

# TODPW SERIES

## 24W Single output DC/DC Converter

### DESCRIPTION

The TODPW series are isolated 24W DC/DC converters with 2500 VDC isolation. The TODPW family comes with a host of industry-standard features, such as over-current protection, over-voltage protection, short circuit protection.

TODPW meets the railway EN/IEC 60571 requirement, and medical EN/IEC 60601 requirement.

All modules have two input voltage ranges (HV: 53V to 133V, LV:16V to 60V), and are capable with an operating temperature range of -30°C to +105°C.

It is suitable for customers' critical applications, such as process control and automation, transportation, data communication, and telecom equipment, test equipment, medical device, and everywhere that needs to withstand intense environments.

### FEATURES

- Package dimension: 63mm x 28.6mm x 24mm
- Isolation voltage 2500VDC
- Operating temperature range - 30°C to +105°C
- Over current protection
- Short output protection
- 2 Years product warranty
- Efficiency up to 85%
- Lead free, RoHS compliant

### APPLICATIONS



## Part Name

Part Number	Vin Range (VDC)	Vout Nominal (VDC)	Iout (A)	Power (W)	Eff (%)	ISO (KV)	LxWxH (mm)
55-TODPW-A20L-033	16V~60V	3.3	7.27	24	85	2.5	63mm x 28.6mm x 24mm
55-TODPW-A20L-050	16V~60V	5	4.8	24	85	2.5	63mm x 28.6mm x 24mm
55-TODPW-A20L-120	16V~60V	12	2	24	85	2.5	63mm x 28.6mm x 24mm
55-TODPW-A20L-190	16V~60V	19	1.26	24	85	2.5	63mm x 28.6mm x 24mm
55-TODPW-A20H-033	53.05V~133.5V	3.3	7.27	24	85	2.5	63mm x 28.6mm x 24mm
55-TODPW-A20H-050	53.05V~133.5V	5	4.8	24	85	2.5	63mm x 28.6mm x 24mm
55-TODPW-A20H-120	53.05V~133.5V	12	2	24	85	2.5	63mm x 28.6mm x 24mm
55-TODPW-A20H-190	53.05V~133.5V	19	1.26	24	85	2.5	63mm x 28.6mm x 24mm

## ALDCMC300002

### ABSOLUTE MAXIMUM RATINGS

Input Voltage LV:60V HV:133.5V  
 Operating Ambient Temperature -30°C to +105°C  
 Storage Temperature -40°C ~ 120°C  
 I/O Isolation Voltage 2500V



