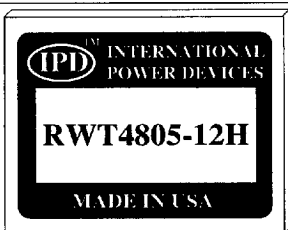




RW-H Series of 50 to 60 Watt DC/DC Converters



STANDARD HIGH DENSITY DC/DC CONVERTERS WITH SINGLE, DUAL AND TRIPLE REGULATED OUTPUTS. ALL MODELS FEATURE WIDE INPUT RANGE, SIX-SIDED EMI/RFI SHIELDING AND CONTINUOUS SHORT CIRCUIT PROTECTION. CURRENT MODE CONTROL TOPOLOGY AND HIGH EFFICIENCY ARE SOME OF MANY STANDARD FEATURES FOR THIS SERIES.



DIMENSIONS:
3.00" x 3.00" x 0.50"
(76.20) x (76.20) x (12.70)mm

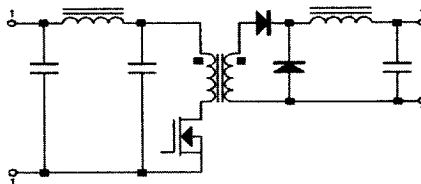
FEATURES

- Industry Standard Pin Out
- Up to 83% Efficiency
- Current Mode Control
- Wide Input Voltage
- 500 VDC I/O Isolation
- Continuous Short Circuit Protection
- Input Π (Pi) Filter

APPLICATIONS

- Redundancy Systems
- Telecommunication
- Process Control Equipment
- Transportation

BLOCK DIAGRAM



PART NUMBER SELECTION GUIDE

R	W	T	48	05	-12H			
SERIES NAME	FEATURES	# OF OUTPUTS	Vin NOMINAL	Vout SINGLES	Vout TRIPLES	OPTIONS	ACCESSORIES	TYPE
	Features • Wide Input Voltage Range • Regulated	# of Outputs S = SINGLE D = DUAL T = TRIPLE		Output Voltage (VDC) Single Output: 05H = 5V @ 10A 12H = 12V @ 5.0A 15H = 15V @ 4.0A Dual Output: 05H = $\pm 5V @ \pm 5.0A$ 12H = $\pm 12V @ \pm 2.5A$ 15H = $\pm 15V @ \pm 2.0A$ Triple Output: 05-12H = 5V @ 5.0A $\pm 12V @ \pm 1.25A$ 05-15H = 5V @ 5.0A $\pm 15V @ \pm 1.00A$ <i>All units require H Suffix</i>		Options H = All units require H Suffix I = Industrial Temperature Range (-40°C to +85°C) S (#) = Modification Number Z = Water-washable sealed case		Accessories / Type HS = Heatsink Type = RWH <i>Please Consult Accessories Page for available options</i>
	Input Voltage Range (VDC) 12 = 10 to 20 24 = 18 to 36 48 = 36 to 72							



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PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS	NOTES
GENERAL:						
Switching Frequency	270	300	330	KHz		1. Noderating 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		
Isolation Resistance						2. Provided for input fuse selection.
Input to Output	10 ⁹			Ohms		
ENVIRONMENTAL:						
Operating Temperature	-25		85	°C	Note 1	
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	
REMOTE ON/OFF CONTROL:						
Compatibility					CMOS,TTL,Relay	
On Control					>5.5 VDC or open circuit	
Off Control					<1.8 VDC, Note 4	4. Long term continuous operation in this mode is not recommended. Converter will auto-restart once short has been removed.
INPUT:						
Input Voltage						
12 Vin	10.0	12.0	20.0	VDC		
24 Vin	18.0	24.0	36.0	VDC		
48 Vin	36.0	48.0	72.0	VDC		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).
Input Current						
12 Vin			7.32	Amps	Note 2	
24 Vin			3.97	Amps	Note 2	
48 Vin			1.98	Amps	Note 2	
Input Ripple Current			20%	Iin max		
Reverse Input Current			100%	Iin max		
OUTPUT:						
Singles:						
Trim			±10.0%	Vout		
Voltage Accuracy			±1.00%	Vout	Full Load	
Load Regulation			±1.00%	Vout	10% to 100%	
Line Regulation			±0.50%	Vout	LL to HL	
Current Limit			120%	Iout	Note 3	
Duals:						
Trim			±10.0%	Vout		
Voltage 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	10% to 100%	
Line Regulation			±1.00%	Vout	LL to HL	
Current Limit			120%	Iout	Note 3	

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

* Specifications subject to change without notice.



