

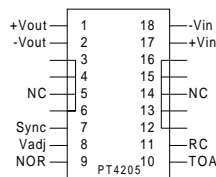


- Wide Input Voltage Range: 18V to 36V
- 84% Efficiency
- 1,500 VDC Isolation
- 18 Pin - DIP Package
- 3.5 Million Hour MTBF
- Meets FCC/EN55022 Class A
- UL and CSA approved
- No External Components Required
- Adjustable Output Voltage

The PT4205 series of isolated DC/DC converters employ high switching frequencies, thick-film technology and a high degree of silicon integration. The high reliability and very low package height makes these converters ideal for Telecom and Datacom applications requiring input-to-output isolation with board spacing down to 0.6".

The PT4205 series is offered in a unique molded through-hole or SMD-DIP package with single output voltages of 3.3V and 5V.

Package (Top View)



Specifications

Characteristics (T _a = 25°C unless noted)	Symbols	Conditions	PT4205 SERIES				Units
			Min	Typ	Max		
Output Current	I _o	Over V _{in} range V _o = 3.3V V _o = 5V	0 0	— —	1.8 1.2	A A	
Current Limit	I _{cl}	V _{in} = 24V V _o = 3.3V V _o = 5V	2.0 1.3	— 1.6	3.0 2.4	A A	
On/Off Standby Current	I _{in standby}	V _{in} = 24V, Pin 11 = -V _{in}	—	0.5	—	mA	
Short Circuit Current	I _{sc}	V _{in} = 24V V _o = 3.3V V _o = 5V	— —	2.5 2.0	— —	A A	
Inrush Current	I _{ir} t _{ir}	V _{in} = 24V @ max I _o On start-up	— —	0.6 1.0	1.0 2.0	A mSec	
Input Voltage Range	V _{in}	Over I _o Range	18 (1)	24	36	V	
Output Voltage Tolerance	ΔV _o	Over I _o Range	—	±4	—	% V _o	
Idling Voltage	V _o	I _o = 0A V _o = 3.3V V _o = 5V	— —	3.65 5.6	4.0 6.0	V V	
Ripple Rejection	RR	Over V _{in} range @ 120 Hz	—	60	—	dB	
Line Regulation	Reg _{line}	Over V _{in} range @ max I _o	—	±0.5	—	% V _o	
Load Regulation	Reg _{load}	10% to 100% of I _o max	—	±3	—	% V _o	
V _o Ripple/Noise	V _n	V _{in} =24V, I _o =I _o max	—	30	70	mV _{pp}	
Transient Response	t _{tr}	50% load change V _o over/undershoot	— —	100 3.0	300 5.0	μSec % V _o	
Efficiency	η	V _{in} =24V, I _o =1.8A, V _o =3.3V V _{in} =24V, I _o =1.2A, V _o =5V	— —	79 84	— —	% %	
Switching Frequency	f _o	Over V _{in} and I _o	520	—	688	kHz	
Pin Temperature	T _p	@ Pin 1	—	—	+95	°C	
Operating Temperature	T _a	V _{in} = 24V @ max I _o Free air convection, (40-60LFM)	-40	—	+85	°C	
Storage Temperature	T _s	—	-55	—	+125	°C	
Mechanical Shock	—	Per Mil-STD-202F, Method 213B, 6mS, half-sine, mounted to a PCB	—	50	—	G's	
Mechanical Vibration	—	Per Mil-STD-202F, Method 204D, 10-500Hz, mounted to a PCB	—	10	—	G's	
Weight	—	—	—	20	—	grams	
Isolation	—	—	1500	—	—	VDC	
Flammability	—	Materials meet UL 94V-0					

Notes (1) The minimum input voltage is adjustable. See the specific application note on the PT4200/4205/4300 Series.

Pin-Out Information

Pin	Function
1	V_{out}
2	V_{out} return
3	Do not connect
4	Do not connect
5	Do not connect
6	Do not connect
7	Sync input
8*	V_{adj}
9*	Nominal output voltage resistor
10	Turn-on/off input voltage adjust
11	Remote on/off
12	Do not connect
13	Do not connect
14	Do not connect
15	Do not connect
16	Do not connect
17	+ V_{in}
18	- V_{in}

* Please note that when the V_{adj} is not used, pin 8 must be connected to pin 9.

