



IW Series of 10 to 12 Watt DC/DC Converters

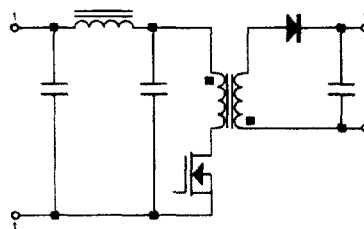


STANDARD HIGH-DENSITY DC/DC CONVERTERS WITH SINGLE, DUAL OR TRIPLE REGULATED OUTPUTS. ALL MODELS FEATURE HIGH ISOLATION OUTPUTS. AN INTERNAL Π (PI) INPUT FILTER IS STANDARD AND IS USED TO REDUCE REFLECTED RIPPLE CURRENT. ALL MODELS FEATURE A NICKLE-PLATED COPPER CASE WITH SIX-SIDED SHIELDING.



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

BLOCK DIAGRAM



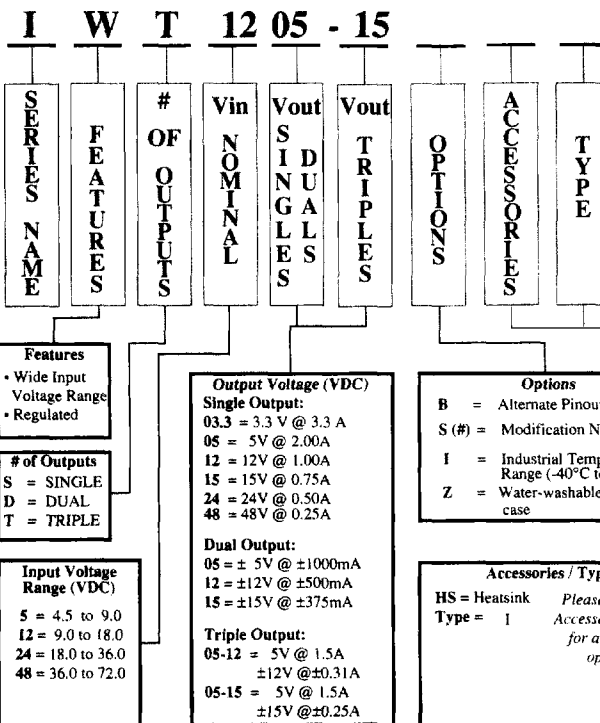
FEATURES

- 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
- Industrial Equipment
- Medical Equipment
- A/D and D/A Converters
- Distributed Power Systems
- +3.3V Logic

PART NUMBER SELECTION GUIDE





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PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS	NOTES
GENERAL:						
Switching Frequency	270	300	330	KHz		1. No derating required up to a maximum case temperature of 85°C. See efficiency and thermal impedance data provided. Internal Power Dissipation = $P_{out} * (1 - \text{Eff}) / \text{Eff}$.
Isolation Voltage						
Input to Output	500			VDC	Note 5	
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	2. Provided for input fuse selection.
Storage Temperature	-40		125	°C	Ambient	
Operating Humidity			95%		Non-Condensing	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.
Storage Humidity			95%		Non-Condensing	
INPUT:						
Input Voltage						
5 Vin	4.50	5.00	9.00	VDC		4. Long term continuous operation in this mode is not recommended. Converter will auto-restart once short has been removed.
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	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).
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	

* All specifications typical at +25°C Nominal Line and Full Load unless otherwise noted.

* Specifications subject to change without notice.



INTERNATIONAL POWER DEVICES, INC.

