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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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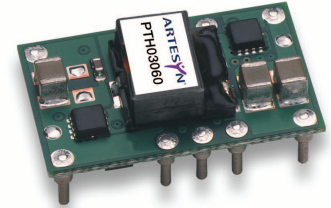
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



**NEW Product**



- 10 A output current
- 3.3 V input voltage
- Wide-output voltage adjust (0.8 Vdc to 2.5 Vdc)
- Auto-track™ sequencing\*
- Margin up/down controls
- Pre-bias start-up capability
- Efficiencies up to 93%
- Output ON/OFF inhibit
- Output voltage sense
- Point-of-Load-Alliance (POLA) compatible
- Available RoHS compliant



**2 YEAR WARRANTY**

The PTH03060 is a next generation series of non-isolated dc-dc converters offering some of the most advanced POL features available in the industry. The primary new feature provides for sequencing between multiple modules, a function, which is becoming a necessity for powering advanced silicon including DSP's, FPGA's and ASIC's requiring controlled power-up and power down. Other industry leading features include margin up/down controls, pre-bias start-up capability and efficiencies up to 93%. The PTH03060 has an input voltage of 2.95 Vdc to 3.65 Vdc and offers a wide 0.8 Vdc to 2.5 Vdc output voltage range with up to 10 A output current, which allows for maximum design flexibility and a pathway for future upgrades.

*All specifications are typical at nominal input, full load at 25 °C unless otherwise stated*  
 $C_{in} = 330 \mu F$ ,  $C_{out} = 0 \mu F$

## SPECIFICATIONS

### OUTPUT SPECIFICATIONS

Voltage adjustability	(See Note 4)	0.8-2.5 Vdc
Setpoint accuracy		±2.0% Vo
Line regulation		±10 mV typ.
Load regulation		±12 mV typ.
Total regulation		±3.0% Vo
Minimum load		0 A
Ripple and noise	20 MHz bandwidth	20 mV pk-pk
Temperature co-efficient	-40 °C to +85 °C	±0.5% Vo
Transient response (See Note 5)	70 µs recovery time Overshoot/undershoot 100 mV	
Margin adjustment		±5.0% Vo

### INPUT SPECIFICATIONS

Input voltage range	(See Note 3)	2.95-3.65 Vdc
Input current	No load	10 mA typ.
Remote ON/OFF	(See Note 1)	Positive logic
Start-up time		1 V/ms
Undervoltage lockout		2.8-2.95 Vdc typ.
Track input voltage	Pin 8 (See Note 6, 7)	±0.3 Vin

### EMC CHARACTERISTICS

Electrostatic discharge	EN61000-4-2, IEC801-2
Conducted immunity	EN61000-4-6
Radiated immunity	EN61000-4-3

### GENERAL SPECIFICATIONS

Efficiency	(See Efficiency Table)	93% max.
Insulation voltage		Non-isolated
Switching frequency		300 kHz typ. ±25 kHz
Approvals and standards		EN60950 UL/cUL60950
Material flammability		UL94V-0
Dimensions	(L x W x H)	25.27 x 15.75 x 9.00 mm 0.995 x 0.620 x 0.354 in
Weight		3.7 g (0.13 oz)
MTBF	Telcordia SR-332	7,092,000 hours

### ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Note 2)	Operating ambient, temperature Non-operating	-40 °C to +85 °C -40 °C to +125 °C
MSL ('Z' suffix only)	JEDEC J-STD-020C	Level 3

### PROTECTION

Short-circuit	Auto reset	20 A typ.
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### International Safety Standard Approvals



UL/cUL CAN/CSA-C22.2 No. 60950-1-03/UL 60950-1,  
File No. E174104



TÜV Product Service (EN60950) Certificate No. B 04 06 38572 044  
CB Report and Certificate to IEC60950, Certificate No.  
US/8292/UL

