



E/W Series of 4.5 to 6 Watt DC/DC Converters

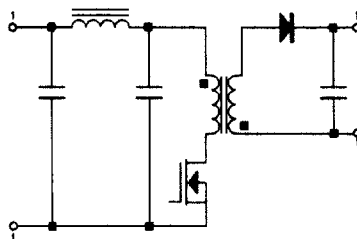


STANDARD DC/DC CONVERTERS WITH SINGLE OR DUAL REGULATED OUTPUTS. AN INTERNAL Π (Pi) INPUT FILTER IS STANDARD AND IS USED TO REDUCE REFLECTED RIPPLE CURRENT. ALL MODELS FEATURE A NICKEL-PLATED COPPER CASE WITH SIX-SIDED SHIELDING.



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

BLOCK DIAGRAM



FEATURES

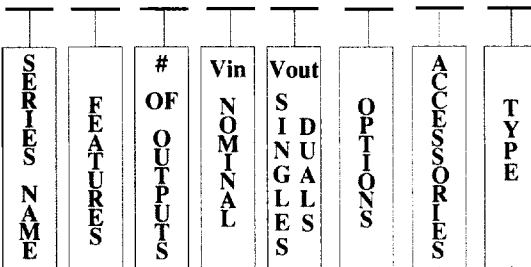
- Industry Standard Pin Out
- Six-Sided Shielding
- 500 VDC I/O Isolation
- Continuous Short Circuit Protection
- Input Π (Pi) Filter

APPLICATIONS

- Telecommunication
- Data Processing Equipment
- Industrial Equipment
- Medical Equipment
- A/D and D/A Converters
- Distributed Power Systems

PART NUMBER SELECTION GUIDE

E W D 24 15 Z



Features
 • Wide Input Voltage Range
 • Regulated

of Outputs
 S = SINGLE
 D = DUAL

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:
 05 = 5V @ 1000mA
 12 = 12V @ 500mA
 15 = 15V @ 400mA
Dual Output:
 05 = $\pm 5V$ @ $\pm 500mA$
 12 = $\pm 12V$ @ $\pm 250mA$
 15 = $\pm 15V$ @ $\pm 200mA$
For Other Output Voltages Please Consult Factory

Options
 S (#) = Modification Number
 1 = Industrial Temperature Range (-40°C to +85°C)
 Z = Water-washable sealed case

Accessories / Type
 MS = Mating Socket
 Type = C *Please Consult Accessories Page for Mating Socket Selection.*



INTERNATIONAL POWER DEVICES, INC.

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PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS	NOTES:
GENERAL:						
Switching Frequency	170	200	240	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		
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	
Storage Humidity			95%		Non-Condensing	
INPUT:						
Input Voltage						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.
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			1.00	Amps	Note 2	
12 Vin			0.80	Amps	Note 2	
24 Vin			0.40	Amps	Note 2	
48 Vin			0.20	Amps	Note 2	
Input Ripple Current			20%	I _{in} max		
Reverse Input Current			100%	I _{in} max		
OUTPUT:						
Singles:						
Voltage Accuracy			±1.00%	V _{out}	Full Load	4. Long term continuous operation in this mode is not recommended. Converter will auto-restart once short has been removed.
Load Regulation			±1.00%	V _{out}	10% to 100%	
Line Regulation			±1.00%	V _{out}	LL to HL	
Current Limit			130%	I _{out}	Note 3, Note 4	
Duals:						
Voltage Accuracy						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).
+V _{out}			±1.00%	V _{out}	Full Load	
-V _{out}			±1.00%	V _{out}	Full Load	
Load Regulation						
+V _{out}			±1.00%	V _{out}	10% to 100%	
-V _{out}			±1.00%	V _{out}	10% to 100%	
Line Regulation			±1.00%	V _{out}	LL to HL	
Current Limit			130%	I _{out}	Note 3, Note 4	
Temp. Coefficient			±0.02%	/ °C		
Voltage Stability			±0.05%	V _{out}		
Ripple and Noise			1.00%	V _{out}	p-p, 20 MHz BW	
Transient Response						
25% Step						
Load change			500	µS	1% Error Band	

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

* Specifications subject to change without notice.



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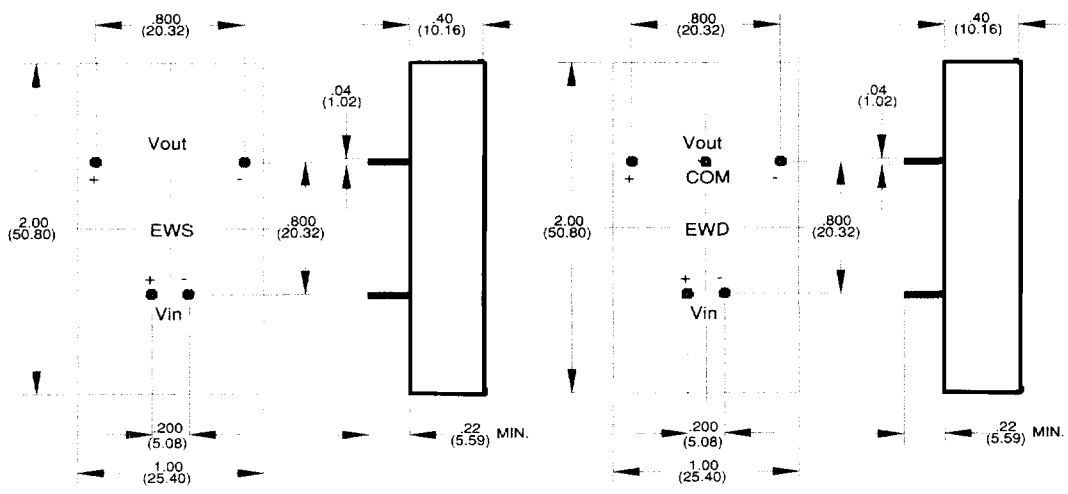
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Notes:

BOTTOM VIEW

Mechanical tolerances are ± 0.04 "



Specifications are subject to change without notice.

All Dimensions are in inches (MM)





FW Series of 4.5 to 6 Watt DC-DC Converters



PIN CONNECTIONS

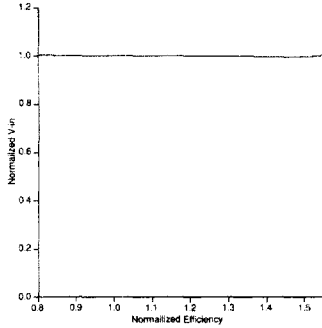
PIN #	SINGLE	DUAL
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Common
5	-Vout	-Vout

THERMAL IMPEDANCE

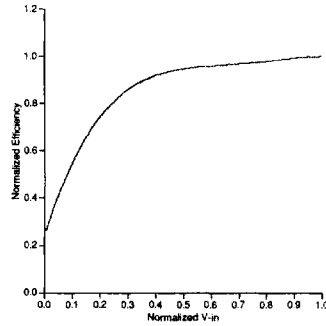
	Typical R _{θCA}
NATURAL CONVECTION	22°C/W
100 LFPM	18°C/W
200 LFPM	11°C/W
300 LFPM	8.9°C/W
400 LFPM	6.8°C/W

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)



Notes: _____

