



# 10 Watt, 4:1 INPUT DC/DC Converters Series DV10B4-H



## Features

- 10 Watt Isolated Output
- Regulated Outputs
- 4 : 1 Wide Input Range
- Isolation I/O 3000Vdc
- Fixed Switching Frequency
- Remote ON/OFF
- Safety Meets IEC/EN/UL62368-1
- DIP24 Metal Package
- Efficiency to 89%
- Continuous Short Circuit Protection
- Protection OCP / OVP / UVLO
- Operating Case Temperature -40 to +105°C
- Low No Load Power Consumption
- No Tantalum Capacitor Inside
- EMI Meets EN55032 Class A

MODEL NUMBER	INPUT VOLTAGE [ VDC ]	OUTPUT VOLTAGE [ VDC ]	OUTPUT CURRENT [ mA ] MAX.	INPUT CURRENT NO LOAD [ mA ]	INPUT CURRENT FULL LOAD [ A ]	EFF. [ % ] (Note (1))	EFF. [ % ] (Note (2))	CAP. LOAD Max. [ μF ]	CASE
DV10B4-24S3,3H	9-36	3,3	2000	6	340	81	81	2000	B
DV10B4-24S05H		5	2000	6	487	85	86	2000	
DV10B4-24S12H		12	833	6	471	88	89	833	
DV10B4-24S15H		15	666	7	468	89	89	666	
DV10B4-24D12H		±12	±417	8	474	88	88	417	
DV10B4-24D15H		±15	±333	10	473	88	89	333	
DV10B4-48S3,3H	18-74	3,3	2000	6	171	80	81	2000	B
DV10B4-48S05H		5	2000	6	244	85	86	2000	
DV10B4-48S12H		12	833	6	235	88	90	833	
DV10B4-48S15H		15	666	6	234	89	89	666	
DV10B4-48D12H		±12	±417	6	237	88	89	417	
DV10B4-48D15H		±15	±333	7	237	88	89	333	

NOTE:

1. Nominal Input Voltage 24 or 48 VDC.
  2. Measured at 12VDC for 24Vin, 24VDC for 48Vin
  3. Suffix "N": Remote On/Off Logic
- Model Number Example  
DV10B4-48D12HN : 10Watt, DIP24, Input 4:1, 18-74Vdc, Output Dual ±12Vdc, Isolation 3KVdc, Negative Logic

## INPUT SPECIFICATIONS:

Input Voltage Range.....	24V .....	9-36Vdc
	48V .....	18-74Vdc
Input Surge Voltage.....	100ms max., 24V .....	50Vdc max.
	100ms max., 48V .....	100Vdc max.
Input Under Voltage Lockout ..	100% Load, Turn-On Voltage Threshold, Vin 24V .....	8,5V typ.
	100% Load, Turn-On Voltage Threshold, Vin 48V .....	17V typ.
	100% Load, Turn-Off Voltage Threshold, Vin 24V .....	8,0V typ.
	100% Load, Turn-Off Voltage Threshold, Vin 48V .....	16V typ.
Maximum Input Current.....	Vin=9V, Full Load, Vin 24V .....	1,4A typ.
	Vin=18V, Full Load, Vin 48V .....	0,7A typ.
Inrush Current .....		0,1 A <sup>2</sup> s max.
Input Reflected Ripple Current ..	P-P thru 12uH inductor, 5Hz to 20MHz .....	30mA typ.
Input Filter .....		PI Type
Positive Logic Remote On/Off, Refer to -Vin pin.		
Logic Low (Module Off) .....	Von/off at Ion/off=1.0mA .....	0 to 1.2V
Logic High (Module On).....	Von/off at Ion/off=0.0uA, Pin open=On .....	Open Circuit or 3,5V to 74V
Suffix "N" to the model number with Negative Logic Remote On/Off		
Logic Low (Module Off) .....	Von/off at Ion/off=0.0uA, Pin open=Off .....	Open Circuit or 3,5V to 74V
Logic High (Module On).....	Von/off at Ion/off=1.0mA .....	0 to 1.2V
On/Off Current (for both remote on/off logic).....	Ion/off at Von/off=0V .....	1mA max.
Leakage Current (both remote on/off logic).....	Logic High, Von/off=15V .....	30uA max.
Off Converter Input Current .....	Shutdown input idle current .....	5mA max.

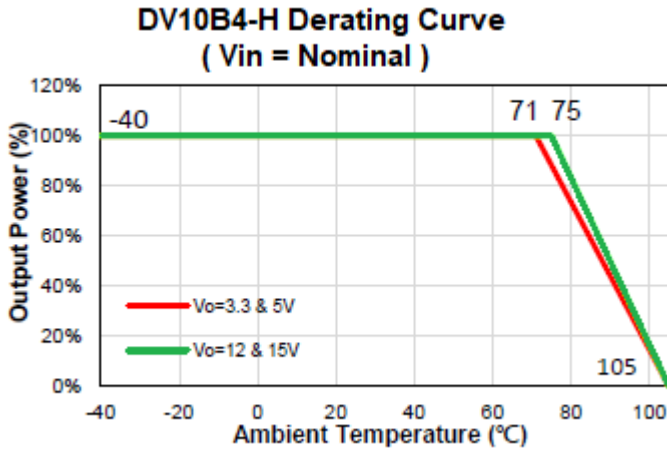
## OUTPUT SPECIFICATION:

