



**DESCRIPTION:**

**50-75W 1.5KVDC Isolated Wide Input Voltage DC/DC Converters**

The rated output power of TP50-75DH converters is 50-75W, the outline dimensions is 57.9\*61\*12.7, 2:1 input voltage range, the voltage range is 9V-18V, 9V-36V 18V-36V, 18V-72V. The accuracy of the converter can reach ±1%, it can be widely used in telecommunications, railway transportation, instrument and etc.

**FEATURES**

50W,75W 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				
TP50DH12S03	12(2:1)	9-18	3.3	10	10000	86
TP50DH12S05	12(2:1)	9-18	5	10	10000	86
TP50DH12S12	12(2:1)	9-18	12	4.2	1000	86
TP50DH24S05	24(2:1)	18-36	5	10	10000	86
TP50DH24S12	24(2:1)	18-36	12	4.2	1000	86
TP50DH24S15	24(2:1)	18-36	15	3.3	1000	86
TP50DH24S24	24(2:1)	18-36	24	2	470	86
TP50DH24S05W	24(4:1)	9-36	5	10	10000	86
TP50DH24S12W	24(4:1)	9-36	12	4.2	1000	86
TP50DH24S15W	24(4:1)	9-36	15	3.3	1000	86
TP50DH24S24W	24(4:1)	9-36	24	2	470	86
TP75DH24S05W	24(4:1)	9-36	5	15	10000	87
TP75DH24S12W	24(4:1)	9-36	12	6.2	2200	85
TP75DH24S15W	24(4:1)	9-36	15	5	2200	86
TP75DH24S24W	24(4:1)	9-36	24	3.1	1000	88
TP75DH48S05W	48(4:1)	18-72	5	15	10000	87
TP75DH48S12W	48(4:1)	18-72	12	6.2	2200	85
TP75DH48S15W	48(4:1)	18-72	15	5	2200	86
TP75DH48S24W	48(4:1)	18-72	24	3.1	1000	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 <sup>6</sup>		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

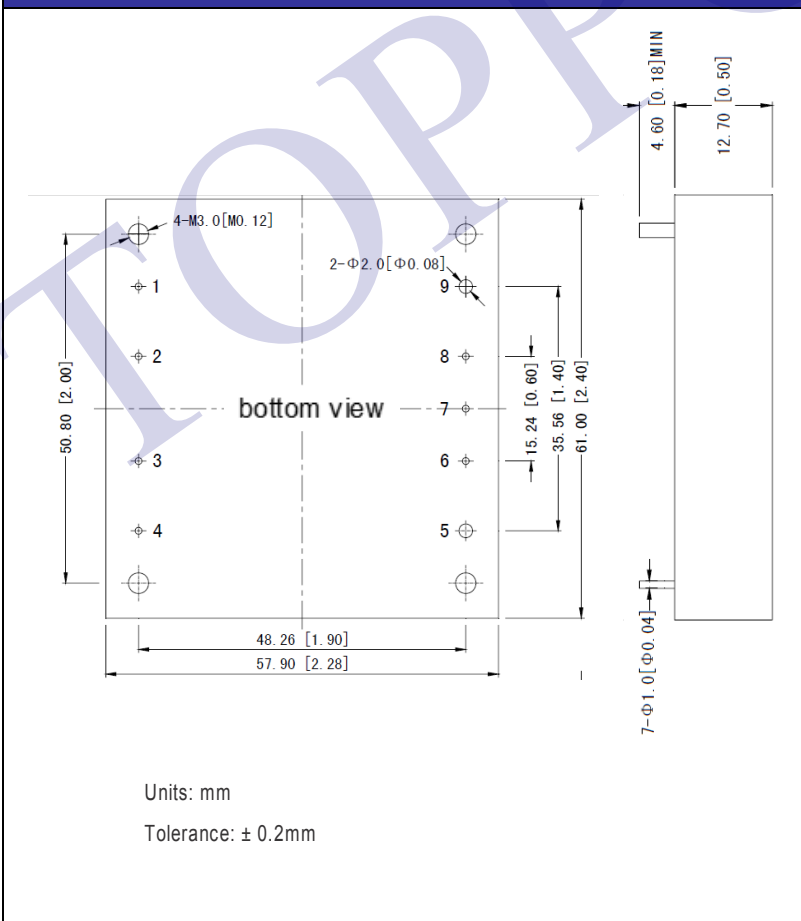
parameter	Test conditions	Min	Typ	Max	Units
Voltage accuracy	$I_o=0.1...1.0 \times I_{onom}$ $V_i=V_i$ rated			$\pm 1$	%
Line regulation	$V_{imin} \leq V_i \leq V_{imax}$			$\pm 0.2$	%
Load regulation	$I_o=0.1...1.0 \times I_{onom}$ , $V_{imin} \leq V_i \leq V_{imax}$			$\pm 0.5$	%
Auxiliary voltage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

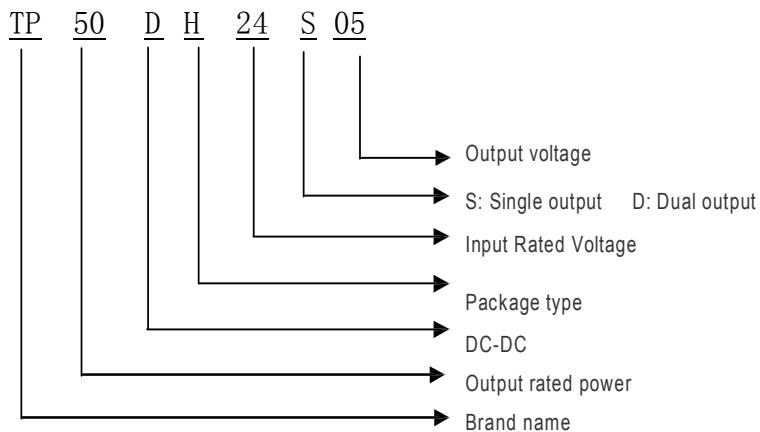
## MECHANICAL DIMENSIONS



## 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

