

30DMWE4_1.5 series

30W - Single/Dual Output - Wide Input - Isolated & Regulated
DIP DC-DC Converter



DC-DC Converter

30 Watt

- ⊕ 1"x 1" DIL package
- ⊕ 4:1 Wide input voltage range
- ⊕ Regulated output types
- ⊕ High efficiency up to 92%
- ⊕ Customized solutions available
- ⊕ Remote control: on/off
- ⊕ Operating temperature from -40°C to +75°C (77°C with HS)
- ⊕ 3 Years Warranty
- ⊕ UL/cUL/IEC 60950-1, 62368-1 Approved (5V/12V single output only)
- ⊕ EMC Standard of EMI EN55032:2012+AC:2013 (Class B) Approved
- ⊕ EMC Standard of EMS EN55024:2010 Approved

The 30DMWE4_1.5 series offers 30W of output, wide input voltage of 9-36VDC, 18-75VDC, and features 1500VDC isolation, six-sided metal shield, over current and short circuit protection.

All models are particularly suited to tele-communications, industrial, test equipments power etc.



Common specifications

Short circuit protection:	Continuous, auto-recovery
Operation temperature range:	without heatsink: -40°C~+75°C with heatsink: -40°C~+77°C
Storage temperature range:	-55°C~+125°C
Case temperature:	105°C Max.
Switching frequency:	• 3.3 & 5.0 Vout: 275kHz MIN • other: 275kHz MIN
Storage humidity range:	5% MIN, 95% MAX
Case material:	Six-side shield case
MTBF (MIL-HDBK-217F @25°C):	>1,200,000 hours
Cooling:	Natural Convection (20LFM)
Weight:	without heatsink: 22g (Typ) with heatsink: 24.5g (Typ)
Dimensions:	25.4x25.4x10.6mm

Input specifications

Item	Test condition	Min	Typ	Max	Units
Voltage types	4:1				
Surge voltage (1sec. max)	• 24V models • 48V models			50 100	VDC VDC
Remote ON/OFF	Positive logic DC-DC ON DC-DC OFF Input current of Ctrl pin Remote off input current		OPEN OR 3 ~ 15VDC SHORT OR 0 ~ 1.2VDC -0.5 ~ +1.0 MA 2.0 MA TYP		

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Input to output Input (output) to case	1500 1000			VDC VDC
Isolation resistance	Test at 500VDC	1000			MΩ

Output specifications

Item	Test condition	Min	Typ	Max	Units
Voltage tolerance	100% full load			±2	%
Line regulation	Nominal input voltage			±0.5	%
Load regulation	Single			±0.5	%
Ripple and noise	20MHz Bandwidth Single: 3.3V/5V with 22uF 12V/15V with 2*22uF 24V with 2*6.8uF			100	mVp-p
Temperature drift	100% full load			±0.02	%/°C
Transient response setting time	25% load step change		350		μs
Start-up time	Nominal input voltage			30	ms
Switching frequency:	• 3.3/5.0 Vout • other	245 300	275 330	305 360	KHz KHz
Output power protection	Continuous, auto-recovery	110		170	%
Over voltage protection	Input voltage range • 3.3V output • 5V output • 12V output • 15V output • 24 output	3.7 5.6 13.5 18.3 29.1		5.4 7 19.6 22 32.5	VDC VDC VDC VDC VDC

Example:

30DMWE4_2415S1.5

30 = 30Watt; D = DIP; M = series; W4 = Wide input (4:1) 9-36Vin;
E = Economy; 24 = 24Vin; 15 = 15Vout; S = Single output;
1.5 = 1500VDC isolation

Note:

- All specifications measured at Ta = 25°C, humidity <75%, nominal input voltage and rated output load unless otherwise specified.
- In this datasheet, all the test methods of indications are based on corporate standards.
- Only typical models listed, other models may be different, please contact our technical person for more details.
- Specifications subject to change without notice.