Voltage Set Point Accuracy .....	Vin=Nominal, Full Load, Tc=25°C .....	±1,0%max.
Output Voltage Balance.....	Vin=Nominal, Full Load, Tc=25°C .....	±1,0%max.
Line Regulation .....	Vin High Line to Low Line, Full Load .....	±0,2% max.
Load Regulation .....	Full Load to No Load .....	±1,0% max.
Temperature Coefficient .....	Tc=-40°C to 85°C .....	±0,02%/°C max.
Ripple and Noise (5Hz to 20 MHz BW) (Note 4) .....	3,3V & 5V .....	100mV pk-pk max.
	12V .....	120mV pk-pk max.
	15V .....	150mV pk-pk max.
Current Current Protection.....	Hiccup Mode, Auto Recovery .....	110%-170%
Short Circuit Protection.....		Continuous, Auto Recovery
Over Voltage Protection .....		Zener Clamp
Output Voltage Current Transient: 75% to 100% Step Load Change ( within 1% Vout nominal )		
Error Band .....		±5% max.
Recover Time .....		250µ sec. max.
Output Voltage Rise Time.....	10%Vo_set to 90%Vo_set, Vo 5V .....	10ms typ.
	10%Vo_set to 90%Vo_set, Vo Others .....	5ms typ.

## GENERAL SPECIFICATIONS:

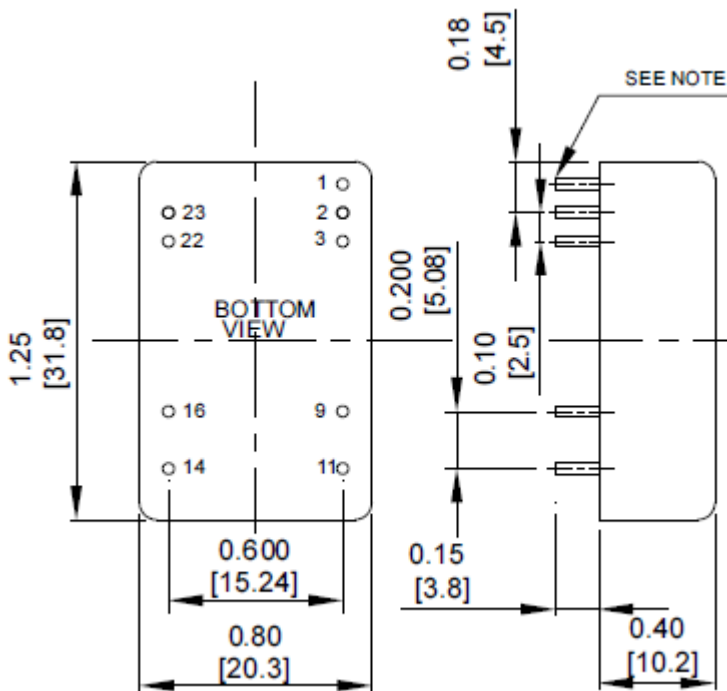
Efficiency.....		See Table
Isolation Voltage.....	1 minute; Input to Output .....	3000VDC max.
Isolation Resistance .....	Input to Output .....	1000 MΩ min.
Isolation Capacitance .....	Input to Output (10KHz, 0.25V) .....	1000pF typ.
Switching Frequency .....		530 KHz typ.
Operating Case Temperature .....	At the Center Part of Case Plate .....	-40°C to +105°C
Storage Temperature .....		-55°C to +125°C
MTBF .....	Io=100% of Io_max; MIL-HDBK - 217F_Notice 1, GB, 25°C .....	1453 - 1727 Khours typ.
Shock/Vibration .....		MIL-STD-810F Compliant
Thermal Shock .....		MIL-STD-810F
Humidity .....		95% RH max. Non condensing
Altitude .....		2000m Operating Altitude
EMI .....		Meets EN55032 Class A
Dimensions .....		1,25x0,80x0,40 inches (31,8x20,3x10,2 mm)
Potting Material .....		UL 94-V0
Case Material .....		Black Coated Copper with Non-Conductive Base
Weight.....		18,4g typ.

NOTE: 4. Full load, 1.0uF ceramic capacitors  
 5. All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted.



Case Dimensions

Pin Size is 0.02±0.002 Inch (0.5±0.05 mm)DIA  
 All Dimensions In Inches (mm)  
 Tolerances Inches: X.XX= ±0.02 , X.XXX= ±0.010  
 Millimeters: X.X= ±0.5 , X.XX=±0.25



Pin	Connection Single	Connection Dual
1	Remote ON/OFF	Remote ON/OFF
2,3	-V Input	-V Input
9	NP	Common
11	NC	-V Output
14	+V Output	+V Output
16	-V Output	Common
22,23	+V Input	+V Input

\* NC-NO CONNECTION WITH PIN  
 \* NP-NO PIN