



25DPEW4_1.6 series

25W - Single/Dual Output - Wide Input - Isolated & Regulated DC-DC Converter

DC-DC Converter 25 Watt

- ⊕ 25W DIL Package
- ⊕ 4:1 Wide input voltage range
- ⊕ High Efficiency up to 92%
- ⊕ Regulated output types
- ⊕ No minimum load required
- ⊕ Over power and short circuit protection
- ⊕ Operating temperature: -40°C to +86°C (with derating)
- ⊕ UL94V-0 package material
- ⊕ 100% burned-in



The 25DPEW4_1.6 series offers 25W of output, with 4:1 ultra wide input voltage of 9-36 and 18-75VDC, 1600VDC isolation and short-circuit protection.

All models are applied to wide voltage range input situations such as data transmission device, battery power supply device, telecommunication device, distributed power supply system, remote control system, industrial robot system etc.

Common specifications

Short circuit protection:	Hiccup, continuous, automatic recovery				
Operating Ambient Temperature (Power Derating See Derating Graph)	Nominal Vin, 100% Load				
	• 25DPEW4_4824S1.6	-40°C	~ 67.6°C		
	• 25DPEW4_4805S1.6, 25DPEW4_4815S1.6, 25DPEW4_2412D1.6, 25DPEW4_2415D1.6	-40°C	~ 62.5°C		
	• 25DPEW4_2412S1.6, 25DPEW4_2415D1.6, 25DPEW4_2424S1.6, 25DPEW4_4812S1.6	-40°C	~ 57.2°C		
• 25DPEW4_2405S1.6, 25DPEW4_4812D1.6, 25DPEW4_4815D1.6	-40°C	~ 51.8°C			
Storage temperature:	-55°C ~ +125°C				
Case Temperature:	105°C max				
Storage humidity:	5 ~ 95% MAX (Non Condensing)				
Thermal Impedance:	20LFM	17.2 °C/W			
	100LFM	13.9 °C/W			
	200LFM	10.3 °C/W			
	400LFM	6.8 °C/W			
Switching frequency:	270kHz TYP				
Radiated Emissions:	EN55022, CLASS A				
Conducted Emissions:	EN55022, CLASS A				
MTBF:	461,000 hours Typ. (MIL-HDBK-217F@25°C)				
Case material:	Copper				
Potting Material:	Silicone (UL94-V0)				
Cooling:	Natural Convection				
Dimensions:	31.6 x 20.1 x 10.0 mm				
Weight:	18g Typ.				

Input specifications

Item	Test condition	Min	Typ	Max	Units
Input Voltage	24V Models	9		36	VDC
	48V Models	18		75	VDC
Input Surge Voltage (100 ms max.)	24V Models	-0.7		50	VDC
	48V Models	-0.7		100	VDC
Start-up Voltage	24V Models			9	VDC
	48V Models			18	VDC
Under Voltage Shutdown	24V Models		7.5		VDC
	48V Models		16		VDC
Start-up Time (Constant Resistive Load)	Nominal Vin				
	• Power-up • Remote ON/OFF			30 30	VDC VDC
Input filter	Internal Pi type				
Remote ON/OFF	• Positive logic	Open or 3.5-12 VDC (DC/DC ON) Short or 0-12 VDC (DC/DC OFF)			
		• Input Current Of Ctrl PIN • Remote Off Input Current	Short or 0-1.2Vdc (DC/DC OFF) -0.5 ~ +0.5 mA 3.5 mA TYP		

Output specifications

Item	Test condition	Min	Typ	Max	Units
Voltage tolerance	100% Load	-2		±2	%
Line regulation	Vin(min) to Vin(max) @100% Load	-0.2		+0.2	%
Load regulation	0% to 100% load • 5V Output • Other Outputs	-1		+1	%
		-0.5		+0.5	%
Load Cross Regulation	Asymmetrical Load 25% / 100% Load (Dual Output)	-5.0		+5.0	%
Ripple & Noise (20MHz Bandwidth)	• 15Vout & 24Vout • Other Outputs			150	mVp-p
				100	mVp-p
Transient Response Setting Time	25% Load Step Change		300	500	us
Transient Response Deviation	25% Load Step Change	-5	±3	+5	%
Temperature Coefficient		-0.02		+0.02	%/°C
Output Power Protection	% of Io, Hiccup mode, Auto-recovery	120	150	180	%
Output Power Protection	5Vout		6.2		VDC
	12Vout		15		VDC
	15Vout		18		VDC
	24Vout		30		VDC

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Input To Output (60sec)	1600			VDC
	Input (Output) to case (60sec)	1000			VDC
Isolation resistance	500Vdc	1000			MΩ
Isolation Capacitance	100kHz, 1V			2200	pF

Example:

25DPEW4_2405S1.6

25 = 25Watt; D = DIP24; E = series; W4 = wide input (4:1) 9-36Vin; 5Vout; S = Single output; 1.6 = 1600VDC isolation

Note:

- Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta = 25°C, humidity <75% with nominal input voltage and rated output load;
- All index testing methods in this datasheet are based on our Company's corporate standards;
- The performance parameters of the product models listed in this manual are as above, but some parameters of non-standard model products may exceed the requirements mentioned above. Please contact our technicians directly for specific information;
- We can provide product customization service;
- Specifications are subject to change without prior notice.