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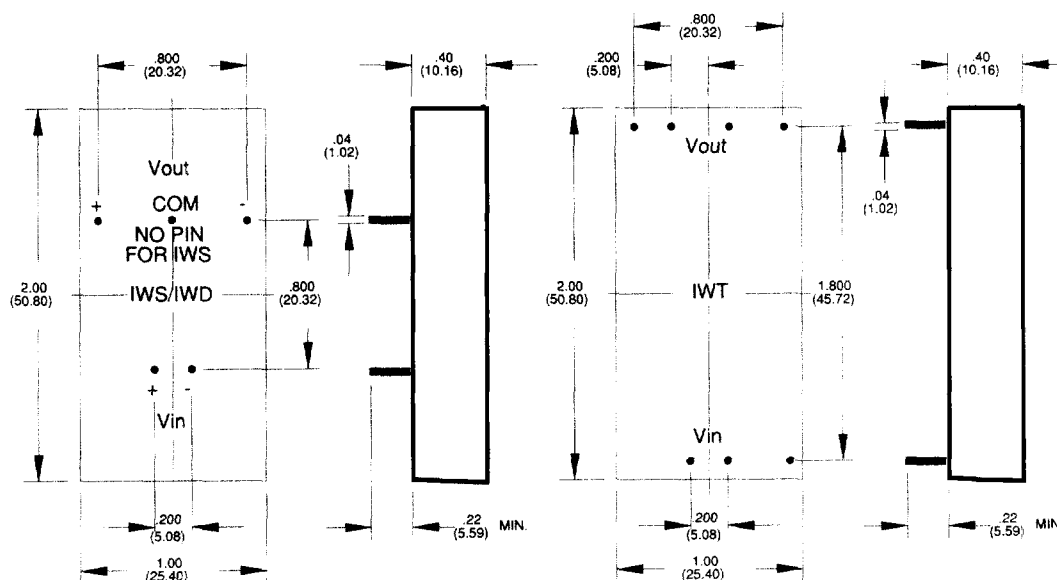
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PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS	NOTES
OUTPUT (Con't)						
Triples:						
Voltage Accuracy						3. Continuous Short Circuit Protection is provided. For dual output units the short circuit current on each individual output is equivalent to the short circuit current for a single output unit.
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"



Specifications are subject to change without notice.

All Dimensions are in inches (MM)



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PIN CONNECTIONS

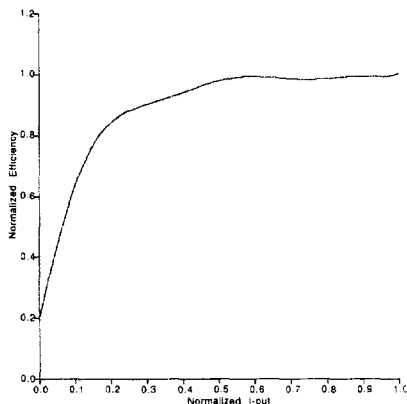
PIN #	SINGLE	DUAL	TRIPLE
1	+Vin	+Vin	+Vin
2	-Vin	-Vin	-Vin
3	+Vout	+Vout	S/D (Optional) +V2 out +5Vout Common -V3 out
4	No Pin	Common	
5	-Vout	-Vout	
6	---	---	
7	---	---	

THERMAL IMPEDANCE

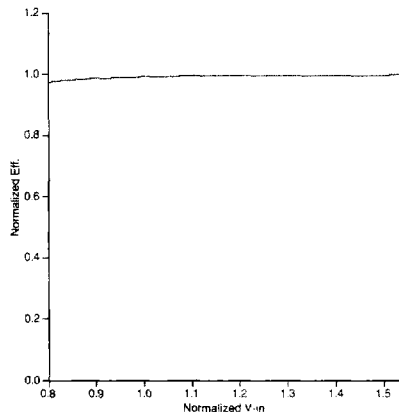
	Typical R _{θCA}
NATURAL CONVECTION	22°C/W
100 LFPM	18°C/W
200 LFPM	11°C/W
300 LFPM	8.9°C/W
400 LFPM	6.8°C/W

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.

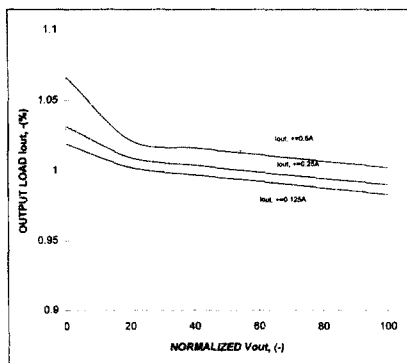
EFFICIENCY vs. LOAD (Typical)



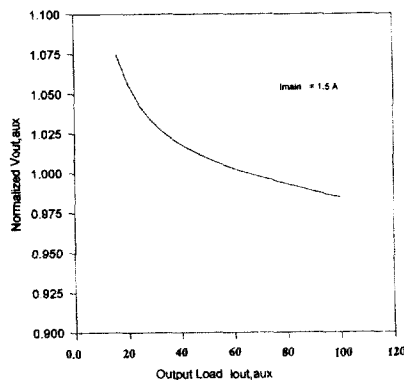
EFFICIENCY vs. Vin (Typical)



TYPICAL CROSS-REGULATION (Dual Output Units)



TYPICAL CROSS-REGULATION (Triple Output Units)



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