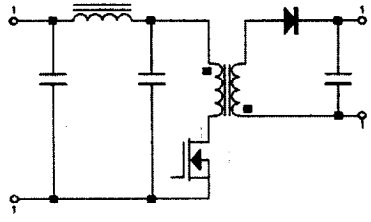
STANDARD HIGH-DENSITY DC/DC CONVERTERS WITH SINGLE, DUAL OR TRIPLE REGULATED OUTPUTS. ALL MODELS FEATURE HIGH ISOLATION OUTPUTS. AN INTERNAL Π (PI) INPUT FILTER IS STANDARD AND IS USED TO REDUCE REFLECTED RIPPLE CURRENT. ALL MODELS FEATURE A NICKLE-PLATED COPPER CASE WITH SIX-SIDED SHIELDING.

INTERNATIONAL POWER DEVICES
IWT1205-15
MADE IN U.S.A.

DIMENSIONS:
1.00" x 2.00" x 0.40"
(25.40) x (50.80) x (10.16)mm

BLOCK DIAGRAM



FEATURES

- Industry Standard Pin Out
- Up to 15 W/in³
- Up to 90% Efficiency
- Current Mode Control
- Wide Input Voltage range
- 500 VDC I/O Isolation
- Continuous Short Circuit Protection
- Input Π (Pi) Filter

APPLICATIONS

- Telecommunication
- Data Processing Equipment
- IndustrialEquipment
- Medical Equipment
- A/D and D/A Converters
- Distributed Power Systems
- +3.3V Logic

PART NUMBER SELECTION GUIDE

I W T 12 05 - 15

I	W	T	12	05	-	15			
SERIES NAME	FEATURES	# OF OUTPUTS	Vin NOMINAL	Vout SINGLES / DUALS	Vout TRIPLES		OPTIONS	ACCESSORIES	TYPE

Features
- Wide Input Voltage Range
- Regulated

# of Outputs
S = SINGLE
D = DUAL
T = TRIPLE

Input Voltage Range (VDC)
5 = 4.5 to 9.0
12 = 9.0 to 18.0
24 = 18.0 to 36.0
48 = 36.0 to 72.0

Output Voltage (VDC)
Single Output:
03.3 = 3.3 V @ 3.3 A
05 = 5V @ 2.00A
12 = 12V @ 1.00A
15 = 15V @ 0.75A
24 = 24V @ 0.50A
48 = 48V @ 0.25A

Dual Output:
05 = ± 5V @ ±1000mA
12 = ±12V @ ±500mA
15 = ±15V @ ±375mA

Triple Output:
05-12 = 5V @ 1.5A, ±12V @±0.31A
05-15 = 5V @ 1.5A, ±15V @±0.25A

Options
B = Alternate Pinout or Height
S (#) = Modification Number
I = Industrial Temperature Range (-40°C to +85°C)
Z = Water-washable sealed case

Accessories / Type
HS = Heatsink
Type = I
Please Consult Accessories Page for available options

PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
GENERAL:					
Switching Frequency	270	300	330	KHz	
Isolation Voltage					
Input to Output	500			VDC	
Input to Case				VDC	Note 5
Output to Case				VDC	Note 5
Isolation Resistance					
Input to Output	10^9			Ohms	
Short Circuit Protection					Note 3
ENVIRONMENTAL:					
Operating Temperature	-25		85	°C	Note 1
Storage Temperature	-40		125	°C	Ambient
Operating Humidity			95%		Non-Condensing
Storage Humidity			95%		Non-Condensing
INPUT:					
Input Voltage					
5 Vin	4.50	5.00	9.00	VDC	
12 Vin	9.00	12.00	18.00	VDC	
24 Vin	18.00	24.00	36.00	VDC	
48 Vin	36.00	48.00	72.00	VDC	
Input Current					
5 Vin			3.20	Amps	Note 2
12 Vin			1.55	Amps	Note 2
24 Vin			0.80	Amps	Note 2
48 Vin			0.40	Amps	Note 2
Input Ripple Current			20%	Iin max	
Reverse Input Current			100%	Iin max	
OUTPUT:					
Singles:					
Accuracy			±1.00%	Vout	Full Load
Load Regulation			±1.00%	Vout	10% to 100%
Line Regulation			±0.50%	Vout	LL to HL
Current Limit			130%	Iout	Note 3
Duals:					
Accuracy					
+Vout			±1.00%	Vout	Full Load
-Vout			±1.00%	Vout	Full Load
Load Regulation					
+Vout			±1.00%	Vout	10% to 100%
-Vout			±1.00%	Vout	Balanced Load
Line Regulation			±1.00%	Vout	LL to HL
Current Limit			130%	Iout	Note 3