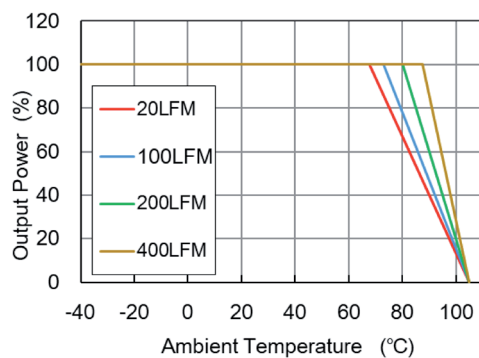
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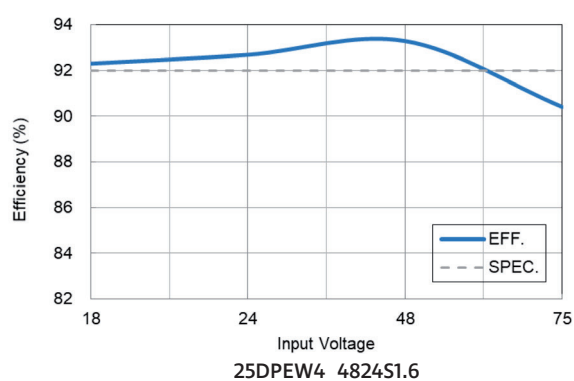
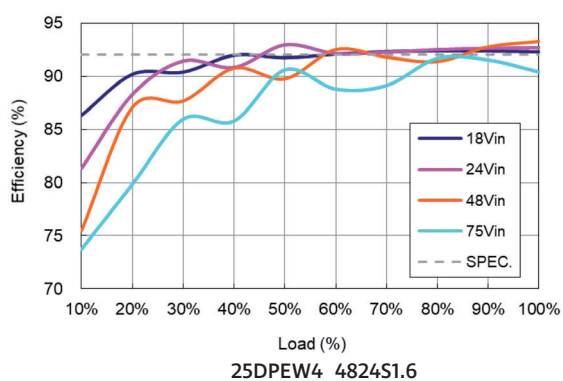
Product Selection Guide

Part Number	Input Voltage [VDC]	Input Current [mA Typ] No-Load	Input Current [mA Typ] Full-Load	Output Voltage [VDC]	Output Current [mA, Max]	Maximum capacitor Load	Efficiency [%, Typ.]
25DPEW4_2405S1.6	9-36	7	1171	5	5000	8500	89
25DPEW4_2412S1.6	9-36	7	1171	12	2084	1500	89
25DPEW4_2415S1.6	9-36	7	1158	15	1667	1000	90
25DPEW4_2424S1.6	9-36	7	1158	24	1042	390	90
25DPEW4_2412D1.6	9-36	7	1171	±12	±1042	±820	89
25DPEW4_2415D1.6	9-36	7	1158	±15	±833	±560	90
25DPEW4_4805S1.6	18-75	4	572	5	5000	8500	91
25DPEW4_4812S1.6	18-75	4	579	12	2084	1500	90
25DPEW4_4815S1.6	18-75	4	572	15	1667	1000	91
25DPEW4_4824S1.6	18-75	4	566	24	1042	390	92
25DPEW4_4812D1.6	18-75	4	572	±12	±1042	±820	91
25DPEW4_4815D1.6	18-75	4	572	±15	±833	±560	91

Temperature derating



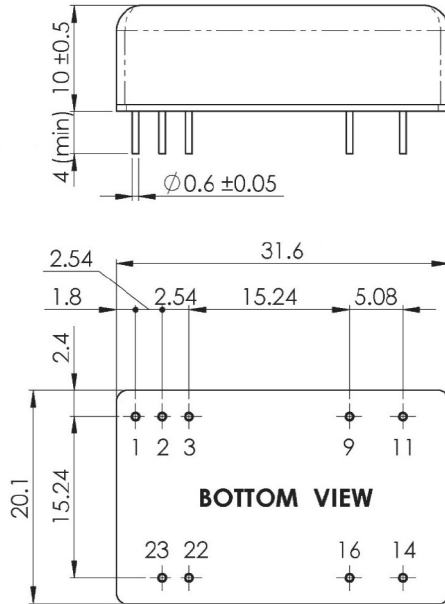
Efficiency



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Mechanical dimensions



Unit : mm

Tolerance : XX.X ± 0.5 , XX.XX ± 0.25

Pin connection

Pin	Single	Dual	Diameter
1	Ctrl	Ctrl	0.6mm [0.024"]
2	-Vin	-Vin	0.6mm [0.024"]
3	-Vin	-Vin	0.6mm [0.024"]
9	NC	Com	0.6mm [0.024"]
11	NC	-Vout	0.6mm [0.024"]
14	+Vout	+Vout	0.6mm [0.024"]
16	-Vout	Com	0.6mm [0.024"]
22	+Vin	+Vin	0.6mm [0.024"]
23	+Vin	+Vin	0.6mm [0.024"]