\*Auto-track™ is a trade mark of Texas Instruments

DC-DC CONVERTERS

POLA Non-isolated

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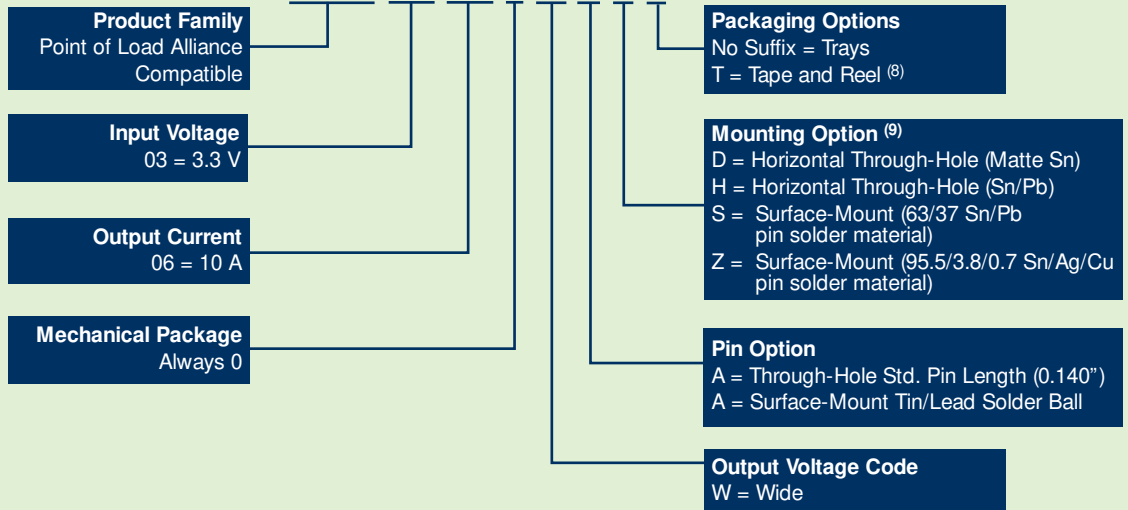
For the most current data and application support visit [www.artesyn.com/powergroup/products.htm](http://www.artesyn.com/powergroup/products.htm)

**NEW Product**

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (MAX.)	REGULATION		MODEL NUMBER <sup>(9,10)</sup>
						LINE	LOAD	
25 W	2.95-3.65 Vdc	0.8-2.5 Vdc	0 A	10 A	93%	±10 mV	±12 mV	PTH03060

### Part Number System with Options

**PTH03060WAST**



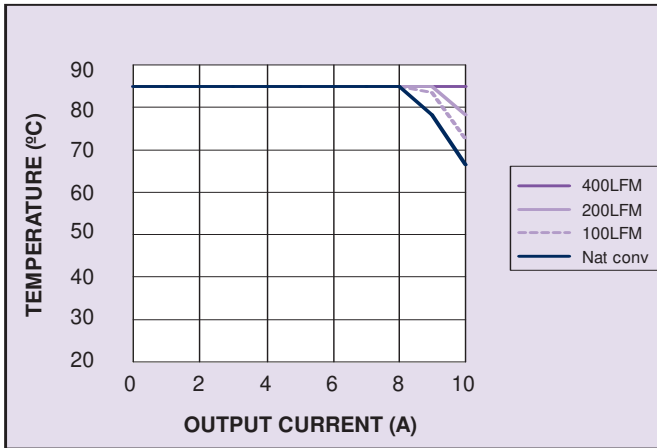
### Output Voltage Adjustment of the PTH03060 Series

The ultra-wide output voltage trim range offers major advantages to users who select the PTH03060. It is no longer necessary to purchase a variety of modules in order to cover different output voltages. The output voltage can be trimmed in a range of 0.8 Vdc to 2.5 Vdc. When the PTH03060 converter leaves the factory the output has been adjusted to the default voltage of 0.8 V.