Ordering Information

Through-Hole

PT4205A = 3.3V/1.8A

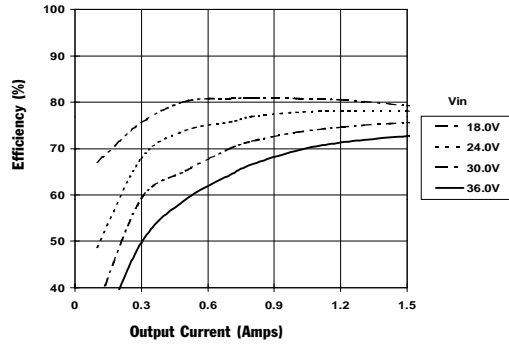
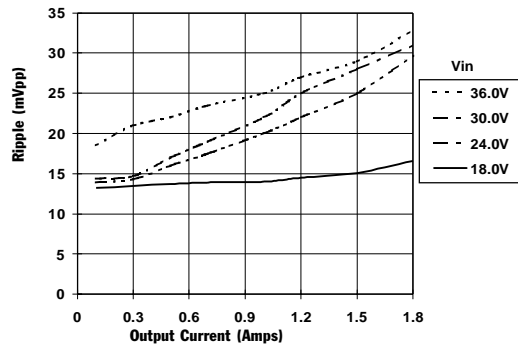
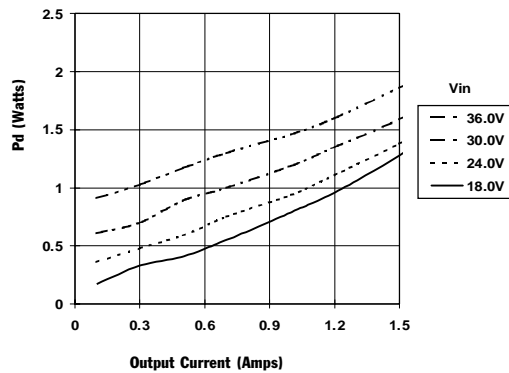
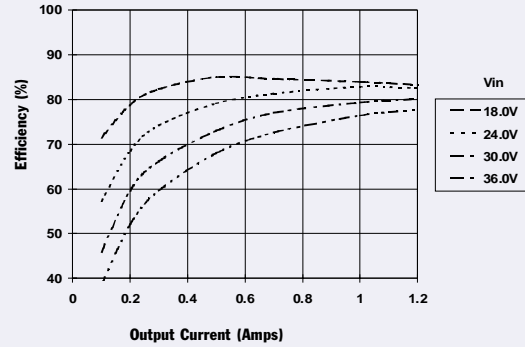
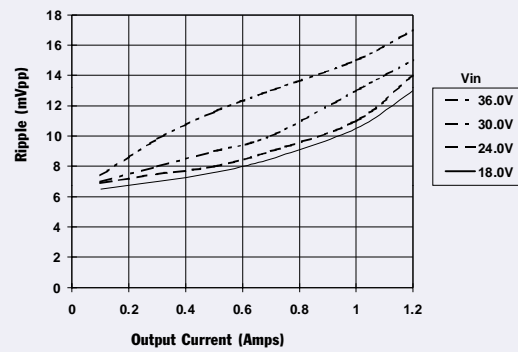
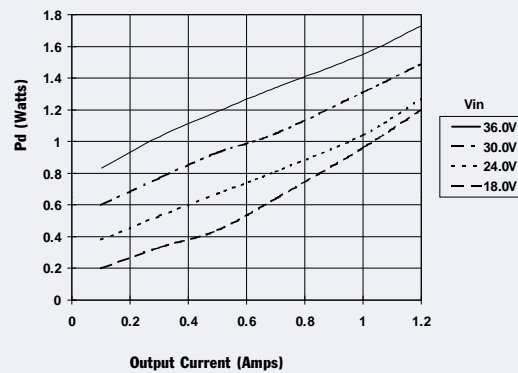
PT4206A = 5V/1.2A

