

150W Quad Output with PFC Function

QP150



- Universal AC input
- Built-in PFC function, PF >0.95
- Protections: Short circuit / Overload / Over voltage
- Fixed switching frequency at 100KHz
- Forced air cooling by built-in DC fan



Model Number	Output Volts	Output Amps	Ripple & Noise	Line Reg	Load Reg	Efficiency	Tolerance	Min Load
Quad OUTPUT								
QP150-3A	5 Volts(DC)	10 Amps	100mVpk-pk	±1.0%	±2.0%	73%	±3.0%	3.0~15Amps
	3.3 Volts(DC)	10 Amps	100mVpk-pk	±1.0%	±2.0%	73%	±3.0%	0~15Amps
	12 Volts(DC)	5.0 Amps	150mVpk-pk	±2.0%	±6.0%	73%	±6.0%	0.4~5.0Amps
	-5 Volts(DC)	0.6 Amps	150mVpk-pk	±1.0%	±2.0%	73%	±5.0%	0~1.0Amps
QP150-3B	5 Volts(DC)	10 Amps	100mVpk-pk	±1.0%	±2.0%	75%	±3.0%	3.0~15Amps
	3.3 Volts(DC)	10 Amps	100mVpk-pk	±1.0%	±2.0%	75%	±3.0%	0~15Amps
	12 Volts(DC)	5.0 Amps	150mVpk-pk	±2.0%	±6.0%	75%	±6.0%	0.4~5.0Amps
	-12 Volts(DC)	0.6 Amps	150mVpk-pk	±1.0%	±2.0%	75%	±5.0%	0~1.0Amps
QP150-3C	5 Volts(DC)	10 Amps	100mVpk-pk	±1.0%	±2.0%	74%	±3.0%	3.0~15Amps
	3.3 Volts(DC)	10 Amps	100mVpk-pk	±1.0%	±2.0%	74%	±3.0%	0~15Amps
	15 Volts(DC)	4.0 Amps	150mVpk-pk	±2.0%	±6.0%	74%	+8,-6%	0.4~5.0Amps
	-15 Volts(DC)	0.6 Amps	150mVpk-pk	±1.0%	±2.0%	74%	±5.0%	0~1.0Amps
QP150-3D	5 Volts(DC)	10 Amps	100mVpk-pk	±1.0%	±2.0%	76%	±3.0%	3.0~15Amps
	3.3 Volts(DC)	10 Amps	100mVpk-pk	±1.0%	±2.0%	76%	±3.0%	0~15Amps
	24 Volts(DC)	2.5 Amps	150mVpk-pk	±2.0%	±6.0%	76%	±6.0%	0.3~3.0Amps
	-12 Volts(DC)	0.6 Amps	150mVpk-pk	±1.0%	±2.0%	76%	±5.0%	0~1.0Amps
QP150-D	5 Volts(DC)	10 Amps	120mVpk-pk	±1.0%	±2.0%	78%	±3.0%	3.0~15Amps
	12 Volts(DC)	4.0 Amps	150mVpk-pk	±1.0%	±2.0%	78%	±3.0%	0~5.0Amps
	24 Volts(DC)	2.0 Amps	200mVpk-pk	±2.0%	±6.0%	78%	±6.0%	0.4~3.0Amps
	-12 Volts(DC)	0.6 Amps	150mVpk-pk	±1.0%	±2.0%	78%	±5.0%	0~1.0Amps
QP150-F	5 Volts(DC)	10 Amps	120mVpk-pk	±1.0%	±2.0%	78%	±3.0%	3.0~15Amps
	15 Volts(DC)	3.0 Amps	150mVpk-pk	±1.0%	±2.0%	78%	±3.0%	0~5.0Amps
	24 Volts(DC)	2.0 Amps	200mVpk-pk	±2.0%	±60%	78%	±6.0%	0.4~3.0Amps
	-15 Volts(DC)	0.6 Amps	150mVpk-pk	±1.0%	±2.0%	78%	±5.0%	0~1.0Amps
QP150-B	5 Volts(DC)	15 Amps	100mVpk-pk	±1.0%	±2.0%	76%	±3.0%	3.0~15Amps
	12 Volts(DC)	4.0 Amps	150mVpk-pk	±2.0%	±6.0%	76%	±6.0%	0.4~5.0Amps
	-12 Volts(DC)	2.0 Amps	150mVpk-pk	±2.0%	±6.0%	76%	+10,-6%	0.3~2Amps
	-5 Volts(DC)	0.6 Amps	100mVpk-pk	±1.0%	±2.0%	76%	±5.0%	0~1.0Amps
QP150-C	5 Volts(DC)	15 Amps	100mVpk-pk	±1.0%	±2.0%	77%	±3.0%	3.0~15Amps
	15 Volts(DC)	3.0 Amps	150mVpk-pk	±2.0%	±6.0%	77%	+6,-10%	0.4~4.0Amps
	-15 Volts(DC)	2.0 Amps	150mVpk-pk	±2.0%	±6.0%	77%	±8.0%	0.3~2Amps
	-5 Volts(DC)	0.6 Amps	100mVpk-pk	±1.0%	±2.0%	77%	±5.0%	0~1.0Amps

