



## 30 watt dc-dc converters

- POWER MODULES FOR PCB MOUNTING
- SIX-SIDED CONTINUOUS SHIELD
- 4:1 WIDE INPUT RANGE
- HIGH EFFICIENCY
- STANDARD PACKAGE

### GENERAL DESCRIPTION

Our AM30KW-C series is a family of cost effective 30W single and dual 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 50.8x40.64x11.9mm. The high performance features of our AM30KW-C components include short circuit protection with hiccup auto recovery, tight line regulation and a high efficiency operation coefficient up to 89%.

18 models operate from an input voltage of 24, 48VDC producing output voltages of 1.8, 2.5, 3.3, 5, 12, 15 & 24VDC,  $\pm 5$ ,  $\pm 12$ ,  $\pm 15$ VDC. The normal operation is specified over the full operating temperature range of  $-25^{\circ}\text{C}$  to  $+71^{\circ}\text{C}$  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	24 VDC, 10~40VDC 48 VDC, 18~75VDC
Filter	$\pi$ (Pi) Network

#### Isolation Specifications:

Rated voltage	1500VDC
Resistance	>1000 Mohms
Capacitance	1000pF

#### General Specifications:

Efficiency	78% to 83%
Switching frequency	300KHz, typ. 100% load

#### Environmental Specifications:

Operating temperature	$-25^{\circ}\text{C}$ ... $+70^{\circ}\text{C}$
Storage temperature	$-55^{\circ}\text{C}$ ... $+105^{\circ}\text{C}$
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 (1.8 & 5V)	100mVmax
Ripple (Others)	$\pm 1\%$ , max.
Noise	$\pm 1\%$ , max.
Short circuit protection	Hiccup, auto-recovery
Over current protection	Works over 120% of rating and recovers automatically
Over voltage protection	Zener diode clamp protection
Line regulation (HL-LL)	$\pm 0.5\%$ , typ.
Load regulation (10-100%)	$\pm 1\%$ , typ., 100mV, max -(1,8-5V)
Temperature coefficient	$\pm 0.02\%/^{\circ}\text{C}$ , typ.

#### Physical Specifications:

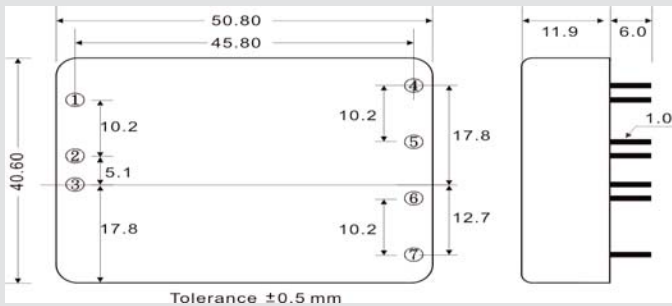
Dimensions	50.8 x 40.6 x 11.9mm, $\pm 0.5$ mm 2.0 x 1.6 x 0.47inches
Weight	58g
Case material	Nickel-Coated Copper with Non-Conductive base, six sides' shielded

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

Specifications are subject to change without notification

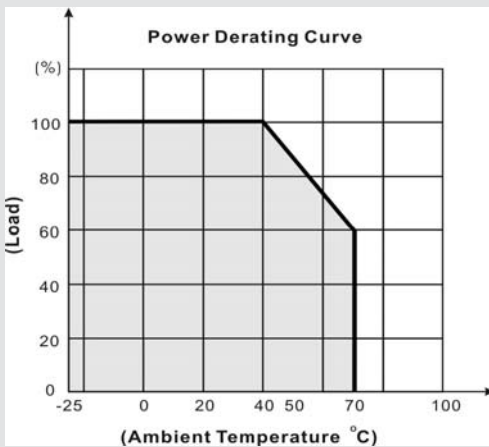
## OUTLINE DIMENSIONS & PIN CONNECTIONS

### MECHANICAL DIMENSION (Top View)

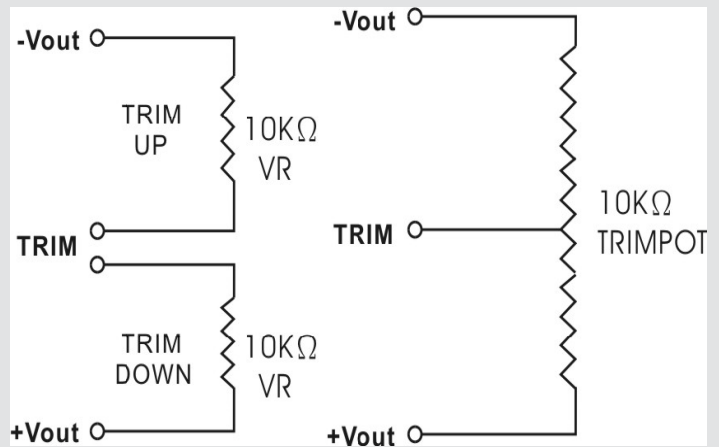


Pin	Single	Dual
1		ON/Off
2	+V Input	
3	-V Input	
4	Trim	
5	-V Output	
6	+V Output	Common
7	No Pin	+V Output

