



20DPW4_1.6 series

20W - Single/Dual Output - Wide Input - Isolated & Regulated DC-DC Converter

DC-DC Converter 20 Watt

-  DIP 24 Package
-  4:1 Wide Input Range
-  Efficiency up to 90%
-  Regulated Output
-  1600VDC Isolation
-  Remote On/Off Control
-  OVP/OCP/ OTP
-  Operation Temp. -40 to 80°C

The 20DPW4_1.6 series are isolated 20W 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	5% -100% load	-40		125	°C
Operating Humidity	non-condensing			95	% RH
Storage Humidity				95	% RH
MTBF	MIL-HDBK-217F@25°C		1.346M		h
Material	Potting Material is Epoxy which is flammability to UL94V-0				
Cooling	Free Air Convection				

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		220	%
Over Temperature Protection	Case		110		°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			400		KHz
Shut Down Voltage	• 9~36 VDC; (Nominal: 18V) • 18~75 VAC; (Nominal: 36V)			8.5	VDC 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 mA

Isolation specifications					
Item	Test condition	Min	Typ	Max	Units
Isolation voltage	test time 1min/ leak current <1mA • Input-output • Input/output case	1500			VDC VDC
Isolation resistance	Test at 500VDC	1000			MΩ
Isolation capacitance			2000		pF

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

Note: Control Voltage Reference to Negative Input

Example:
20DPW4_2415S1.6
 20 = 20Watt; D = DIP; P = series; W4 = wide input (4:1) 9-36Vin;
 15Vout; S = single output; 1.5 = 1500VDC 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.

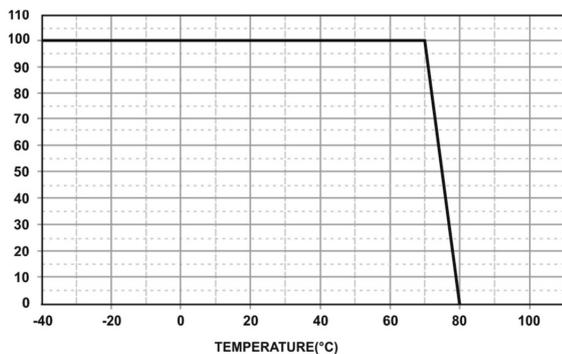
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20W - Single/Dual Output - Ultra Wide Input - Isolated & Regulated DC-DC Converter

Product Selection Guide

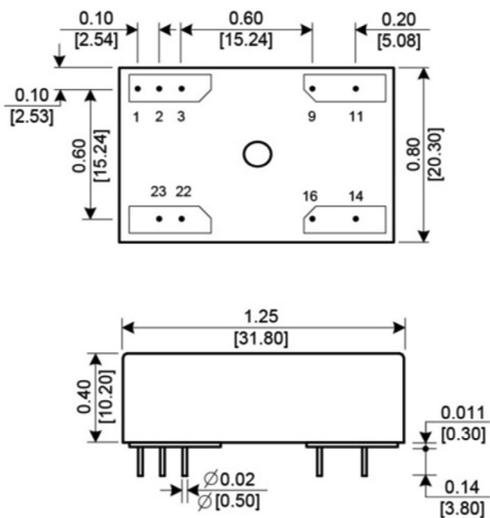
Part Number	Input Voltage [VDC]		Output Voltage [VDC]	Output Current [A]	Max Output Power [W]	Ripple & Noise [mVp-p]	Efficiency [% , Typ.]	Capacitor load [μ F, Max]
	Nominal	Range						
20DPW4_2405S1.6	18	9-36	5	4.00	20	75	90	10,000
20DPW4_2412S1.6	18	9-36	12	1.25	15	75	88	2,200
20DPW4_2415S1.6	18	9-36	15	1.00	15	75	89	1,500
20DPW4_2405D1.6	18	9-36	\pm 5	1.50	15	75	86	2,200
20DPW4_2412D1.6	18	9-36	\pm 12	0.625	15	75	88	470
20DPW4_2415D1.6	18	9-36	\pm 15	0.50	15	75	89	470
20DPW4_4805S1.6	36	18-75	5	4.00	20	75	90	10,000
20DPW4_4812S1.6	36	18-75	12	1.25	15	75	88	2,200
20DPW4_4815S1.6	36	18-75	15	1.00	15	75	89	1,500
20DPW4_4805D1.6	36	18-75	\pm 5	1.50	15	75	86	2,200
20DPW4_4812D1.6	36	18-75	\pm 12	0.625	15	75	88	470
20DPW4_4815D1.6	36	18-75	\pm 15	0.50	15	75	89	470

Temperature derating curve



(FIG.1) TEMPERATURE DERATING CURVE WITH 40LFM

Mechanical dimensions



Pin No.	Single Output	Dual Output
1	Remote On/Off	
2, 3	-Vin	
9	No Pin	Common
11	N.C.	-Vout
14	+Vout	+Vout
16	-Vout	Common
22, 23	+Vout	

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