



DESCRIPTION:

100W 1.5KVDC Isolated Wide Input Voltage DC/DC Converters

The rated output power of TP100DH converters is 100W, the outline dimensions is 57.9*61*12.7mm, 2:1,4:1 input voltage range, the voltage range is 9V-18V, 9V-36V 18V-36V, 18V-72V. The accuracy of the converter can reach $\pm 1\%$, it can be widely used in telecommunications, railway transportation, instrument and etc.

FEATURES

100W output power	2:1,4:1 input voltage range	Input under voltage protection
standard package	Fixed switching frequency	Super capability with capacitive load
Long term short-circuit protection	Operating temperature: -40°C to 85°C	RoHs compliance

SELECTION GUIDE

Part Number	Input Voltage		Output		Capacity Ability (uF)	Efficiency Typ. (%)
	voltage (VDC)		Voltage (VDC)	Current (A)		
	Rated	Range values				
TP100DH12S05	12(2:1)	9-18	5	20	10000	87
TP100DH12S12	12(2:1)	9-18	12	8.3	2200	84
TP100DH12S15	12(2:1)	9-18	15	6.6	2200	87
TP100DH24S05	24(2:1)	18-36	5	20	10000	87
TP100DH24S12	24(2:1)	18-36	12	8.3	2200	84
TP100DH24S15	24(2:1)	18-36	15	6.6	2200	87
TP100DH24S24	24(2:1)	18-36	24	4.1	1000	88
TP100DH24S05W	24(4:1)	9-36	5	20	10000	87
TP100DH24S12W	24(4:1)	9-36	12	8.3	2200	84
TP100DH24S15W	24(4:1)	9-36	15	6.6	2200	87
TP100DH24S24W	24(4:1)	9-36	24	4.1	1000	88
TP100DH48S05W	48(4:1)	18-72	5	20	10000	87
TP100DH48S12W	48(4:1)	18-72	12	8.3	2200	84
TP100DH48S15W	48(4:1)	18-72	15	6.6	2200	87
TP100DH48S24W	48(4:1)	18-72	24	4.1	1000	88
TP100DH48S48W	48(4:1)	18-72	48	2.1	470	88

All specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

GENERAL CHARACTERISTICS

parameter	Test conditions	Min	Typ	Max	Units
Isolation voltage	Input to output		500	1500	VDC
Insulation resistance	Input to output	100M			Ohm
Seismic	10~55Hz		5		G
MTBF	MIL-HDBK-217F2		2x10 ⁶		hrs
Over-current protection mode	All input range	Burp, Automatic recovery			

INPUT CHARACTERISTICS

parameter	Test conditions	Min	Typ	Max	Units
Voltage(2: 1)	The12V input module	9	12	18	VDC
Voltage(2: 1)	The24V input module	18	24	36	VDC
Voltage(4: 1)	The24V input module	9	24	36	VDC
Voltage(4: 1)	The48V input module	18	48	72	VDC