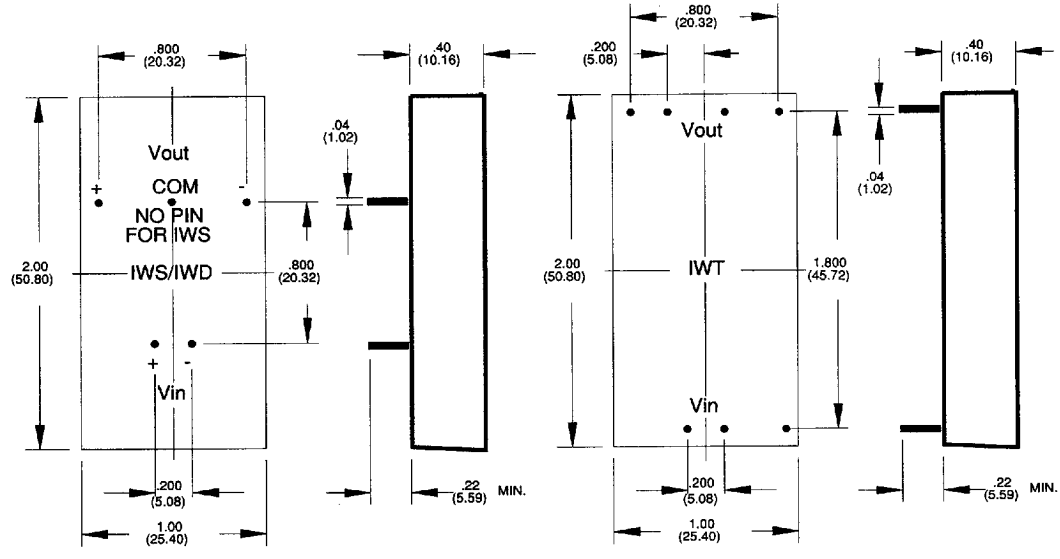
1. No derating required up to a maximum case temperature of 85°C. See efficiency and thermal impedence data provided. Internal Power Dissipation = Pout* (1-Eff) / Eff.
2. Provided for input fuse selection.
3. Continuous Short Circuit Protection is provided. For dual output units the short circuit current on each individual output is equivalent to the short circuit current for a single output unit.
4. Long term continuous operation in this mode is not recommended. Converter will auto-restart once short has been removed.
5. For 48V input models, the case is connected to +Vin. For all other input voltages, the case is tied to either -Vout (Singles) or the Output Common (Duals).

* All specifications typical at +25°C Nominal Line and Full Load unless otherwise noted.
* Specifications subject to change without notice.

PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS	NOTES
OUTPUT (Con't)						3. Continuous Short Circuit Protection is provided. For dual output units the short circuit current on each individual output is equivalent to the short circuit current for a single output unit.
Triples:						
Voltage Accuracy						
Vout 1			±1.00%	Vout	Full Load	
Vout 2			±1.00%	Vout	Full Load	
Vout 3			±1.00%	Vout	Full Load	
Load Regulation						
Vout1			±1.00%	Vout	10% to 100%	
Vout 2			±5.00%	Vout	balanced load	
Vout 3			±5.00%	Vout	balanced load	
Line Regulation			±1.00%	Vout	LL to HL	
Current Limit			130%	Iout	Note 3	
Line Regulation			±1.00%	Vout	LL to HL	
Temp. Coefficient			±0.02%	/°C		
Voltage Stability			±0.05%	Vout		
Ripple and Noise			1.00%	Vout	p-p, 20MHz BW	
Transient Response:						
25% step load change			500	µS	1% Error Band	

BOTTOM VIEW

Mechanical tolerances are ± 0.040"



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All Dimensions are in inches (MM)

INTERNATIONAL POWER DEVICES, INC.
20 Linden Street, Boston, MA 02134 • Phone: (617)782-3331 • Fax: (617)782-7416

PIN CONNECTIONS

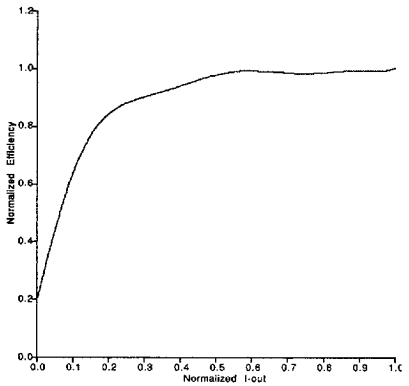
PIN #	SINGLE	DUAL	TRIPLE
1	+Vin	+Vin	+Vin
2	-Vin	-Vin	-Vin
3	+Vout	+Vout	S/D (Optional)
4	No Pin	Common	+V2 out
5	-Vout	-Vout	+5Vout
6	---	---	Common
7	---	---	-V3 out

THERMAL IMPEDANCE

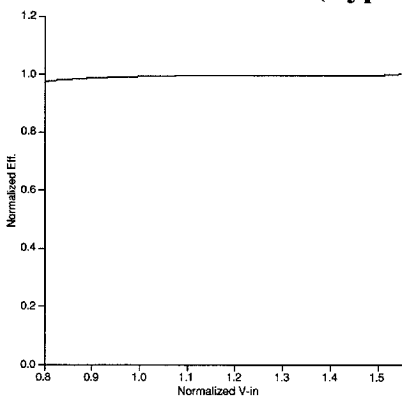
	Typical RθCA
NATURAL CONVECTION	22°C/W
100 LFPM	18°C/W
200 LFPM	11°C/W
300 LFPM	8.9°C/W
400 LFPM	6.8°C/W

Thermal Impedance data depends upon many environmental factors and may vary from application to application. The numbers provided are intended as a guide. The exact thermal performance should be validated in each application.

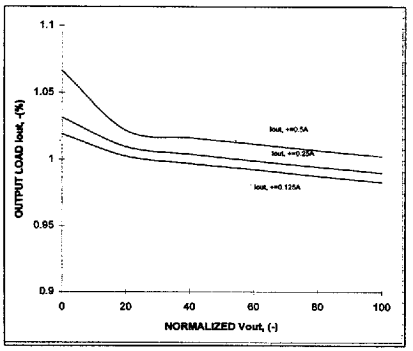
EFFICIENCY vs. LOAD (Typical)



EFFICIENCY vs. Vin (Typical)



TYPICAL CROSS-REGULATION (Dual Output Units)



TYPICAL CROSS-REGULATION (Triple Output Units)