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QP150

INPUT SPECIFICATIONS

Input Voltage Range (Note 3)	90-264VAC / 127-370 Volts(DC)
Frequency Range	47~63Hz
Inrush Current, typ: (cold start)	
QP150-3A/3B/3C/3D/D/F	≤40 Amps @ 230VAC
QP150-B/C	≤40 Amps
Input Current	2.5Amps max @115VAC
	1.2Amps max @230VAC
Leakage current	< 3.5mAmps / 240VAC
Power Factor @ FL	PF >0.95/230VAC
	>0.98/115VAC

OUTPUT SPECIFICATIONS

Voltage and Current	See Selection Chart
Line Regulation	See Selection Chart
Load Regulation	See Selection Chart
Voltage Tolerance (Note 2)	See Selection Chart
Ripple/Noise (Note 1)	See Selection Chart
Hold Up Time @ FL	
QP150-3A/3B/3C/3D/D/F	24mS/230VAC, 24mS/115VAC
QP150-B/C	24mS
Setup, Rise Time @ FL	
QP150-3A/3B/3C/3D/D/F	800mS, 50mS/230VAC
	800mS, 50mS/115VAC
QP150-B/C	1000mS, 50mS
Over Voltage Protection	
5Volts(DC):	5.75~6.75Volts(DC)
3.3Volts(DC):	3.8~4.4Volts(DC)
QP150-D: 12Volts(DC):	13.8~16.2Volts(DC)
QP150-F: 17.25~20.25Volts(DC)	
Shutdown o/p voltage, re-power	
Over Current Protection	Hiccup mode, auto recover
QP150-3A/3B/3C/3D/D/F	105~150% rated output power
QP150-B/C	105~135% rated output power
Over Temperature Protection	95°C±5°C (TSW1)
	Shutdown o/p voltage, auto recover
	after cool down
DC Voltage Adjust	5Volts(DC): 4.75~5.5Volts(DC)
	3.3Volts(DC): 3.14~3.63Volts(DC)
	QP150-D(12Volts): 11.4~13.2Volts(DC)
	QP150-F(15Volts): 14.3~16.5Volts(DC)

All specifications are typical at nominal input, full load, and 25°C unless otherwise noted

GENERAL SPECIFICATIONS

Safety	UL60950-1
	TUV EN60950-1 Approved
Insulation Resistance	≥ 100MΩ / 500Volts(DC)
EMI	Compliance to EN55022B (CISPR22B)
Harmonic Current	Compliance to EN61000-3-2,-3
Efficiency	See Selection Chart
Isolation	3000VAC Input - Output
	1500VAC Input - Ground
	500VAC Output - Ground
EMS	Compliance to
	EN61000-4-2,3,4,5,6,8,11;
	ENV50204, EN55024
	light industry level, criteria A

ENVIRONMENTAL SPECIFICATIONS

Oper. Temperature	-10°C to +60°C (See Derate Curve)
Storage Temperature	-20°C to +85°C, 10~95% RH
Relative Humidity	20 to +90% RH
Temperature Coefficient	±0.03% / °C (0-50°C)
MTBF	141.5K Hrs min, MIL-HDBK-217F (25°C)
Vibration	10~500Hz, 2G10min./1cycle, period for
	60min. each along X, Y, Z axes

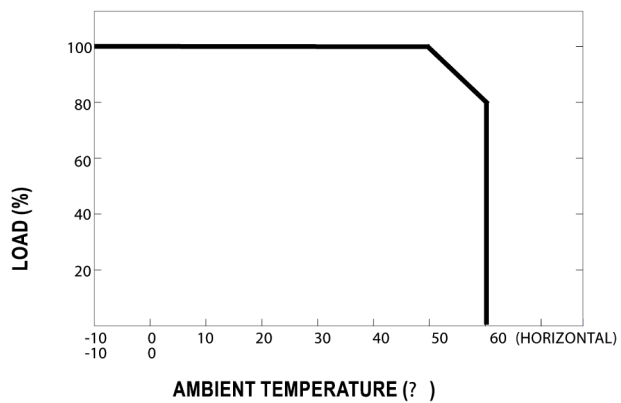
PHYSICAL SPECIFICATIONS

Size	
Millimeters	199 x 99 x 50
Inches	7.84" x 3.90" x 1.97"
Weight	
QP150-3A/3B/3C/3D/D/F	32.8 oz (930g)
QP150-B/C	38.80 oz (1100g)

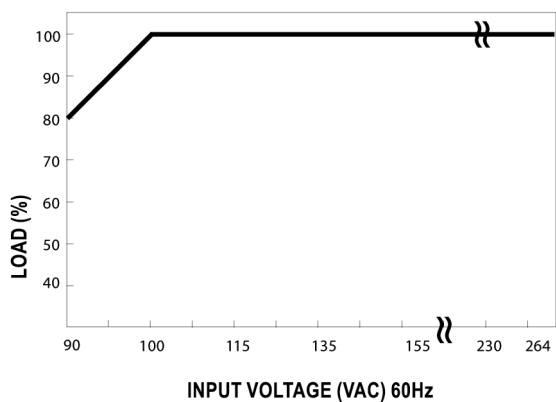
NOTE

1. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
2. Tolerance : includes set up tolerance, line regulation and load regulation.
3. Derating may be needed under low input voltages. Please check the derating curve for more details.

