



## 30 Watt, 4:1 Wide Input DC/DC Converters Series DV304X



E357872 only DV9-36-12S2500X approved



### Features

- 30 Watt Isolated Output Regulated
- 4:1 Wide Input Range
- Input under-voltage Protection
- Continuous Short Circuit Protection
- Over Current Protection
- Without Tantalum Capacitors inside
- Safety Meets UL60950-1, EN60950-1 and IEC60950-1
- Efficiency to 92%
- Fixed Switching Frequency
- Remote On/Off
- External Trim ADJ Range  $\pm 10\%$
- CE Mark Meets 2004/108/EC
- 2"x1" Six-Sided Shield Metal Case

MODEL NUMBER	INPUT VOLTAGE [ VDC ]	Vout [ VDC ]	Iout MIN [ mA ]	Iout MAX [ mA ]	INPUT CURRENT NO LOAD [ mA ]	INPUT CURRENT FILL LOAD [ mA ]	EFF. (2) [ % ]	EFF. (3) [ % ]	C LOAD MAX. [ $\mu$ F ]	CASE
DV9-36-3,3S7500X	9 – 36	3,3	0	7500	100	1172	88	88,5	7500	X
DV9-36-05S6000X		5		6000	110	1397	89,5	89,5	6000	
DV9-36-12S2500X		12		2500	30	1374	91	90,5	2500	
DV9-36-15S2000X		15		2000	30	1374	91	90,5	2000	
DV9-36-12D1250X		$\pm 12$		$\pm 1250$	30	1374	91	90,5	1250	
DV9-36-15D1000X		$\pm 15$		$\pm 1000$	35	1359	92	91	1000	
DV18-75-3,3S7500X	18 – 75	3,3	0	7500	35	593	87	87,5	7500	X
DV18-75-05S6000X		5		6000	50	694	90	89,5	6000	
DV18-75-12S2500X		12		2500	20	683	91,5	90	2500	
DV18-75-15S2000X		15		2000	20	679	92	91	2000	
DV18-75-12D1250X		$\pm 12$		$\pm 1250$	20	683	91,5	90,5	1250	
DV18-75-15D1000X		$\pm 15$		$\pm 1000$	20	679	92	91	1000	

NOTE:

1. Nominal Input Voltage 24 or 48VDC
2. Measured at Nominal Input Voltage
3. Measured at 12VDC for 24Vin, 24VDC for 48Vin

## INPUT SPECIFICATIONS:

Input Voltage Range.....	.....	see table
Input Surge Voltage (100ms max.) .....	24V.....	50Vdc max.
	48V.....	100Vdc max.
Under Voltage lockout .....	24Vin power up .....	8,8V typ.
	24Vin power down .....	8,0V typ.
	48Vin power up .....	17V typ.
	48Vin power down .....	16V typ.
Input Filter .....	.....	Pi Type
Positive Logic Remote On/Off Control: ( Negative Logic Remote On/Off see note 2 )		
Logic Compatibility CMOS or Open Collector TTL,ref.to - Vin		
Module ON .....	>3.5 Vdc to 75 Vdc or Open Circuit	
Module OFF .....	<1.2 Vdc	

## OUTPUT SPECIFICATIONS:

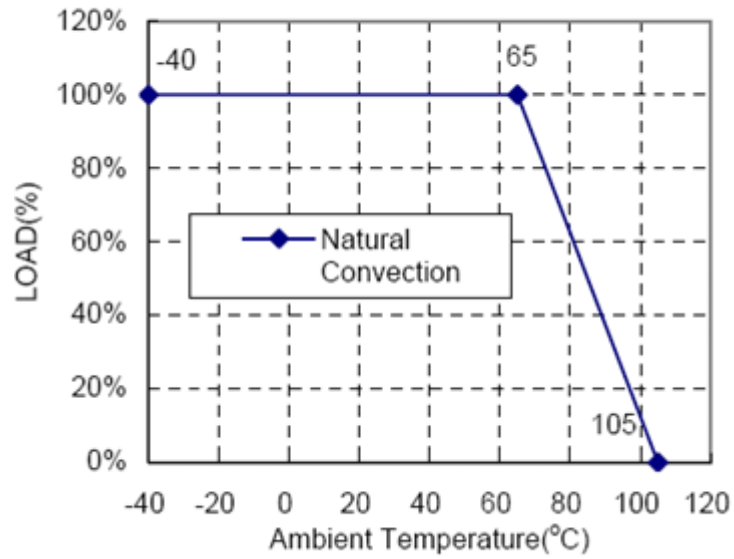
Voltage Accuracy .....	.....	±1,0% max.
Voltage Balance (Dual).....	.....	±1,0% max.
Transient Response: 75% - 100% Step Load Change .....	Error Band: ( ±5% Vout nominal, recovery Time ) .....	<250us
Ripple & Noise, 20 MHz BW ( Measured with 0,1uF MLCC ) .....	Vo 3,3 & 5V .....	75mV p-p max.
	Vo 12V , 15V , ±12V & ±15V.....	100mV p-p max.
Temperature Coefficient .....	.....	±0,02%/°C
Output Short Circuit Protection .....	.....	Continuous ( Hiccup Mode )
Line Regulation (Measured From High Line to Low Line ).....	Single & Dual.....	±0,2 % max.
Load Regulation ( Measured From Full Load to Min. Load ) .....	Single .....	±0,5 % max.
	Dual.....	±1,0 % max.
Cross Regulation ( Dual Output ) .....	Load cross variation 10% / 100% .....	±5 % max.
Over Voltage Protection .....	.....	Zener or TVS Clamp
Current Limit.....	.....	110% - 160% Nominal Output
External Trim Adj. Range .....	Single Output Models Only .....	±10%
Start up Time.....	.....	5ms typ.

