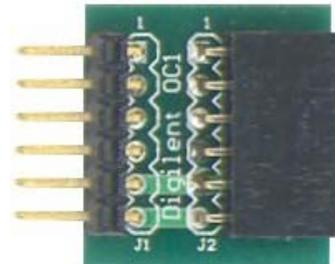
## Functional Description

Each transistor functions independently of the others, so they can be used individually or simultaneously.

Each transistor has a collector that conducts current between an outside device and a ground connection established by the OC1. When a transistor is turned on, current flows through the circuit connected to the corresponding pin on J2.

The OC1 has four output clamp diodes that prevent damage to the transistors by dissipating fly-back current from inductive loads.

The OC1 has a 6-pin header for easy connection to a Digilent system board. Some



**OC1 Circuit Diagram**

system boards, like the Digilent Pegasus board, have a 6-pin header that can connect to the module with a 6-pin cable. To connect the OC1 to other Digilent system boards, a Digilent Modular Interface Board (MIB) and a 6-pin cable may be needed. The MIB plugs into the system board, and the cable connects the MIB to the OC1. The OC1 also has a 6-pin connector for easy connection to the Digilent Pmod connector module.

For more information, see the reference manual at [www.digilentinc.com](http://www.digilentinc.com).