

OPS5A

MAX. Output Current 5A Non-Isolated POL DC-DC Converter

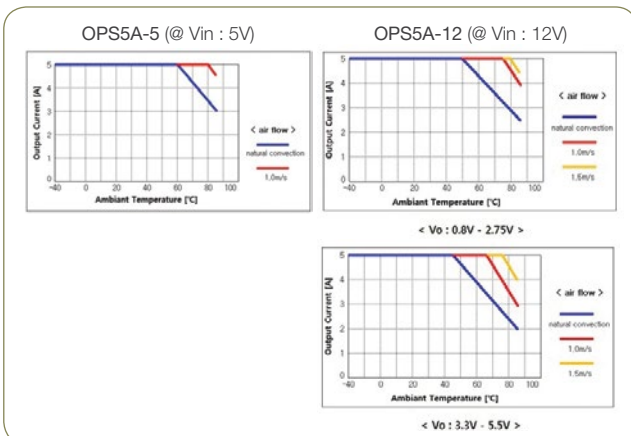
OPS5A Non-Isolated POL DC-DC Converter



Features

- Non-Isolated POL DC-DC Converter
- Input Voltage : 3V - 5.5V, 8V - 14V
- Wide Output Voltage Adj. Range (via external resistor)
OPS5A-5 : 0.65V - 3.63V, OPS5A-12 : 0.8V - 5.5V
- Output Current Range : 0A - 5A
- High Efficiency to 95%
- Remote on/off Control Function
- Built-in over current protection
- Built-in short-circuit protection
- Built-in over temperature protection
- Wide operating temperature range
- Available RoHS compliant
- Long Life Design (Employ only Ceramic Capacitor)
- 3-years warranty

Derating Curve



Environment

- Operating Temperature : -40°C ~ 85°C (Refer to derating curve)
- Operating Humidity : 5% ~ 95% RH (Non condensing)
- Storage Temperature : -40°C ~ 125°C
- Cooling : Free-Air Convection or Forced air
- MTBF : 6.0×10^5 hrs

General Specifications

Input	Input Voltage Range	5V (3V - 5.5V), 12V (8V - 14V)
	Efficiency	72% ~ 95%
Output	Output Voltage	0.65V ≤ Vo ≤ 3.63V (@ Vin : 5V) 0.8V ≤ Vo ≤ 5.5V (@ Vin : 12V)
	Line Regulation	± 0.2%
	Load Regulation	± 1.0%
	Output Voltage Accuracy	± 2.0%
	Output Voltage adj. Range	0.65V ≤ Vo ≤ 3.63V (@ Vin : 5V) 0.8V ≤ Vo ≤ 5.5V (@ Vin : 12V)
Protection Circuit	Over Current Protection	Works at 115% ~ 185% of rating and recovers automatically
	Short Circuit Protection	30s
	Over Temperature Protection	Tref. = 135°C (Refer to datasheet)
	Over Voltage Protection	None

OPS5A Series Ordering Information

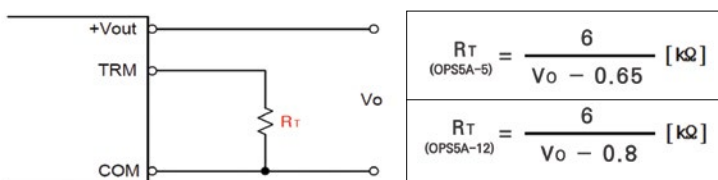
MODEL		OPS5A-5	OPS5A-12
Input Voltage (V)		5(3.0~5.5)	12(8~14)
Output	Vout (V)	3.3(0.65~3.63)	5(0.8~5.5)
	Iout (A)	5.0	5.0
Maximum Power (W)		18.15	27.5
Ripple & Noise(mVp-p)		30	30
Efficiency Typ.(%)		76~95	72 ~ 93

External Resistor Values for setting output voltage

OPS5A-5			OPS5A-12		
Vo	R _T	Vin	Vo	R _T	Vin
0.65V	open	DC 3.0V - 5.5V	0.8V	open	DC 8.0V - 14.0V
0.8V	40.2kΩ		1.0V	30.0kΩ	
1.0V	16.9kΩ		1.5V	8.66kΩ	
1.2V	11.0kΩ		2.0V	4.99kΩ	
1.5V	6.98kΩ		2.5V	3.48kΩ	
1.8V	5.23kΩ		3.0V	2.4kΩ	
2.0V	4.42kΩ		4.0V	1.87kΩ	
2.5V	3.24kΩ		4.5V	1.62kΩ	
3.3V	2.26kΩ	DC 4.5V - 5.5V	5.0V	1.43kΩ	
3.63V	2.0kΩ		5.5V	1.3kΩ	

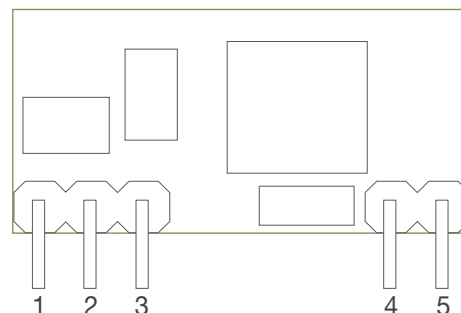
R_T is recommended resistor of 1% standard values to consideration of the output voltage accuracy.

External resistor(R_T) connecting & calculating method



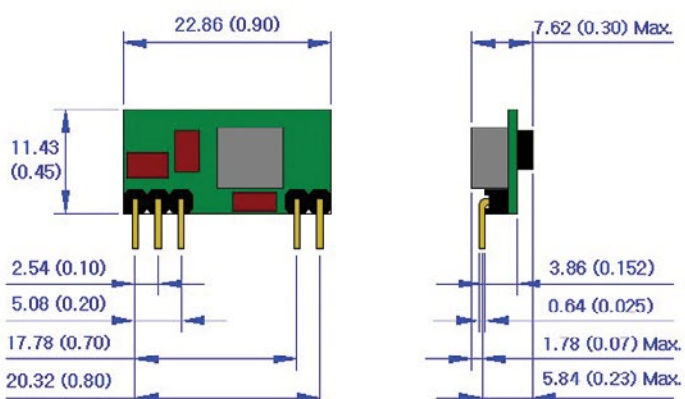
Vo adj. Range		
Model No.	Vin	Vo
OPS5A-5	DC 3.0V - 4.5V	DC 0.65V - 2.75V
	DC 4.5V - 5.5V	DC 0.65V - 3.63V
OPS5A-12	DC 8V - 14V	DC 0.8V - 5.5V

Pin assignments & Function



Pin No.	Single
1	+Vout
2	TRM
3	COM
4	+Vin
5	CNT

Outline Dimensions : (Unit : mm (inch))



Mounting Hole (Top View)