Surface Mount

PT4205C = 3.3V/1.8A

PT4206C = 5V/1.2A

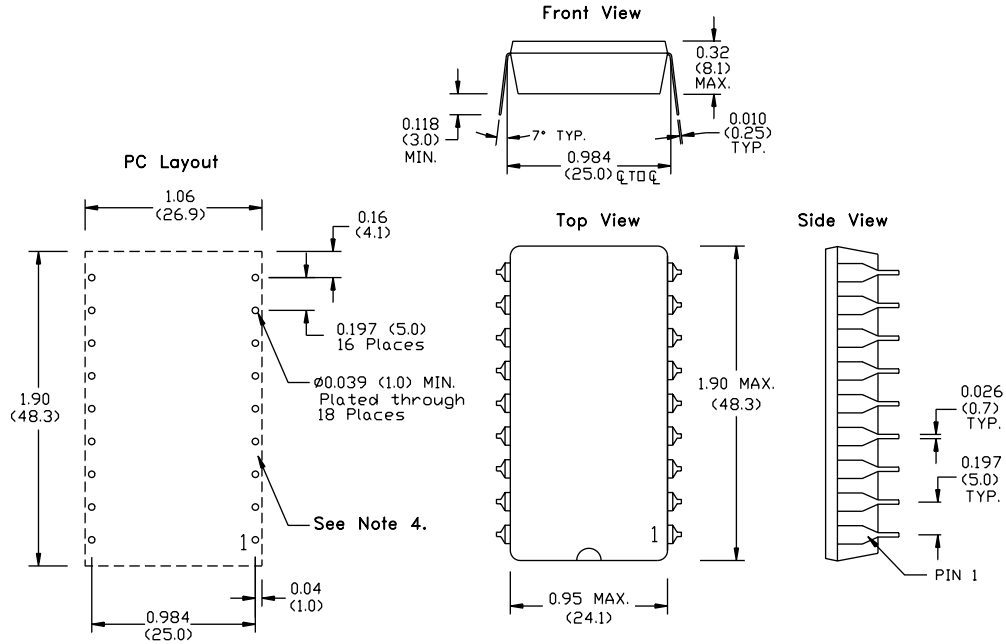
(For dimensions and PC board layout, see Package Style 900.)

PT4205, 3.3 VDC (See Note A)**Efficiency vs Output Current****Ripple vs Output Current****Power Dissipation vs Output Current****PT4206 5.0 VDC** (See Note A)**Efficiency vs Output Current****Ripple vs Output Current****Power Dissipation vs Output Current**

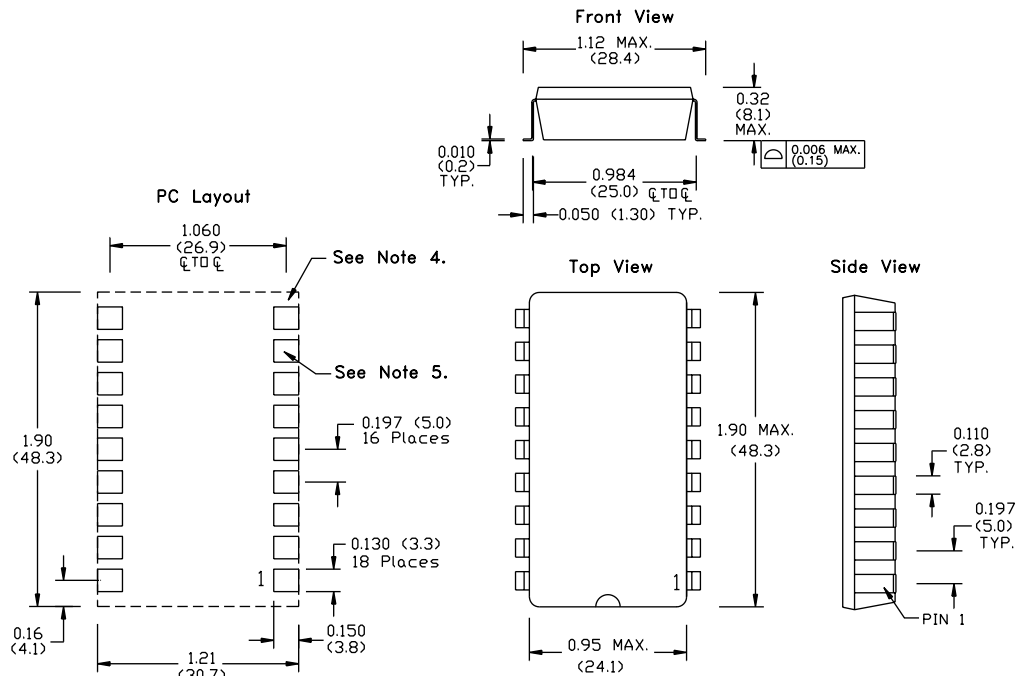
Note A: All data listed in the above graphs, except for derating data, has been developed from actual products tested at 25°C. This data is considered typical data for the isolated DC-DC converter.

PACKAGE INFORMATION AND DIMENSIONS

Horizontal Through-Hole Mount (Suffix A)



Surface Mount (Suffix C)



Notes: (Rev. A)

- 1: All dimensions are in inches (mm).
- 2: 2 place decimals are ± 0.030 (± 0.8 mm).
- 3: 3 place decimals are ± 0.010 (± 0.3 mm).
- 4: Recommended mechanical keep out area.
- 5: Power pin connections should utilize two or more vias per input, ground and output pin.

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