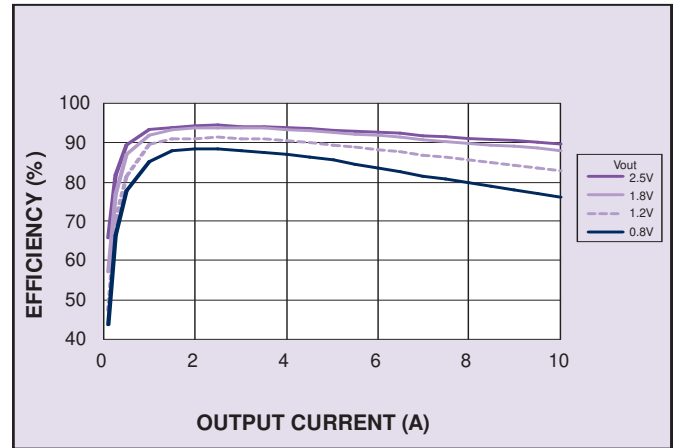
### Notes

- Remote ON/OFF. Positive Logic  
ON: Pin 3 open; or  $V > V_{in} - 0.5 V$   
OFF: Pin 3 GND; or  $V < 0.8 V$  (min - 0.2 V).
- See Figure 1 for safe operating curve.
- A 330  $\mu F$  electrolytic input capacitor is required for proper operation. The capacitor must be rated for a minimum of 700 mA rms of ripple current.
- An external output capacitor is not required for basic operation. Adding 330  $\mu F$  of distributed capacitance at the load will improve the transient response.
- 1 A/ $\mu s$  load step, 50 to 100%  $I_{o,max}$ ,  $C_{out} = 330 \mu F$ .
- If utilized  $V_{out}$  will track applied voltage by  $\pm 0.3 V$  (up to  $V_o$  set point).
- The pre-bias start-up feature is not compatible with Auto-Track™. This is because when the module is under Auto-Track™ control, it is fully active and will sink current if the output voltage is below that of a back-feeding source. Therefore to ensure a pre-bias hold-off, one of the following two techniques must be followed when input power is first applied to the module. The Auto-Track™ function must either be disabled, or the module's output held off using the Inhibit pin. Refer to Application Note 154 for more details.
- Tape and reel packaging only available on the surface-mount versions.
- To order Pb-free (RoHS compatible) surface-mount parts replace the mounting option 'S' with 'Z', e.g. PTH03060WAZ. To order Pb-free (RoHS compatible) through-hole parts replace the mounting option 'H' with 'D', e.g. PTH03060WAD.
- NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at <http://www.artesyn.com/powergroup/products.htm> to find a suitable alternative.

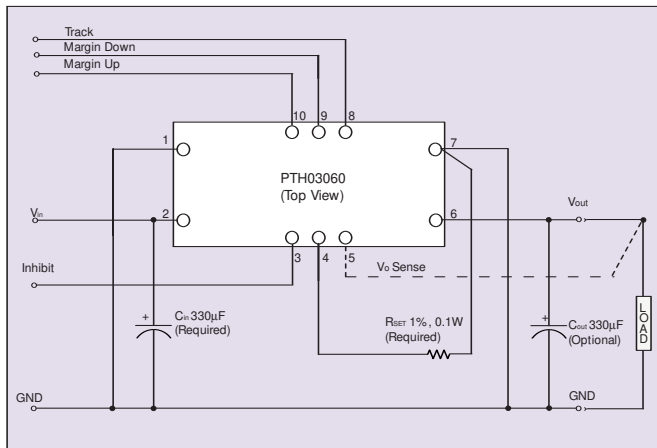
OUTPUT VOLTAGE	EFFICIENCY
$V_o = 1.0 V$	85%
$V_o = 1.2 V$	87%
$V_o = 1.5 V$	89%
$V_o = 1.8 V$	91%
$V_o = 2.0 V$	92%
$V_o = 2.5 V$	93%



**Figure 1 - Safe Operating Area**  
Vin = 3.3 V, Output Voltage = 2.5 V (See Note A)



**Figure 2 - Efficiency vs Load Current**  
Vin = 3.3 V (See Note B)



**Figure 3 - Standard Application**

### Notes

- A** SOA curves represent the conditions at which internal components are within the Artesyn derating guidelines.
- B** Characteristic data has been developed from actual products tested at 25 °C. This data is considered typical data for the converter.