30DMWE4_1.5 series

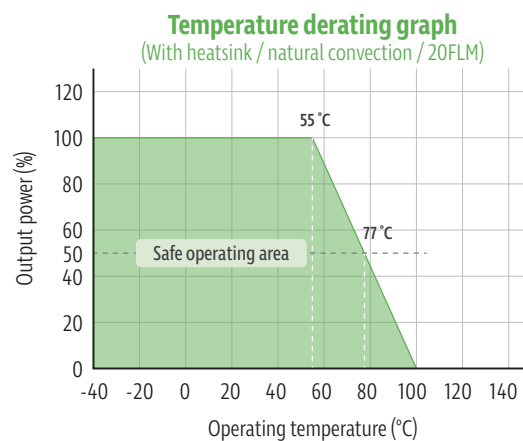
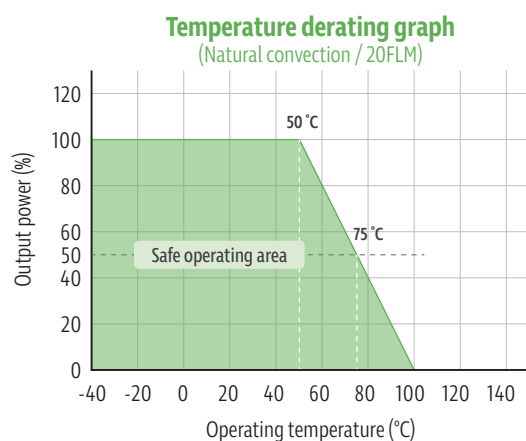
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Product Selection Guide

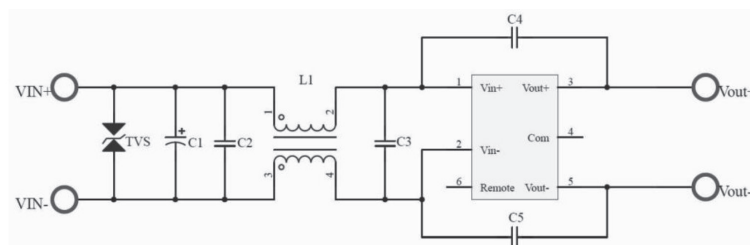
Part Number	Input Voltage [VDC]		Input Current [mA]		Output Voltage [VDC]	Output Current [mA, max]	Efficiency [%, Typ.]
	Nominal	Range	No Load (mA, Typ)	Full Load (mA, Typ)			
30DMWE4_2403S1.5	24	9-36	10	1119	3.3	7000	86
30DMWE4_2405S1.5	24	9-36	10	1420	5	6000	88
30DMWE4_2412S1.5	24	9-36	10	1404	12	2500	89
30DMWE4_2415S1.5	24	9-36	10	1404	15	2000	89
30DMWE4_2424S1.5	24	9-36	10	1389	24	1250	90
30DMWE4_4803S1.5	48	18-75	7	553	3.3	7000	87
30DMWE4_4805S1.5	48	18-75	7	702	5	6000	89
30DMWE4_4812S1.5	48	18-75	7	694	12	2500	90
30DMWE4_4815S1.5	48	18-75	7	687	15	2000	91
30DMWE4_4824S1.5	48	18-75	7	679	24	1250	92

Add suffix "H" for heatsink mounted, for example 30DMWE4_2405S1.5H

Typical characteristics



Recommended test circuit

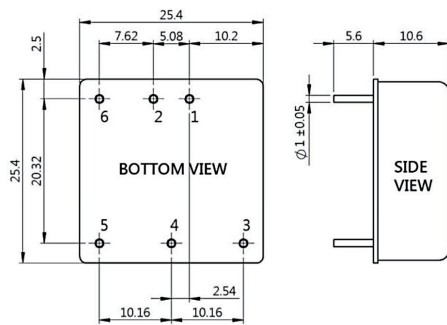


24V C1 220uF/100V&C2&C3 4.7uF/50V C4&C5 2200pF/2kV L1 0.94mH TVS 3.0SMCJ58AG
48V C1 220uF/100V&C2&C3 4.7uF/100V C4&C5 3200pF/2kV L1 6.20mH TVS 3.0SMCJ120AG

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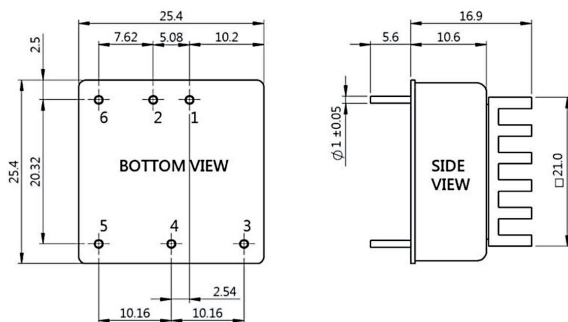
Mechanical dimensions (no heatsink)



Unit : mm

Tolerance : XX.X ± 0.5 , XX.XX ± 0.25

Mechanical dimensions (with heatsink)



Unit : mm

Tolerance : XX.X ± 0.5 , XX.XX ± 0.25

Pin Assignment

PIN	1	2	3	4	5	6
Single	+Vin	-Vin	+Vout	Trim	-Vout	Remote On/Off
Dual	+Vin	-Vin	+Vout	Com	-Vout	Remote On/Off