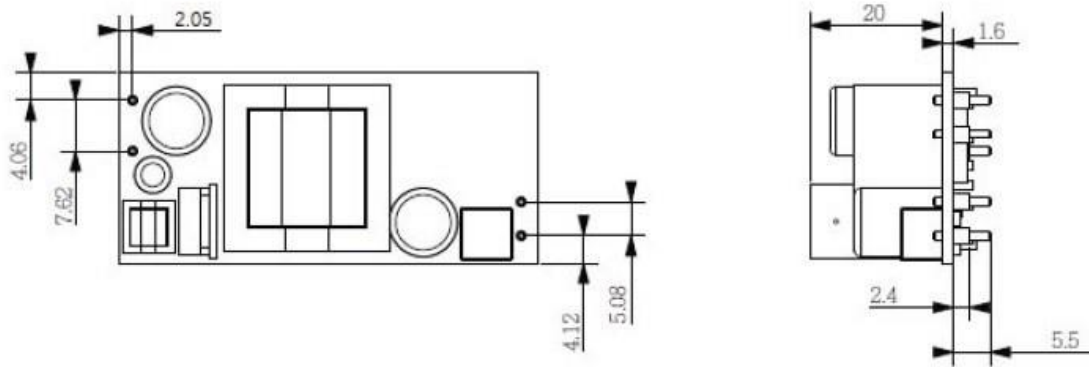
### ELECTRICAL CHARACTERISTICS

TA = 25°C

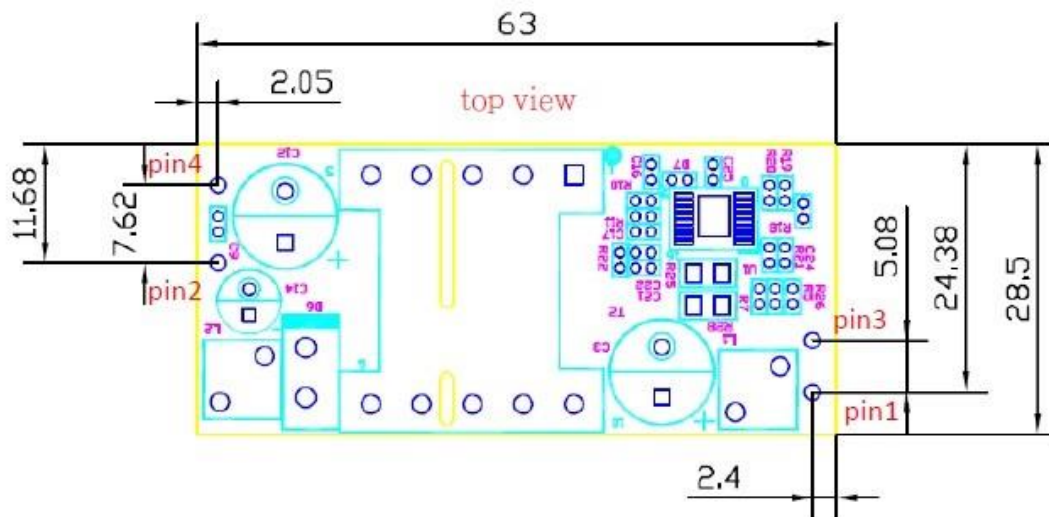
PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Operating Input Voltage	HV All Models LV All Models	53.05 16	-	133.5 60	V
Internal Power Dissipation	All Models	-	24	-	W
Input Turn-On Voltage Threshold	HV All Models LV All Models	-	53.05 16	-	V
Output Voltage	Look Part Name	-	-	-	V
Output Voltage Accuracy	All Models		±5.0%		%Vo
Output Current	Look Part Name	-	-	-	A
Output Current Limit:	104% Output Current	-	-	-	A
Short Output Protection	Continuous, Auto-recovery				
Efficiency			85		%
I/O Isolation Voltage		-	-	2500	VDC
Isolation Capacitance		-	100	-	pF
Isolation Resistance		20	-	-	MΩ
MTBF (calculated)	Io=80%Iomax, Ta=25°C,300LFM		5000		Hours

## MECHANICAL SPECIFICATIONS

- Outline Dimensions W\*L\*H: 63mm x 28.6mm x 24mm
- Weight: 41g nominal



## PIN CONFIGURATION



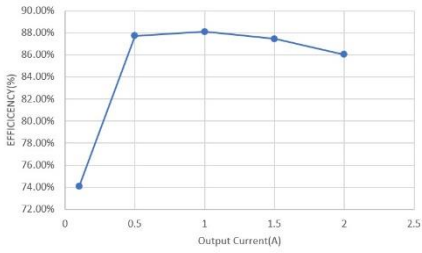
PinNumber	Description
Pin1	Vin
Pin2	Vout
Pin3	GND1(input)
Pin4	GND2(output)

## MECHANICAL SPECIFICATIONS

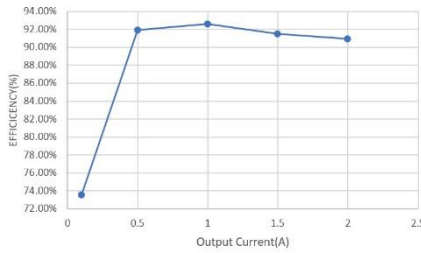
- Lead-free (RoHS) compliant
- Operating Temperature Range: -30 to 105° C
- Max. Average Operating Temperature: 105° C
- Storage Temperature: -40 to +120° C