OUTPUT CHARACTERISTICS

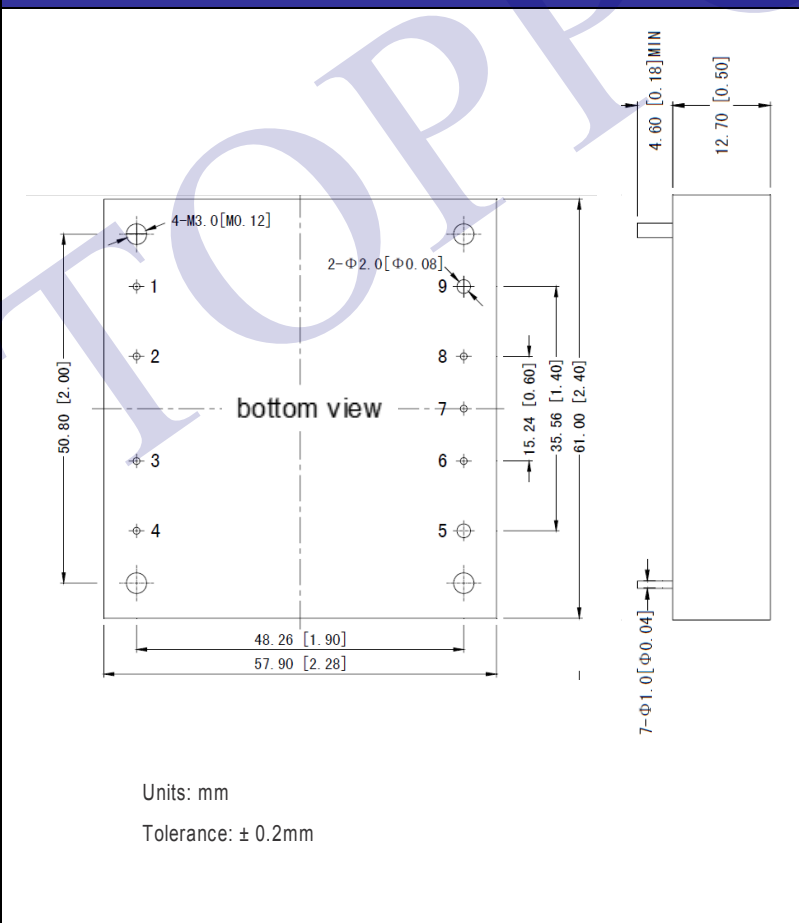
parameter	Test conditions	Min	Typ	Max	Units
Voltage accuracy	$I_o=0.1 \dots 1.0 \times I_{onom}$ $V_i=V_i$ rated			± 1	%
Line regulation	$V_{imin} \leq V_i \leq V_{imax}$			± 0.2	%
Load regulation	$I_o=0.1 \dots 1.0 \times I_{onom}$, $V_{imin} \leq V_i \leq V_{imax}$			± 0.5	%
Auxiliary voltage accuracy	Main Load and auxiliary load differ 25%, the auxiliary circuit of the load with at least 25%, the main circuit with full load			± 3	%
Ripple and noise	20MHz bandwidth	50		300	mV
Transient recovery time	25% load changes			± 5	%
Transient overshoot time	25% load changes			400	us
Switch frequency	$V_{imin} \leq V_i \leq V_{imax}$		300		KHz

ENVIRONMENT CHARACTERISTICS

parameter	Test conditions	Min	Typ	Max	Units
Storage Humidity	Non condensing	5		+95	%
Operating Temperature	Power derating (above 71°C)	-40		+85	°C
Storage Temperature		-55		+125	°C
Max. Case Temperature	Operating Temperature curve range	-40		100	°C
Lead Temperature	1.5mm from case for 10 seconds			300	°C
Cooling				Free air convection	

- Module in every environment temperature rating, case temperature under shall not exceed the maximum case temperature level.

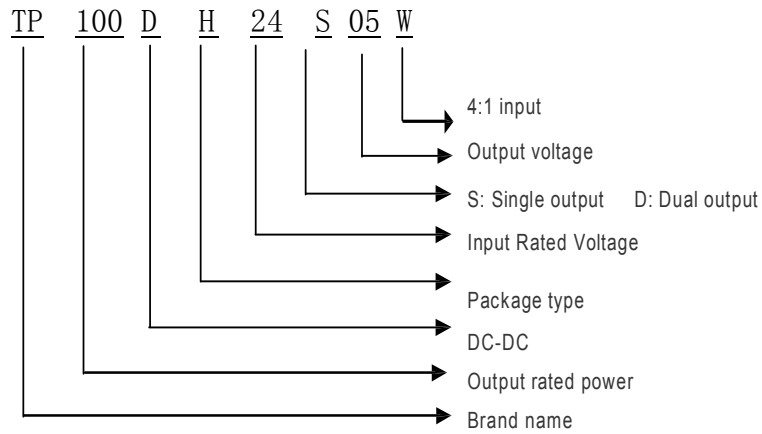
MECHANICAL DIMENSIONS



PIN CONNECTIONS

Pin	Single output
1	-Vin
2	CASE
3	CTL
4	+Vin
5	+Vo
6	+S
7	TRIM
8	-S
9	-Vo

MODEL SELECTION



USING ATTENTIONS

- Module will cause irreversible damage when in the state of the input reverse polarity.
- Module will cause irreversible damage when in the long-term overload conditions.
- Module will cause irreversible damage when out of the maximum input voltage range.

TEMPERATURE DERATING IN

TOPPOWER