

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, ± 5 , ± 12 , ± 15 VDC. The normal operation is specified over the full operating temperature range of -25°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	π (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°C ... $+70^{\circ}\text{C}$
Storage temperature	-55°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:

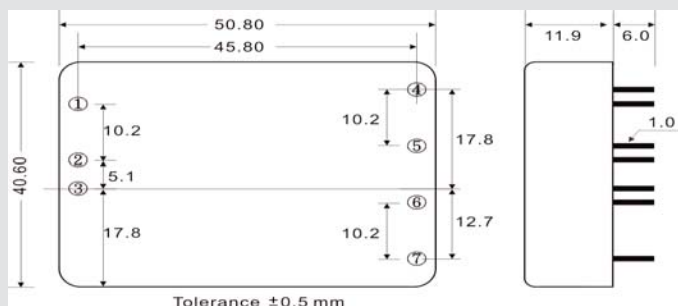
Dimensions	50.8 x 40.6 x 11.9mm, ± 0.5 mm 2.0 x 1.6 x 0.47inches
Weight	58g
Case material	Nickel-Coated Copper with Non-Conductive base, six sides' shielded

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

Specifications are subject to change without notification

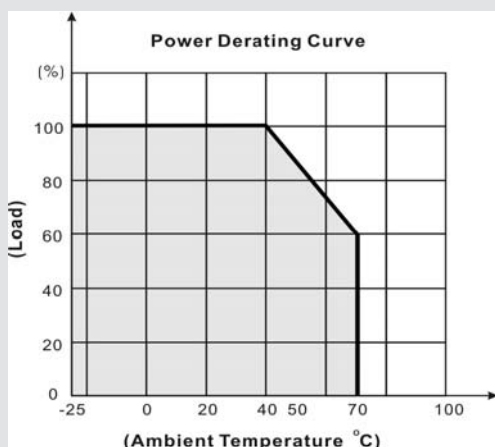
OUTLINE DIMENSIONS & PIN CONNECTIONS

MECHANICAL DIMENSION (Top View)

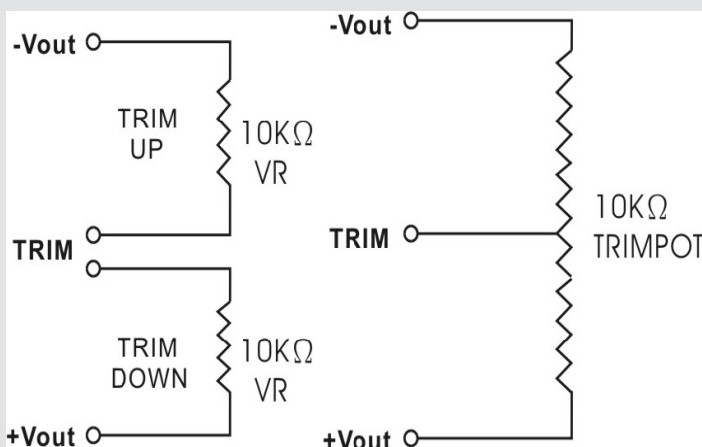


Pin	Single	Dual
1	ON/Off	
2	+V Input	
3	-V Input	
4	Trim	
5	- V Output	
6	+V Output	Common
7	No Pin	+V Output

DERATING

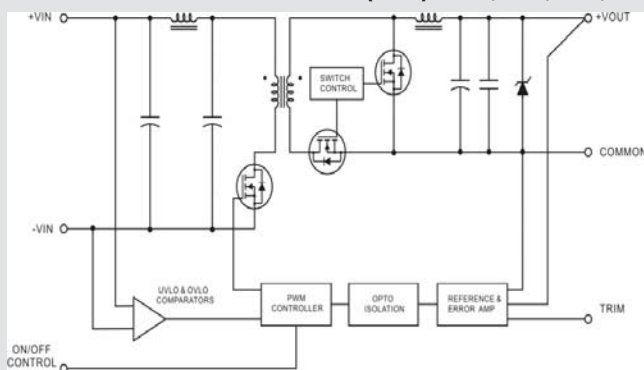


TRIMMING

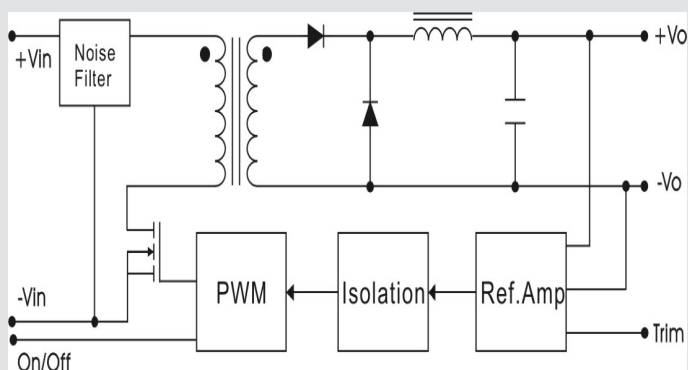


BLOCK DIAGRAM

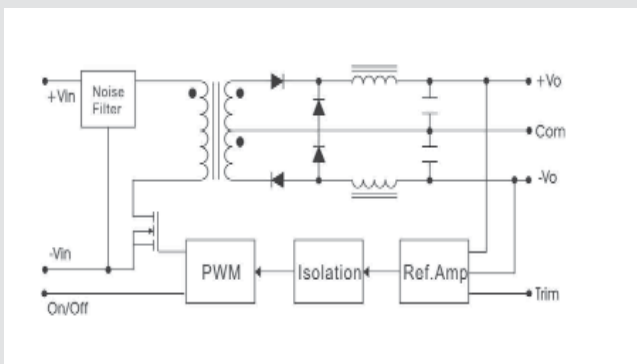
SINGLE OUTPUT VOLTAGE (V.DC) : 1.8V, 2.5V, 3.3V, 5V



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



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	6000mA
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