# OPERATION CHARACTERISTIC

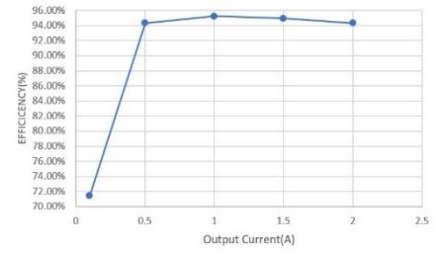
## HV MODULES EFFICIENCY



Vin=60V

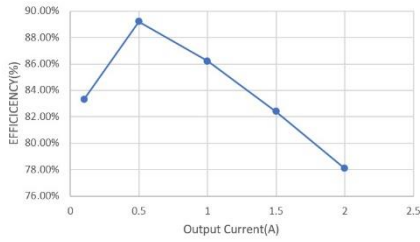


Vin=96V

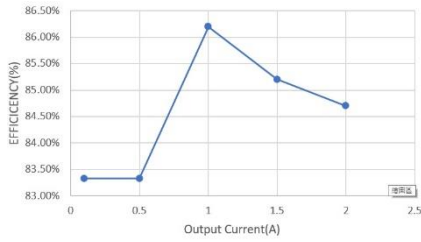


Vin=120V

## LV MODULES EFFICIENCY

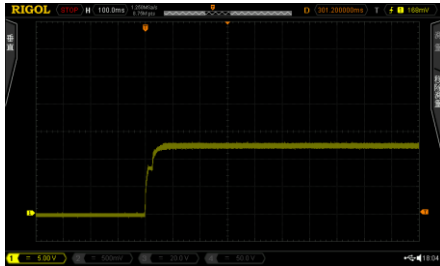


Vin=24V

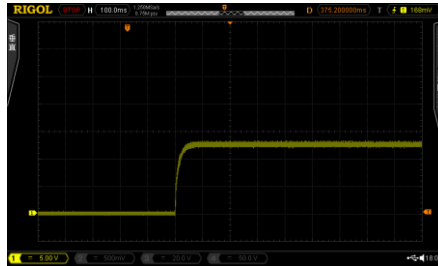


Vin=48V

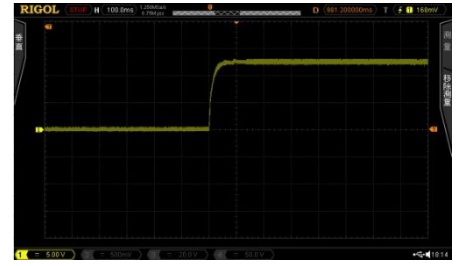
## TURN-ON TRANSIENT AT ZERO LOAD CURRENT (LV)



Vin=24V

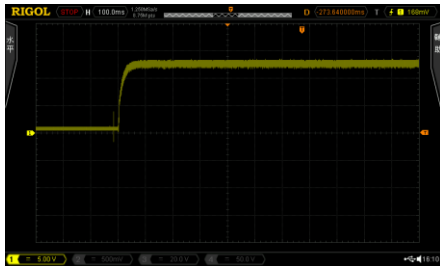


Vin=48V

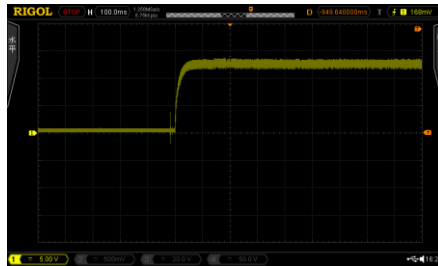


Vin=60V

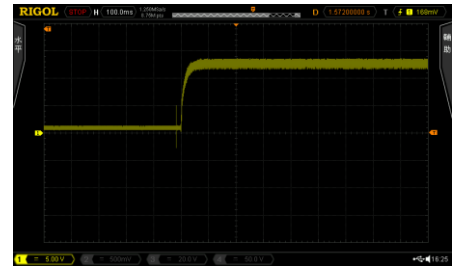
## TURN-ON TRANSIENT AT ZERO LOAD CURRENT (HV)



Vin=72V



Vin=96V



Vin=120V