

5
YEARS
WARRANTY

ROHS
COMPLIANT

REACH
COMPLIANT

+85°C
-40°C
AMBIENT TEMP.



Medical



Automation



Datacom



IPC



Industry



Measurement



Telecom



Automobile



Boat



Charger



PV



Railway

UL US

CB

CE

FC



2
X
MOPP

4000
VAC
Isolation
Voltage

ADJ.
Output
Voltage

Internal
EN55032
Class
Filter **B**

LOW
Cross
Reg.

LOW
Leakage
Current

LOW
Standby
Power

Operating
Altitude
5000
meter

Protection
Class I
Class II

OPP

OVP

SCP

PART NUMBER STRUCTURE

VPAD	40	U						C	- xx	yy	-	
Series Name	Output Power (W)	Input Voltage (VAC)	Output Quantity	Output Voltage 1 (VDC)	Output Voltage 2 (VDC)	Output Voltage 3 Polarity	Output Voltage 3 (VDC)	Protection Type	Vo2 Voltage Code	Vo3 Voltage Code	Connector Option	
VPAD: Open type VPUD: U chassis type VPED: Enclosed type VPDD: Din rail type		U: Universal 85 ~ 264	D: Dual T: Triple	Vo1 3: 5V 4: 7.5V 5: 9V 6: 12V 7: 15V 8: 18V 9: 24V 0: 28V	Vo2 1: 2.5V 2: 3.3V 3: 5V x: refer to Suffix xx	Vo3 (Triple only) M: Minus □: Positive	1: 2.5V 2: 3.3V 3: 5V 4: 7.5V 5: 9V 6: 12V 7: 15V 8: 18V 9: 24V y: refer to Suffix yy	C: CLASS I D: CLASS II □: CLASS I (※NRND) B: CLASS II (※NRND) ※NRND: Not recommended for new designs			□: JST M: Molex T: Terminal Block	

TECHNICAL SPECIFICATION

All specifications are typical at 230VAC input, full load and 25°C unless otherwise noted

Model Number	Output 1			Output 2			Output 3		Max. Output Power W	Efficiency %	Maximum Capacitor Load µF
	Voltage VDC	Current (Normal) A	Current (MAX) A	Voltage VDC	Current (Normal) A	Current (MAX) A	Voltage VDC	Current (MAX) A			
VPAD40UD32C UD40UD32C ED40UD32C DD40UD32C	+5	5	8	+3.3	4	6	---	---	40	89.5	12000 / 2000
VPAD40UD63C UD40UD63C ED40UD63C DD40UD63C	+12	2.1	3.34	+5	4	6	---	---	40	89	1750 / 2000
VPAD40UD62C UD40UD62C ED40UD62C DD40UD62C	+12	2.1	3.34	+3.3	4	6	---	---	40	90	1750 / 2000
VPAD40UD73C UD40UD73C ED40UD73C DD40UD73C	+15	1.7	2.67	+5	4	6	---	---	40	88.5	1670 / 2000
VPAD40UD93C UD40UD93C ED40UD93C DD40UD93C	+24	1.05	1.67	+5	4	6	---	---	40	86	440 / 2000
VPAD40UD03C UD40UD03C ED40UD03C DD40UD03C	+28	0.72	1.43	+5	4	6	---	---	40	85.5	220 / 2000
VPAD40UT32M3C UD40UT32M3C ED40UT32M3C DD40UT32M3C	+5	5	8	+3.3	4	6	-5	0.5	40	89	10000 / 2000 / 420
VPAD40UT326C UD40UT326C ED40UT326C DD40UT326C	+5	5	8	+3.3	4	6	+12	0.5	40	89	10000 / 2000 / 420
VPAD40UT32M6C UD40UT32M6C ED40UT32M6C DD40UT32M6C	+5	5	8	+3.3	4	6	-12	0.5	40	89	10000 / 2000 / 420
VPAD40UT63M3C UD40UT63M3C ED40UT63M3C DD40UT63M3C	+12	2.1	3.34	+5	4	6	-5	0.5	40	88.5	1750 / 2000 / 420
VPAD40UT63M6C UD40UT63M6C ED40UT63M6C DD40UT63M6C	+12	2.1	3.34	+5	4	6	-12	0.5	40	88	1750 / 2000 / 420
VPAD40UT623C UD40UT623C ED40UT623C DD40UT623C	+12	2.1	3.34	+3.3	4	6	+5	0.5	40	88.5	1750 / 2000 / 420