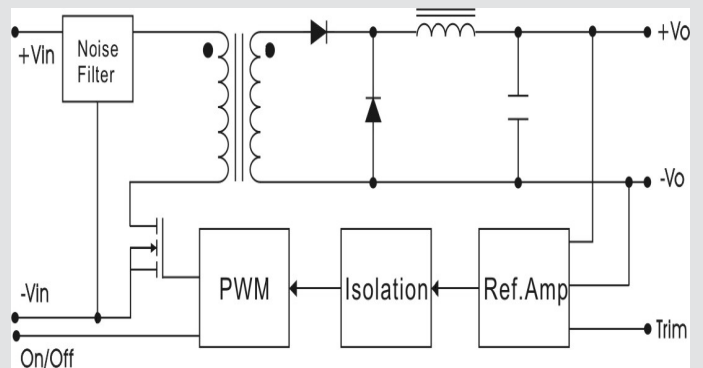
### DERATING



### TRIMMING

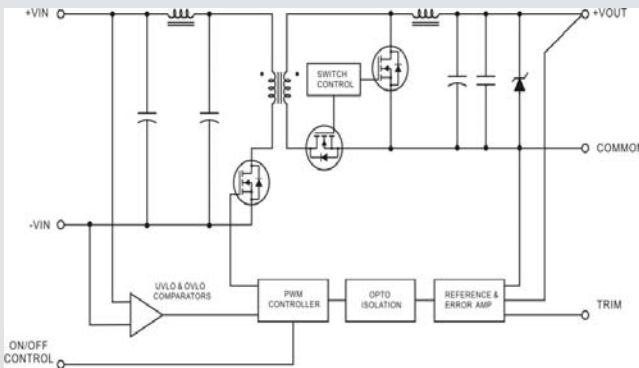


### SINGLE OUTPUT VOLTAGE (V.DC) : 12V, 15V, 24V

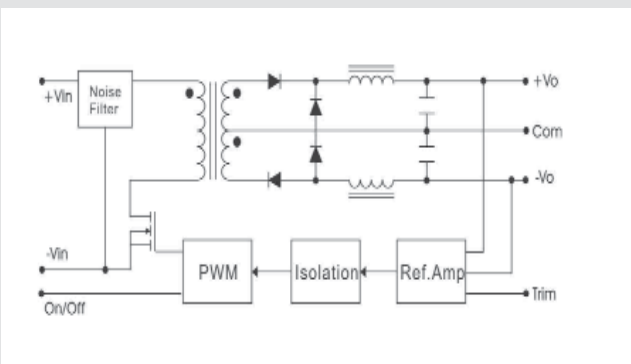


### BLOCK DIAGRAM

#### SINGLE OUTPUT VOLTAGE (V.DC) : 1.8V, 2.5V, 3.3V, 5V



### DUAL OUTPUT VOLTAGE



## MODELS

Single output

Models	Input Voltage	Ouput Voltage	Ouput Current max.
AM30KW-2401SC	10VDC-40VDC	1.8VDC	6000mA
AM30KW-2402SC		2.5VDC	6000mA
AM30KW-2403SC		3.3VDC	6000mA
AM30KW-2405SC		5VDC	6000mA
AM30KW-2412SC		12VDC	2500mA
AM30KW-2415SC		15VDC	2000mA
AM30KW-2424SC		24VDC	1250mA
AM30KW-4801SC		18VDC-75VDC	1.8VDC
AM30KW-4802SC	2.5VDC		6000mA
AM30KW-4803SC	3.3VDC		6000mA
AM30KW-4805SC	5VDC		6000mA
AM30KW-4812SC	12VDC		2500mA
AM30KW-4815SC	15VDC		2000mA
AM30KW-4824SC	24VDC		1250mA

## MODELS

Dual output

Models	Input Voltage	Ouput Voltage	Ouput Current max.
AM30KW-2412DC	10VDC-40VDC	±12VDC	1250mA
AM30KW-4805DC	18VDC-75VDC	±5VDC	3000mA
AM30KW-4812DC		±12VDC	1250mA
AM30KW-4815DC		±15VDC	1000mA