



40DMW4_1.6 series

40W - Single/Dual Output - Wide Input - Isolated & Regulated DC-DC Converter

DC-DC Converter

40 Watt

- ⊕ Standard 1" x1" Package
- ⊕ 4:1 Wide Input Range
- ⊕ Efficiency up to 93%
- ⊕ Regulated Output
- ⊕ 1600VDC Isolation
- ⊕ Remote On/Off Control
- ⊕ OVP/OCV/ OTP
- ⊕ Output Voltage Adjustable (Trim)
- ⊕ Operation Temp. -40~80°C

The 40DMW4_1.6 series are isolated 40W DC/DC products with 4:1 input voltage. They feature efficiency up to 90%, 1600VDC isolation, operating temperature of -40°C to +80°C, input under-voltage protection, output over-voltage, output over-current, output short circuit protection, which make them widely applied in industrial control, electric power, instruments and communication fields.



Common specifications					
Item	Test condition	Min	Typ	Max	Units
Short circuit protection		Continuous, self-recovery			
Operating Temperature	Detail to see Fig.1	-40		80	°C
Storage Temperature	10 ~ 95% RH	-55		125	°C
Storage Temperature				105	°C
Operating Humidity	non-condensing			95	% RH
Storage Humidity				95	% RH
MTBF	MIL-HDBK-217F@25°C		1.021M		h
Material	Potting Material is Epoxy which is flammability to UL94V-0				

Output specifications					
Item	Test condition	Min	Typ	Max	Units
Output Power Range	See Rating Chart				W
Voltage accuracy	Io=Full load, Vin=Typ.,@25°C			1	%
Line regulation	Full Load, Vin=Vmax to Vmin @25°C			0.3	%
Load regulation	Io=10% to 100% Vin= Typ. @25°C			See Rating Chart	
Over Load Protection	Io= % of Full Load at Nominal Vin	110		180	%
Over Temperature Protection	Case			115	°C
Time of Transient Response	Load of 50% to 75%			500	µS
Ripple & Noise	(Peak to Peak) 20MHz			See Rating Chart	
Temperature coefficient	All output			0.03	%/°C
Dielectric With Standing Voltage	• Input to output • Input or output to case	1600		1600	VDC VDC
EMI Compliance to EN55022 (CISPR22)*	Io-Full load, Vin=Typ., At 25°C			A	Class
Start Up Time	Vin-Nominal, 100% load			60	ms
Switching frequency				450	KHz
Shut Down Voltage	• 9~36 VDC; (Nominal: 18V) • 18~75 VAC; (Nominal: 36V)			8.5	VDC
				17	VDC

* For meeting CISPER, some filters must be added.

Input specifications					
Item	Test condition	Min	Typ	Max	Units
Input Voltage	• 9~36 VDC; (Nominal: 18V) • 18~75 VAC; (Nominal: 36V)	9	18	36	mA
		18	36	75	mA

Isolation specifications					
Item	Test condition	Min	Typ	Max	Units
Isolation resistance	Input to output	1000			MΩ
Isolation capacitance	Input to output		2000		pF

Remote Control Function-Enable High					
Item	Test condition	Min	Typ	Max	Units
System Disable	• V-Remote • I-Remote	0		0.8	VDC
		-2		2	mA
System Enable	• V-Remote • I-Remote • Floating Remote ON/OFF Pin	3		15	VDC
		-2		2	mA

Note: Control Voltage Reference to Negative Input

Example:

40DMW4_2415S1.6
 40 = 40Watt; D = DIP; M = series; W4 = wide input (4:1) 9-36Vin;
 15Vout; S = single output; 1.6 = 1600VDC isolation

Note:

1. Only typical model listed. Non-standard models will be different from the above, please contact us for more details.
2. All specifications are measured at TA = 25°C, humidity <75%, nominal input voltage and rated output load unless otherwise specified.
3. In this datasheet, all the test methods of indications are based on corporate standards.

