

Picture
Available
Soon

10 watt dc-dc converters

- FULL SMD TECHNOLOGY
- WIDE 2:1 INPUT RANGE
- HIGH EFFICIENCY UP TO 90%
- LOW PROFILE METAL PACKAGE
- INPUT/OUTPUT ISOLATION: 1500VDC
- OPERATING TEMPERATURE: -40°C ... +85°C
- CONTINUOUS SHORT CIRCUIT PROTECTION
- PIN-COMPATIBLE WITH MULTIPLE MANUFACTURERS

GENERAL DESCRIPTION

Our AM10E series is a family of cost effective 10W single and dual output DC/DC converters. These converters combine nickel-coated copper package with high performance features such as 1500VDC input/output isolation voltage, continuous short circuit protection with automatic restart and tight line / load regulation. Wide range devices operate over 2:1 input voltage range providing stable output voltage. Input voltages of 12, 24 and 48VDC with output voltages of 3.3, 5, 7.2, 9, 12, 15, 18,

24, ± 3.3 , ± 5 , ± 7.2 , ± 9 , ± 12 , ± 15 , ± 18 or ± 24 VDC. High performance features include high efficiency operation up to 90% and output voltage accuracy of $\pm 1\%$ maximum. All models are packaged in a low profile 50.8 x 25.4 x 10.16mm nickel-coated copper case. Operation is specified over the full operating temperature range of -40°C to +85°C with no derating required. Cooling is by free-air convection.

ELECTRICAL SPECIFICATIONS

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Input Specifications:

Voltage range	12VDC, 9~18VDC 24VDC, 18~36VDC 48VDC, 36~72VDC
Filter	Capacitor

Isolation Specifications:

Rated voltage (60 sec)	1500VDC
Resistance	> 1000M Ω m
Capacitance	500pF, typ.

Environmental Specifications:

Operating temperature (ambient)	-40°C ... +85°C
Storage temperature	-40°C ... +125°C
Case Temperature	+100°C, max.
Derating	None required
Humidity (non-condensing)	Up to 90%
Cooling	Free-air Convection

General Specifications:

Efficiency	83% to 90%
Switching frequency	200KHz, typ. 100% load

Output Specifications:

Voltage accuracy	$\pm 1\%$, max.
Voltage balance (Dual Output)	$\pm 1\%$
Ripple and noise (at 20MHz BW)	± 100 mVp-p, max.
Short circuit protection	Continuous
Short circuit restart	Automatic
Line voltage regulation	$\pm 0.5\%$, max.
Load voltage regulation	$\pm 0.5\%$, max.
Temperature coefficient	$\pm 0.02\%/^{\circ}\text{C}$, typ.
Over load protection	130%, typ. 100% load

Physical Specifications:

Dimensions	50.8x25.4x10.16mm 2.00x1.00x0.40inches
Weight	46g
Case material	Nickel-Coated Copper

MTBF: > 800,000 hrs @ 25°C (MIL-HDBK-217F)

Specifications are subject to change without notification.

Continued on next page

Top View Dimensions:

- Overall Width: 25.40 (1.000)
- Overall Height: 11.30 (0.445)
- Pin 1 to Pin 2: 2.54 (0.100)
- Pin 2 to Pin 3: 10.16 (0.400)
- Pin 3 to Pin 4: 10.16 (0.400)
- Pin 4 to Pin 5: 2.54 (0.100)
- Pin 5 to Pin 6: 10.16 (0.400)
- Pin 6 to Pin 7: 10.16 (0.400)
- Pin 7 to Pin 8: 2.54 (0.100)
- Pin 8 to Pin 9: 10.16 (0.400)
- Pin 9 to Pin 10: 10.16 (0.400)
- Pin 10 to Pin 11: 2.54 (0.100)
- Pin 11 to Pin 12: 10.16 (0.400)
- Pin 12 to Pin 13: 10.16 (0.400)
- Pin 13 to Pin 14: 2.54 (0.100)
- Pin 14 to Pin 15: 10.16 (0.400)
- Pin 15 to Pin 16: 10.16 (0.400)
- Pin 16 to Pin 17: 2.54 (0.100)
- Pin 17 to Pin 18: 10.16 (0.400)
- Pin 18 to Pin 19: 10.16 (0.400)
- Pin 19 to Pin 20: 2.54 (0.100)
- Pin 20 to Pin 21: 10.16 (0.400)
- Pin 21 to Pin 22: 10.16 (0.400)
- Pin 22 to Pin 23: 2.54 (0.100)
- Pin 23 to Pin 24: 10.16 (0.400)
- Pin 24 to Pin 25: 10.16 (0.400)
- Pin 25 to Pin 26: 2.54 (0.100)
- Pin 26 to Pin 27: 10.16 (0.400)
- Pin 27 to Pin 28: 10.16 (0.400)
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- Pin 133 to Pin 134: 2.54 (0.100)
- Pin 134 to Pin 135: 10.16 (0.400)
- Pin 135 to Pin 136: 10.16 (0.400)
- Pin 136 to Pin 137: 2.54 (0.100)
- Pin 137 to Pin 138: 10.16 (0.400)
- Pin 138 to Pin 139: 10.16 (0.400)
- Pin 139 to Pin 140: 2.54 (0.100)
- Pin 140 to Pin 141: 10.1

Pin	Single	Dual
1	-V Input	-V Input
2	+V Input	+V Input
3	-V Output	-V Output
4	No Pin	Common
5	+V Output	+V Output

Models	Input Voltage	Ouput Voltage	Ouput Current max.
AM10E-1203S	9 - 18VDC	3.3VDC	2500mA
AM10E-1205S		5VDC	2000mA
AM10E-1207S		7.2VDC	1380mA
AM10E-1209S		9VDC	1111mA
AM10E-1212S		12VDC	833mA
AM10E-1215S		15VDC	666mA
AM10E-1218S		18VDC	550mA
AM10E-1224S		24VDC	416mA
AM10E-2403S	18 - 36VDC	3.3VDC	2500mA
AM10E-2405S		5VDC	2000mA
AM10E-2407S		7.2VDC	1380mA
AM10E-2409S		9VDC	1111mA
AM10E-2412S		12VDC	833mA
AM10E-2415S		15VDC	666mA
AM10E-2418S		18VDC	550mA
AM10E-2424S		24VDC	416mA
AM10E-4803S	36 - 72VDC	3.3VDC	2500mA
AM10E-4805S		5VDC	2000mA
AM10E-4807S		7.2VDC	1380mA
AM10E-4809S		9VDC	1111mA
AM10E-4812S		12VDC	833mA
AM10E-4815S		15VDC	666mA
AM10E-4818S		18VDC	550mA
AM10E-4824S		24VDC	416mA

MODELS

Dual output

Models	Input Voltage	Ouput Voltage	Ouput Current max.
AM10E-1203D	9 - 18VDC	±3.3VDC	±1250mA
AM10E-1205D		±5VDC	±1000mA
AM10E-1207D		±7.2VDC	±690mA
AM10E-1209D		±9VDC	±555mA
AM10E-1212D		±12VDC	±416mA
AM10E-1215D		±15VDC	±333mA
AM10E-1218D		±18VDC	±270mA
AM10E-1224D		±24VDC	±208mA
AM10E-2403D	18 - 36VDC	±3.3VDC	±1250mA
AM10E-2405D		±5VDC	±1000mA
AM10E-2407D		±7.2VDC	±690mA
AM10E-2409D		±9VDC	±555mA
AM10E-2412D		±12VDC	±416mA
AM10E-2415D		±15VDC	±333mA
AM10E-2418D		±18VDC	±270mA
AM10E-2424D		±24VDC	±208mA
AM10E-4803D	36 - 72VDC	±3.3VDC	±1250mA
AM10E-4805D		±5VDC	±1000mA
AM10E-4807D		±7.2VDC	±690mA
AM10E-4809D		±9VDC	±555mA
AM10E-4812D		±12VDC	±416mA
AM10E-4815D		±15VDC	±333mA
AM10E-4818D		±18VDC	±270mA
AM10E-4824D		±24VDC	±208mA

Temperature Derating Graph

