

PT6435

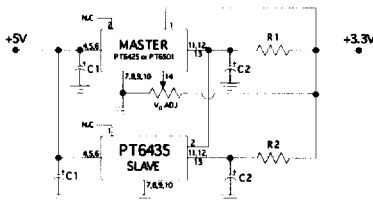
3 AMP HIGH-PERFORMANCE ISR SLAVE

- 3A Slave for Parallel Operation
- 85% Efficiency
- Small SIP Footprint
- Input Voltage Range: 4.5V to 5.5V
- Over-Temperature Protection

The PT6435N is a new addition to the Power Trends high performance +5V to +3.3V, 3Amp family of 14-Pin SIP (Single In-line- Package) Integrated Switching Regulators (ISRs), designed for parallel operation as a slave unit. These ISRs can

be paralleled with PT6425 or PT6501 master modules in a master/slave configuration to provide increased output current in 3A increments. This high-performance ISR allows easy integration of low-power 3.3V logic IC's into existing 5V systems without redesigning the central power supply. Only two external capacitors are required for proper operation. Please note that this product does not include short circuit protection.

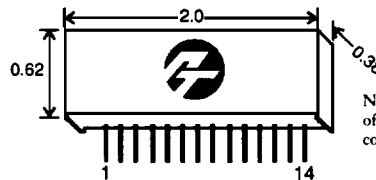
Standard Application



C₁ = Required 100µF electrolytic
C₂ = Required 100µF electrolytic
R₁, R₂ required - see Application Note

Pin-Out Information

| Pin No. | Function | Pin No. | Function |
|---------|-----------------|---------|------------------|
| 1 | Do not connect | 8 | GND |
| 2 | Slave | 9 | GND |
| 3 | Do not connect | 10 | GND |
| 4 | V _{in} | 11 | V _{out} |
| 5 | V _{in} | 12 | V _{out} |
| 6 | V _{in} | 13 | V _{out} |
| 7 | GND | 14 | Do not connect |



Note: Back surface of product is conducting metal.

Ordering Information

PT6435□ = +3.3 Volts

PT Series Suffix (PT1234X)

| Case/Pin Configuration | Heat Tab Configuration | |
|--------------------------|------------------------|------|
| | None | Side |
| Vertical Through-Hole | N | R |
| Horizontal Through-Hole | A | G |
| Horizontal Surface Mount | C | B |

Specifications

| Characteristics (T _A = 25°C unless noted) | Symbols | Conditions | PT6435 SERIES | | | Units |
|---|--|---|---------------|-----|------|-------|
| | | | Min | Typ | Max | |
| Output Current | I _o | 4.5V ≤ V _{in} ≤ 5.5V | 0 | — | 3.0* | ADC |
| Current Limit | I _{cl} | V _{in} = +5V | — | 3.6 | 5.0 | ADC |
| Input Voltage Range | V _{in} | 0.1A ≤ I _o ≤ 3.0A | 4.5 | — | 5.5 | VDC |
| Static Voltage Tolerance | V _o | V _{in} = +5V, I _o = 3.0A | 3.2 | 3.3 | 3.4 | VDC |
| Line Regulation | Reg _{line} | 4.5V ≤ V _{in} ≤ 5.5V, I _o = 3.0A | — | ±25 | ±50 | mV |
| Load Regulation | Reg _{load} | V _{in} = +5V, 0.3 ≤ I _o ≤ 3.0A | — | ±25 | ±50 | mV |
| V _o Ripple/Noise | V _r | V _{in} = 5V, I _o = 3.0A | — | 66 | 165 | mVpp |
| Transient Response with C ₂ = 100µF | t _{sr} | I _o step between 1.5A and 3.0A | — | 200 | — | µSec |
| | V _{os} | V _o over/undershoot | — | 200 | — | mV |
| Efficiency | η | V _{in} = +5V, I _o = 1.5A | — | 85 | — | % |
| | | V _{in} = +5V, I _o = 3.0A | — | 80 | — | % |
| Switching Frequency | f _o | 4.5V ≤ V _{in} ≤ 5.5V 0.3A ≤ I _o ≤ 3.0A | 500 | 650 | 800 | KHz |
| Operating Temperature | T _A | Free Air Convection (40-60 LFM) Over V _{in} and I _o Ranges | 0 | — | TBD | °C |
| Thermal Resistance | θ _{ja} | Free Air Convection (40-60 LFM) | — | TBD | — | °C/W |
| Storage Temperature | T _s | — | -40 | — | +125 | °C |
| Mechanical Shock | Per Mil-STD-883D, Method 2002.3 Condition A, 1 msec, Half Sine, mounted to a fixture | — | — | — | 500 | G's |
| Mechanical Vibration | Per Mil-STD-883D, Method 2007.2 Condition A, 20-2000 Hz | — | — | — | 15 | G's |
| Weight | — | — | — | TBD | — | grams |
| Relative Humidity | — | Non-condensing | 0 | — | 95 | % |

*The PT6435 Series can be easily slaved to a PT6425 or PT6501 master module to provide additional output current in multiples of 3 amps. Please contact a Power Trends' Application Engineer for the appropriate application note.

Note: The PT6435 Series requires two 100µF electrolytic capacitors for proper operation in all applications.