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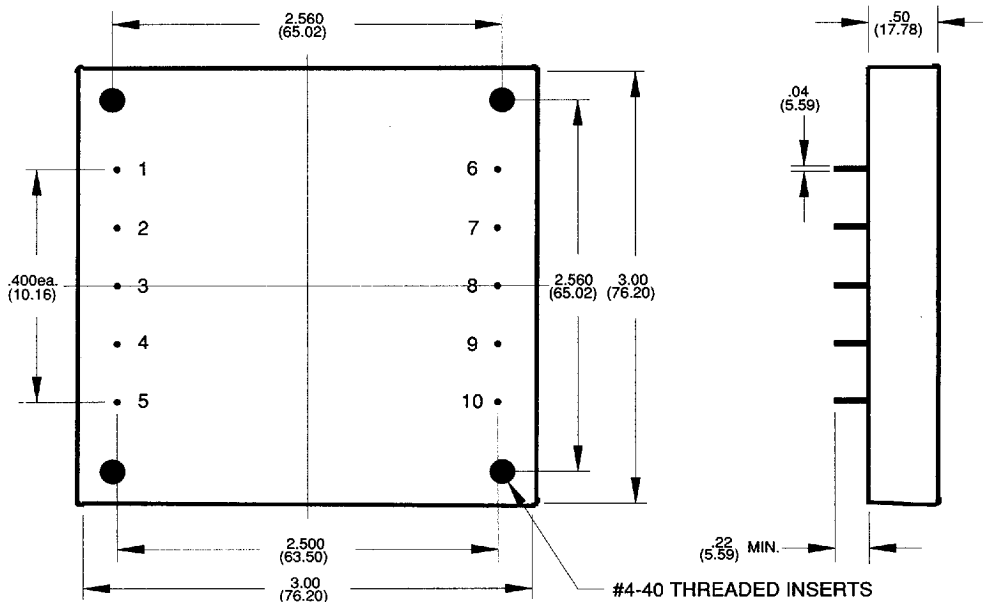
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PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS	NOTES
OUTPUT (Con't.)						
Trim			±10.0%	Vout		3. Continuous Short Circuit Protection is provided. For Dual Output units the short circuit current on each individual output is equivalent to the short circuit current for a single output unit.
Voltage Accuracy						
Vout 1			±1.00%	Vout	Full Load	
Vout 2			±5.00%	Vout	Full Load	
Vout 3			±5.00%	Vout	Full Load	
Load Regulation						
Vout1			±1.00%	Vout	10% to 100%	
Vout 2			±5.00%	Vout	10% to 100%	
Vout 3			±5.00%	Vout	10% to 100%	
Line Regulation			±1.00%	Vout	LL to HL	
Current Limit			120%	Iout	Note 3	
Temp. Coefficient			±0.02%	/°C		
Voltage Stability			±0.05%	Vout		
Ripple and Noise			1.00%	Vout	p-p, 20MHz BW	
Transient Response						
25% step full load			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

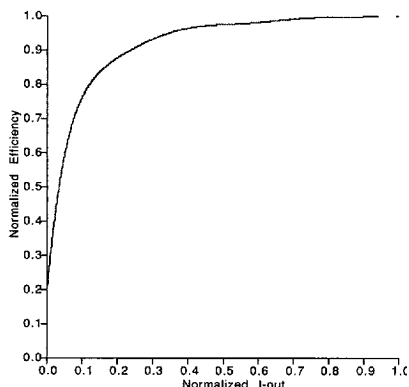
PIN #	SINGLE	DUAL	TRIPLE
1	No Pin	No Pin	No Pin
2	-Vin	-Vin	-Vin
3	+Vin	+Vin	+Vin
4	Case, or NC	Case	Case
5	Shut Down	Shut Down	Shut Down
6	No Connect	-Vout	-Aux. Out
7	No Connect	Common	+Aux. Out
8	-Vout	Common	Common
9	+Vout	+Vout	+Vout
10	Trim	Trim	Trim

THERMAL IMPEDANCE

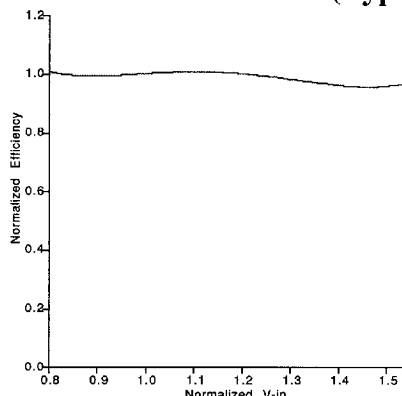
	Typical R _{θCA}
NATURAL CONVECTION	6.7°C/W
100 LFPM	4.0°C/W
200 LFPM	3.4°C/W
300 LFPM	2.5°C/W
400 LFPM	1.6°C/W

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.

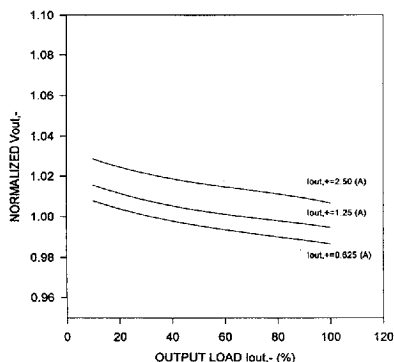
EFFICIENCY vs. LOAD (Typical)



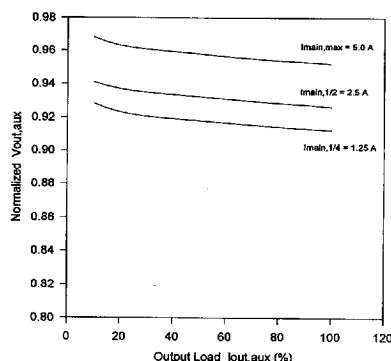
EFFICIENCY vs. Vin (Typical)



TYPICAL CROSS-REGULATION (Dual Output Units)



TYPICAL CROSS-REGULATION (Triple Output Units)



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