Model Number	Output 1			Output 2			Output 3		Max. Output Power W	Efficiency %	Maximum Capacitor Load μF
	Voltage	Current (Normal)	Current (MAX)	Voltage	Current (Normal)	Current (MAX)	Voltage	Current (MAX)			
	VDC	A	A	VDC	A	A	VDC	A			
VPAD40UT62M6C UD40UT62M6C ED40UT62M6C DD40UT62M6C	+12	2.1	3.34	+3.3	4	6	-12	0.5	40	88	1750 / 2000 / 420
VPAD40UT73M7C UD40UT73M7C ED40UT73M7C DD40UT73M7C	+15	1.7	2.67	+5	4	6	-15	0.5	40	88	1670 / 2000 / 420
VPAD40UT936C UD40UT936C ED40UT936C DD40UT936C	+24	1.05	1.67	+5	4	6	+12	0.5	40	86	440 / 2000 / 420
VPAD40UT93M6C UD40UT93M6C ED40UT93M6C DD40UT93M6C	+24	1.05	1.67	+5	4	6	-12	0.5	40	86	440 / 2000 / 420

INPUT SPECIFICATIONS						
Parameter	Conditions		Min.	Typ.	Max.	Unit
Operating input voltage range	AC input		85		264	VAC
	DC input		120		370	VDC
Input frequency	AC input		47		63	Hz
Input current	100VAC				1.05	A
	240VAC				0.55	
No load input power	230VAC			0.15		Watts
Leakage current	264VAC			75		μA
Start up time					1000	ms
Rise time				20		ms
Hold up time	115VAC and Full Load			25		ms
Input inrush current	230VAC			60		A
Input protection	Internal fuse in line and neutral			T3.15A/250VAC		

OUTPUT SPECIFICATIONS

Parameter	Conditions			Min.	Typ.	Max.	Unit
Output power	Pout 1+Pout 2+Pout 3					40	Watts
Initial set voltage accuracy	230VAC and Full Load	Vout 1		-1.0		+1.0	%
		Vout 2 、 Vout 3		-2.0		+2.0	
Line regulation	Low Line to High Line at Full Load			-0.2		+0.2	%
Load regulation	No Load to Full Load	Vout 1		-0.5		+0.5	%
		Vout 3		-0.7		+0.7	
	No Load to Full Load	Vout 2		-1.5		+1.5	%
	0.1W Load to Full Load	Vout 2		-0.7		+0.7	
Cross regulation	Asymmetrical load 25%/100% FL			-1.5		+1.5	%
Voltage adjustability		Vout 1		-10		+10	%
Minimum load	VP□D40UD □□				0		W
	VP□D40UT □□□; Vout 3 is full load	Vout 1+Vout 2			0.5		
Ripple and noise	Measured by 20MHz bandwidth						mVp-p
	With a 10μF/25V 1206 X7R MLCC	Vout 1	5V				
	With a 1μF/50V 1206 X7R MLCC	Vout 1	12V	120			
			15V	150			
			24V	240			
			28V	280			
	With a 10μF/25V 1206 X7R MLCC	Vout 2	All	100			
	With a 10μF/25V 1206 X7R MLCC	Vout 3	5V	100			
			12V	120			
			15V	150			
Temperature coefficient				-0.02		+0.02	%/°C
Transient response	Load step from 50 ~ 75% change at 2.5A/μs	Vout 1	Peak deviation Recovery time			3	% Vout
					600		μs
Over voltage protection	% of Vout(nom); Latch mode	Vout 1		125		140	%
Over power protection	% of nominal output power; Hiccup mode	Pout 1+Pout 2			145		%
Short circuit protection				Continuous, automatics recovery			

GENERAL SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Isolation voltage	1 minute (2MOPP insulation)	Input to Output 4000 Input (Output) to F.G. 2500			VAC
Isolation resistance	500VDC	0.1			GΩ
Switching frequency	230VAC	Vout 1 5V Others	70 115 750 510		kHz
Safety approvals	IEC/ EN/ ANSI/AAMI ES 60601-1 IEC/ EN/ UL 60950-1			UL:E360199 UL:E193009 CB:UL(Demko)	
Safety approvals(Pending)	IEC/ EN/ UL 62368-1				
Weight		VPAD VPUD VPED VPDD		150 (5.29oz) 198 (6.98oz) 216 (7.62oz) 238 (8.40oz)	
MTBF	MIL-HDBK-217F, Full load			1.716 x 10 ⁵	hrs

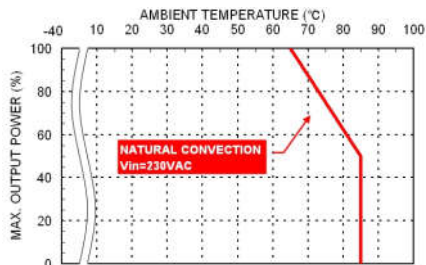
ENVIRONMENTAL SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Operating ambient temperature	With derating	-40		+85	°C
Storage temperature range		-40		+85	°C
Operating altitude				5000	m
Shock				IEC60068-2-27	
Vibration				IEC60068-2-6	
Relative humidity	Non-condensing			5% to 95% RH	

