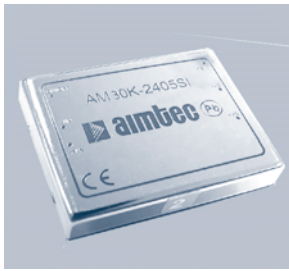




# AM30K-I Series



## 30 watt dc-dc converters

- POWER MODULES FOR PCB MOUNTING
- SOFT START
- THERMAL SHUTDOWN
- HIGH EFFICIENCY
- REMOTE ON - OFF CONTROL
- STANDARD PACKAGE
- UVLO / OVLO SHUTDOWN

### GENERAL DESCRIPTION

Our AM30K-I series is a family of cost effective 30W output DC-DC converters. These converters are shielded on all six sides and encapsulated with a nickel-coated copper with a non-conductive base and dimensions of 50.8x40.64x10.8mm. The high performance features of our AM30K-I components include continuous short circuit protection with auto recovery, tight line regulation and a high efficiency operation coefficient up to 88%.

Twenty one models operate from an input voltage of 12, 24 & 48VDC producing output voltages of 3.3, 5, 12, 15,  $\pm 5$ ,  $\pm 12$ , &  $\pm 15$ VDC. The normal operation is specified over the full operating temperature range of  $-40^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$  with no derating required. Cooling is done by free air convection.

### ELECTRICAL SPECIFICATIONS

All specifications valid at nominal input voltage, full load and  $+25^{\circ}\text{C}$  after warm-up time unless otherwise stated.

#### Input Specifications:

Voltage range (2:1)	12VDC, 9~18VDC 24VDC, 18~36VDC 48 VDC, 36~75VDC
Filter	$\pi$ (Pi) Network

#### Isolation Specifications:

Rated voltage	1500VDC
Resistance	$>1000$ Mohms
Capacitance	1000pF

#### General Specifications:

Efficiency	81% to 88%
Switching frequency	250KHz, typ. 100% load

#### Environmental Specifications:

Operating temperature	$-40^{\circ}\text{C}$ ... $+75^{\circ}\text{C}$
Storage temperature	$-55^{\circ}\text{C}$ ... $+115^{\circ}\text{C}$
Case temperature	$+100^{\circ}\text{C}$ , max.
Humidity (non-condensing)	Up to 95%
Cooling	Free-air convection

#### Output Specifications:

Voltage accuracy	$\pm 2\%$ , max.
Ripple Noise (3.3 & 5V)	80m Vp-pmax
Ripple Noise (Others)	1% P-Pmax (Vp-p)
Short circuit protection	Continuous, auto-recovery
Over current protection	Over 110% of full load and recovers automatically
Over voltage protection	Zener diode clamp protection
Line regulation (HL-LL)	$\pm 0.5\%$ , max.
Load regulation (10-100%)	Single $\pm 0.5\%$ , max., dual $\pm 2\%$ , max.
Temperature coefficient	$\pm 0.05\%/^{\circ}\text{C}$ , max.

#### Physical Specifications:

Dimensions	50.8x40.6x10.2mm, 2.0x1.6x0.4inches
Weight	50g
Case material	Nickel-Coated Copper

MTBF:  $> 550,000$  hrs (MIL-HDBK-217F, Ground Benign,  $t=+25^{\circ}\text{C}$ )

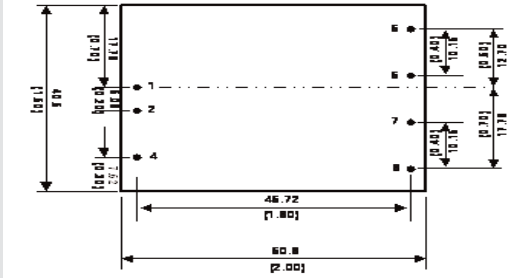
*Specifications are subject to change without notification*

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## OUTLINE DIMENSIONS & PIN CONNECTIONS

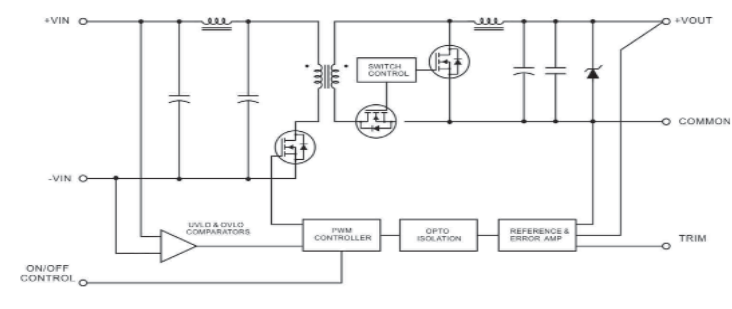
### MECHANICAL DIMENSION (Bottom View)