■ Derating Curve



■ Output Derating VS Input Voltage



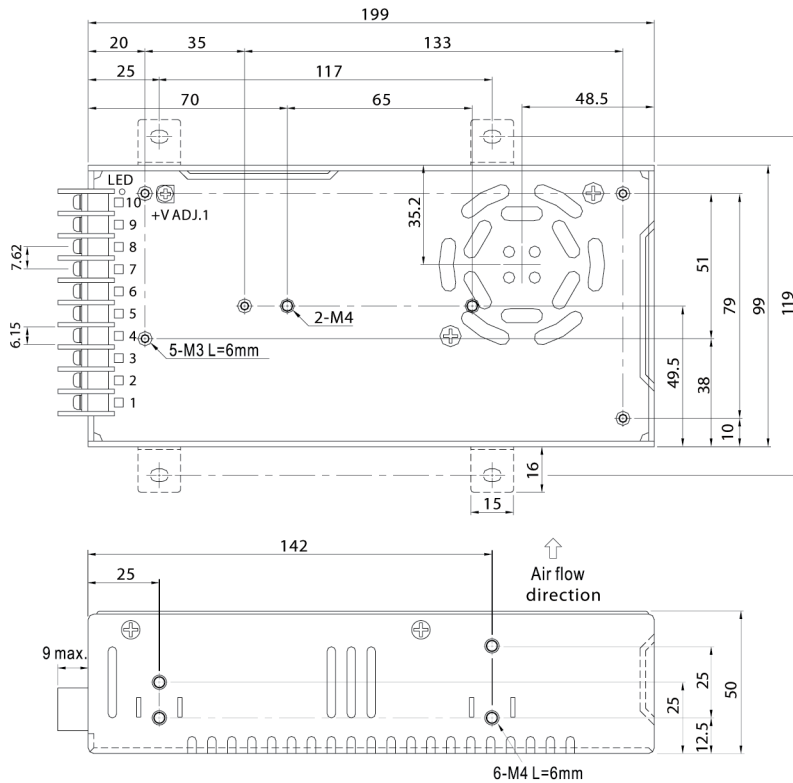
150W Quad Output with PFC Function

QP150

QP150B,C

■ Mechanical Specification

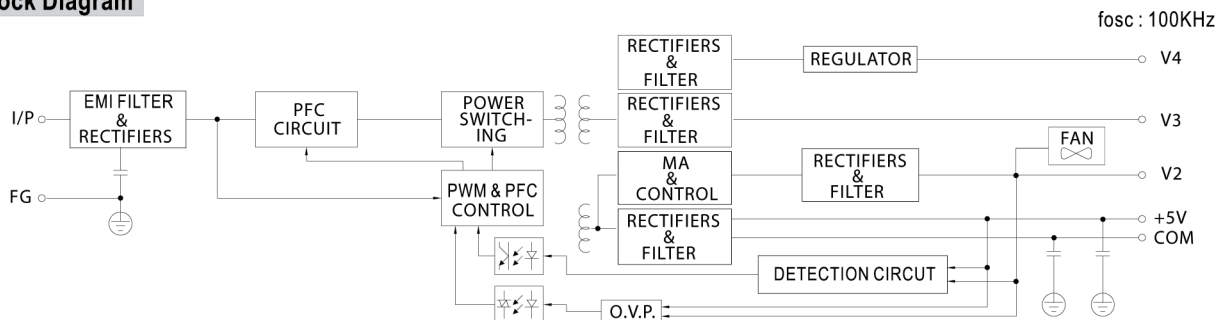
Case No. 916B Unit:mm



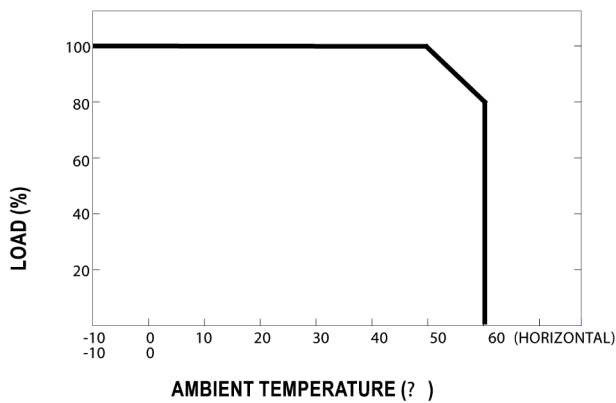
Terminal Pin No. Assignment :

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5	DC OUTPUT V3
2	AC/N	6,7	DC OUTPUT V1
3	FG $\perp$	8,9	DC OUTPUT COM
4	DC OUTPUT V4	10	DC OUTPUT V2

■ Block Diagram



■ Derating Curve



■ Output Derating VS Input Voltage