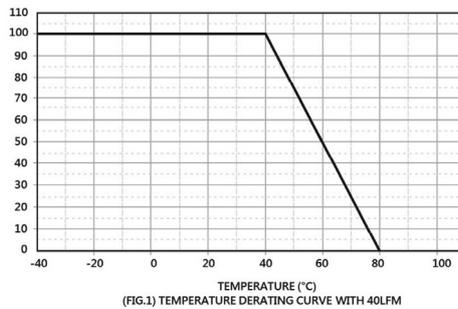
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Product Selection Guide

Part Number	Input Voltage [VDC] Nominal	Input Voltage [VDC] Range	Output Voltage [VDC]	Output Current [A]	Max Output Power [W]	Ripple & Noise [mVp-p]	Efficiency [%, Typ.]	Capacitor load [μF, Max]
40DMW4_2405S1.6	18	9-36	5	8.00	40	75	94.5	10,000
40DMW4_2412S1.6	18	9-36	12	3.33	40	75	90.5	4700
40DMW4_2415S1.6	18	9-36	15	2.67	40	75	91	3300
40DMW4_2405D1.6	18	9-36	±5	3.00	40	75	87	4700
40DMW4_2412D1.6	18	9-36	±12	1.25	40	75	89	2200
40DMW4_2415D1.6	18	9-36	±15	1.00	40	75	89.5	1500
40DMW4_4805S1.6	36	18-75	5	8.00	40	75	92.5	10,000
40DMW4_4812S1.6	36	18-75	12	3.33	40	75	92	4700
40DMW4_4815S1.6	36	18-75	15	2.67	40	75	93	3300
40DMW4_4805D1.6	36	18-75	±5	3.00	40	75	88	4700
40DMW4_4812D1.6	36	18-75	±12	1.25	40	75	91	2200

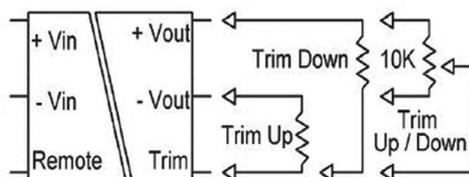
Temperature derating curve



Output Voltage Trim

Remote Control Function-Enable High					
Item	Test condition	Min	Typ	Max	Units
Trim-Up Range	0% to 100% Load	+9	+10	+11	%
Trim-Down Range	0% to 100% Load	-9	-10	-11	%

Output Voltage Adjustment Applicative Circuit



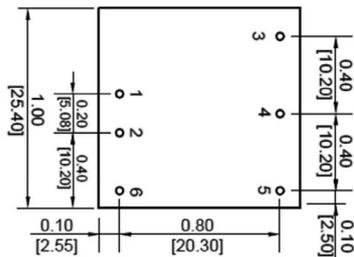
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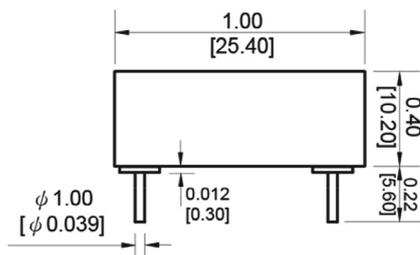
Output Voltage Adjustment External Resistor

Tolerance:	mm	inches	mm
%	KQ	%	KQ
0	Floating	0	Floating
+1	361.0	-1	452.0
+2	161.0	-2	202.0
+3	94.3	-3	118.7
+4	61.0	-4	77.0
+5	41.0	-5	52.0
+6	27.7	-6	35.3
+7	18.1	-7	23.4
+8	11.0	-8	14.5
+9	5.4	-9	7.6
+10	1.0~0	-10	2.0~0

Mechanical dimensions



Pin No.	Single Output	Dual Output
1		+Vin
2		-Vin
3		+Vout
4	Trim	Common
5		+Vout
6		Remote On/Off



Tolerance:	mm	inches
	X ±0.25	.XX ±0.01
	XX ±0.25	.XXX ±0
Pin	± 0.05	±0.002