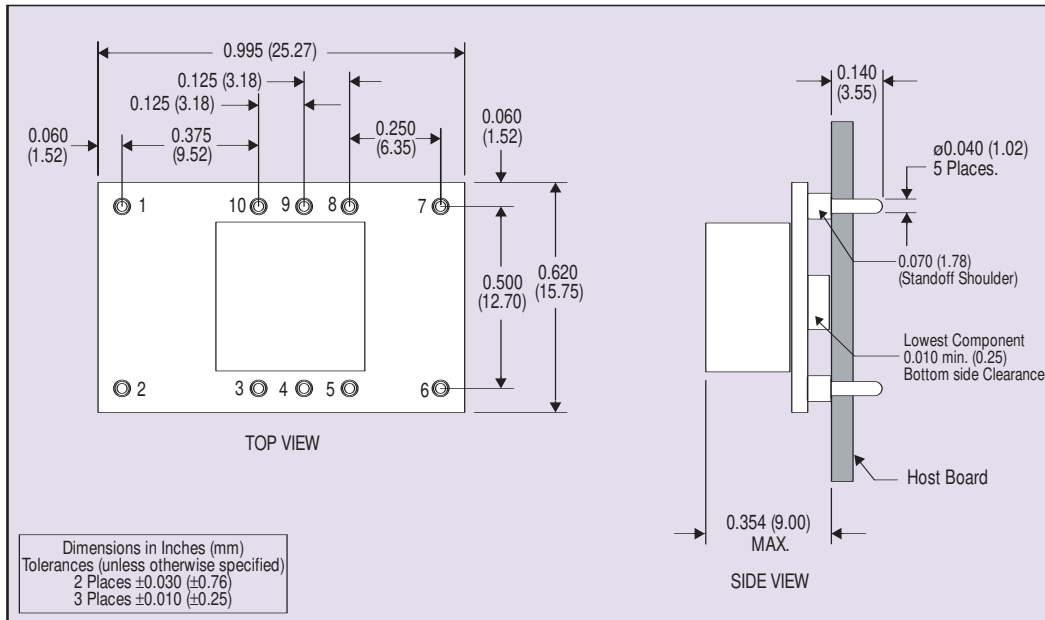


Figure 1 - Plated Through-Hole Mechanical Drawing

PIN CONNECTIONS	
PIN NO.	FUNCTION
1	Ground
2	Vin
3	Inhibit*
4	Vo adjust
5	Vo sense
6	Vout
7	Ground
8	Track
9	Margin down*
10	Margin up*

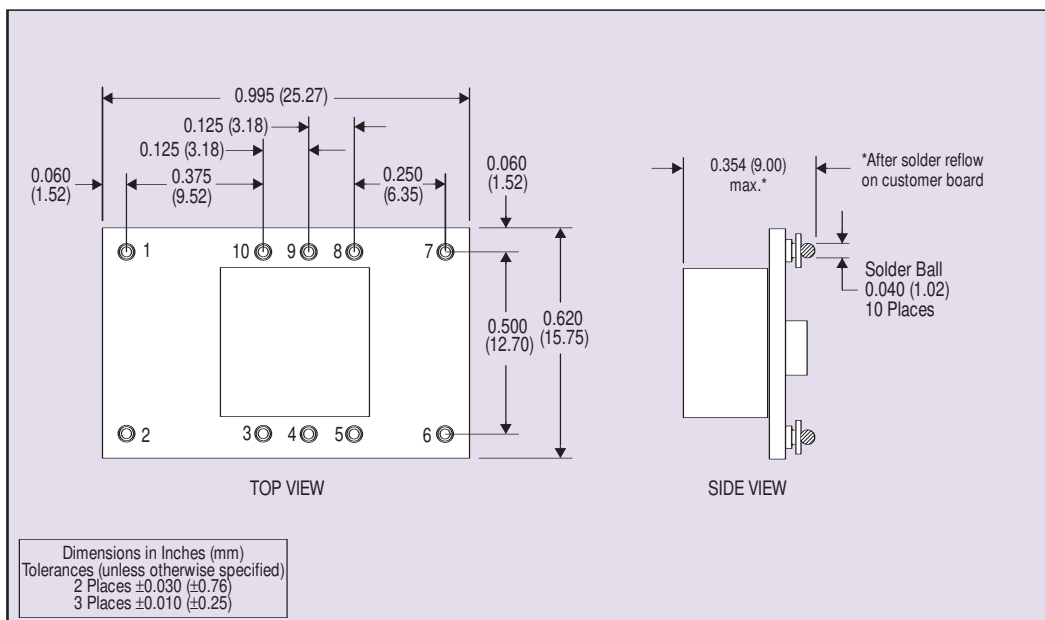


Figure 2 - Surface-Mount Mechanical Drawing

\*Denotes negative logic:  
Open = Normal operation  
Ground = Function active