## GENERAL SPECIFICATIONS:

Efficiency.....	.....	See Table
Isolation Voltage Input/Output .....	.....	1500VDC max
Isolation Resistance .....	.....	10 <sup>9</sup> Ohms min.
Isolation Capacitance .....	.....	1000pF typ.
Switching Frequency .....	.....	430KHz, typ.
Operating Ambient Temperature Range .....	.....	-40°C to +85°C
Derating, above 65°C .....	.....	Linearly to Zero Power at +105°C
Case Temperature (Note2).....	.....	105°C max.
Thermal Shutdown .....	.....	110°C typ.
Storage Temperature Range .....	.....	-55°C to +125°C
Cooling.....	.....	Natural Convection
Humidity .....	.....	95% RH max. Non condensing
EMI / RFI ( Conductive ) .....	.....	Meet EN55022 Class A ( Note 3 )
Safety meets .....	.....	UL60950-1, EN60950-1, IEC60950-1
MTBF (MIL-STD-217F, GB, 25°C, Full Load) .....	Single .....	900 Khrs typ.
	Dual.....	650 Khrs typ.
Dimensions .....	.....	2 x 1 x 0,4 inches ( 50,8 x 25,4 x 10,2 mm )
Weight.....	.....	35 g
Case Material .....	.....	Black Coated Copper with Non-Conductive Base

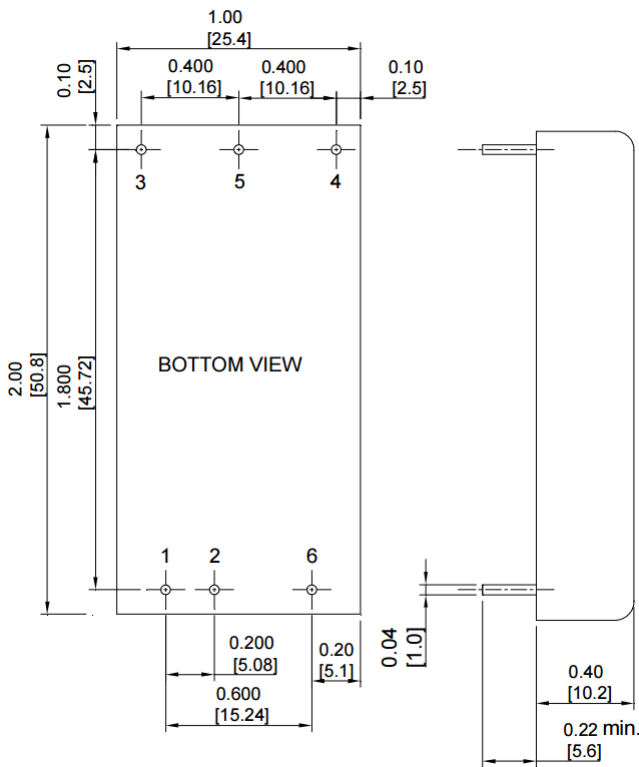
### Note:

- Suffix "N" to the Model Number Negative Logic Remote ON/OFF  
 Module ON .....
- Maximum case temperature under any operating condition should not be exceeded 105°C.
- Meet EN55022 Class A with external capacitor. ( see application note )



CASE X

Series DV304X



PIN CONNECTION		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	Trim	-Vout
5	-Vout	Common
6	Remote ON/OFF	Remote ON/OFF