

MCP453X/455X/463X/465X

7/8-bit Single/Dual I²C Digital POT With Volatile Memory

General Information

The MCP45XX and MCP46XX devices offer a wide range of product offerings using an I²C interface. This family of devices support 7-bit and 8-bit resistor networks, volatile memory configurations and potentiometer and rheostat pinouts.



Features

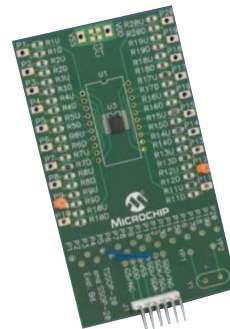
- Single or dual resistor network options
- Potentiometer or rheostat configuration options
- Resistor network resolution
 - 7-bit: 128 resistors (129 steps)
 - 8-bit: 256 resistors (257 steps)
- RAB resistances options of: 5k Ω 10 k Ω 50 k Ω 100 k Ω
- Zero-scale to full-scale wiper operation
- Low wiper resistance: 75 Ω (typical)
- I²C serial interface: 100 kHz, 400 kHz and 3.4 MHz support
- Serial protocol allows:
 - High-speed read/write to wiper
 - Increment/decrement of wiper
- Brown-out reset protection (1.5V typical)
- Serial interface inactive current (2.5 μ A typical)
- Wide operating voltage:
 - 2.7V to 5.5V device characteristics specified
 - 1.8V to 5.5V device operation
- Wide bandwidth (-3dB) operation:
 - 2 MHz (typical) for 5.0 k Ω device
- Extended temperature range: -40 $^{\circ}$ C to +125 $^{\circ}$ C

Applications

- Programmable voltage regulator
- Sensor auto referencing circuits
- Calibration instrumentation
- Automotive electronics

MCP46XX Evaluation Board

The MCP46XX Evaluation Board allows the system designer to quickly evaluate the operation of the MCP4661 Digital Potentiometer device. The board uses the TSSOP20EV generic PCB and the 6-pin header (PICKitTM Serial) has been jumpered to the appropriate MCP4661 pins. This allows the PICKit Serial to communicate with the device.



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