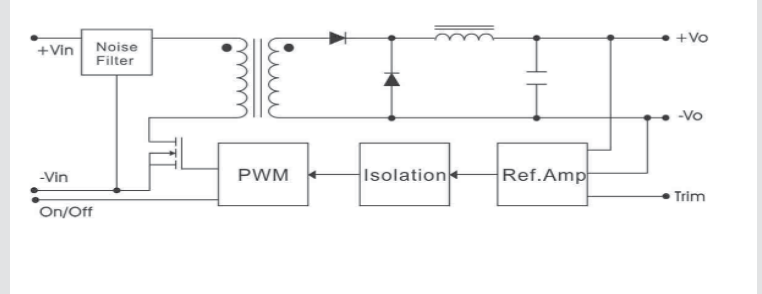
Pin	1500VDC	
	Single	Dual
1	+ V Input	+ V Input
2	- V Input	- V Input
4	On / Off Control	On / Off Control
5	N.P.	+ V Output
6	+ V Output	Common
7	-V Output	-V Output
8	Trim	Trim

### BLOCK DIAGRAM

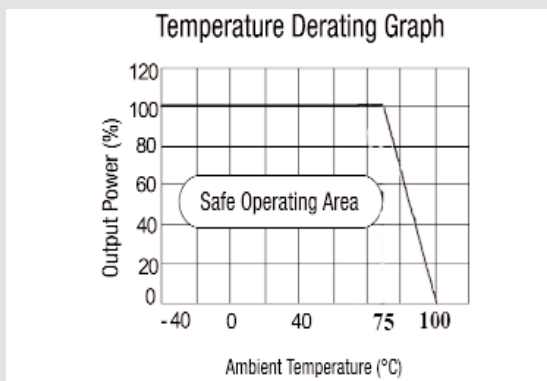
Output Voltage (V.DC) : 3.3V, 5V



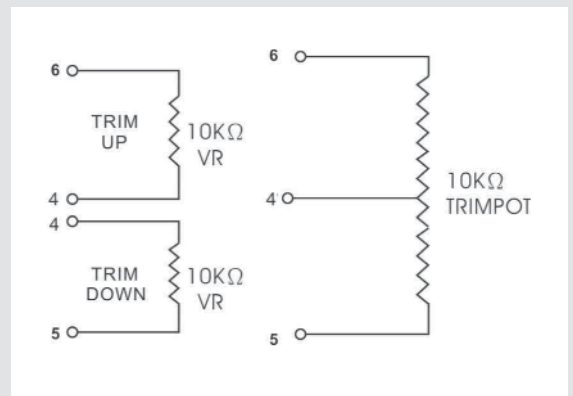
Output Voltage (V.DC) : 12V, 15V



### DERATING



### TRIMMING



## MODELS Single output

Models	Input Voltage	Ouput Voltage	Ouput Current max.
AM30K-1203SI	9-18VDC	3.3VDC	5500mA
AM30K-1205SI		5VDC	5000mA
AM30K-1212SI		12VDC	2500mA
AM30K-1215SI		15VDC	2000mA
AM30K-2403SI	18-36VDC	3.3VDC	5500mA
AM30K-2405SI		5VDC	5000mA
AM30K-2412SI		12VDC	2500mA
AM30K-2415SI		15VDC	2000mA
AM30K-4803SI	36-75VDC	3.3VDC	5500mA
AM30K-4805SI		5VDC	5000mA
AM30K-4812SI		12VDC	2500mA
AM30K-4815SI		15VDC	2000mA

## MODELS Dual output

Models	Input Voltage	Ouput Voltage	Ouput Current max.
AM30K-1205DI	9-18VDC	±5VDC	±2500mA
AM30K-1212DI		±12VDC	±1250mA
AM30K-1215DI		±15VDC	±1000mA
AM30K-2405DI	18-36VDC	±5VDC	±2500mA
AM30K-2412DI		±12VDC	±1250mA
AM30K-2415DI		±15VDC	±1000mA
AM30K-4805DI	36-75VDC	±5VDC	±2500mA
AM30K-4812DI		±12VDC	±1250mA
AM30K-4815DI		±15VDC	±1000mA