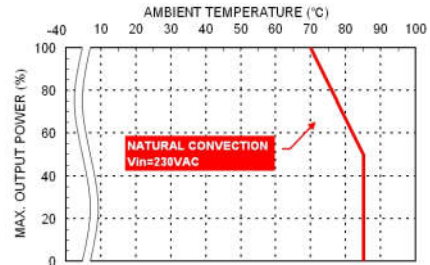
EMC SPECIFICATIONS

Parameter	Conditions	Level
EMI	EN60601-1-2, EN55011, EN55032 and FCC Part 18 / 15 External components may be required for class I application.	Conducted Class B Radiated Class B
Harmonic currents	EN61000-3-2 Full Load	Class A
Voltage flicker	EN61000-3-3	
EMS	EN55024 and EN60601-1-2	
ESD	EN61000-4-2 Air $\pm 15\text{kV}$ and Contact $\pm 8\text{kV}$	Perf. Criteria A
Radiated immunity	EN61000-4-3 20 V/m	Perf. Criteria A
Fast transient	EN61000-4-4 $\pm 2\text{kV}$	Perf. Criteria A
Surge	EN61000-4-5 DM $\pm 1\text{kV}$	Perf. Criteria A
Conducted immunity	EN61000-4-6 20 Vr.m.s	Perf. Criteria A
Power frequency magnetic field	EN61000-4-8 30 A/m	Perf. Criteria A
Dip and interruptions	EN61000-4-11	

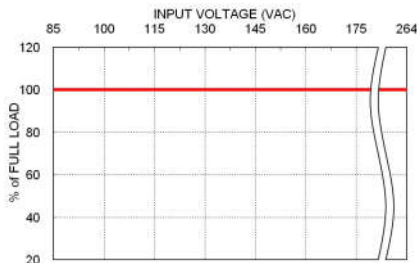
CHARACTERISTIC CURVE



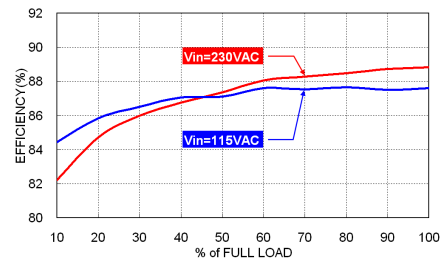
Derating Curve vs. Ambient Temperature
VP D40UD



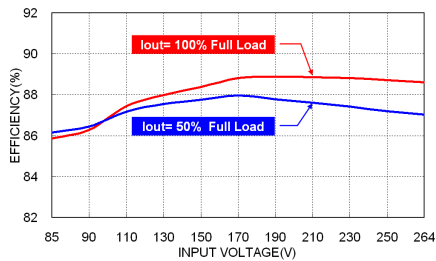
Derating Curve vs. Ambient Temperature
VP D40UT



Derating Curve vs. Input Voltage
VP D40



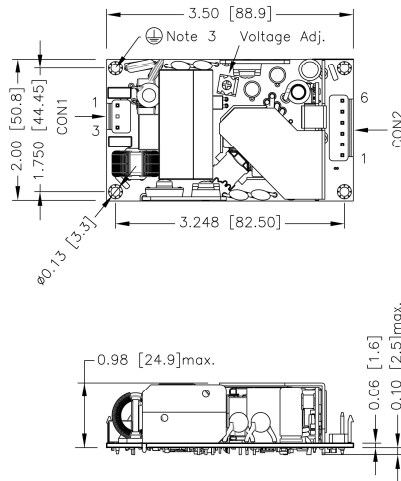
Efficiency vs. Output Load
VP D40UT63M6B



Efficiency vs. Input Voltage
VP D40UT63M6B

MECHANICAL DRAWING

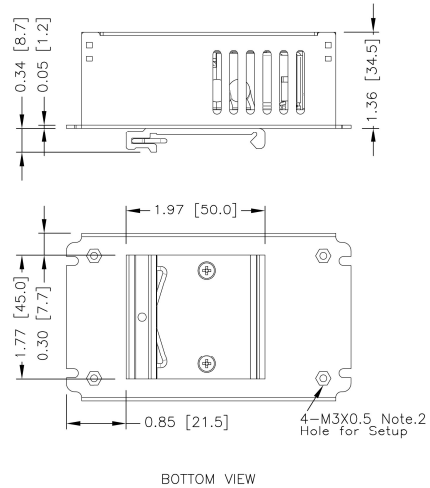
VPAD Open type



FRONT VIEW

- 1.All dimensions in inch[mm]
Tolerance: $x.xx \pm 0.02 [x.x \pm 0.5]$ $x.xxx \pm 0.010 [x.xx \pm 0.25]$
- 2.The screw locked torque: MAX 5.0kgf-cm/0.49N-m
- 3.The screws holes can be considered as PE connection for CLASS I application.

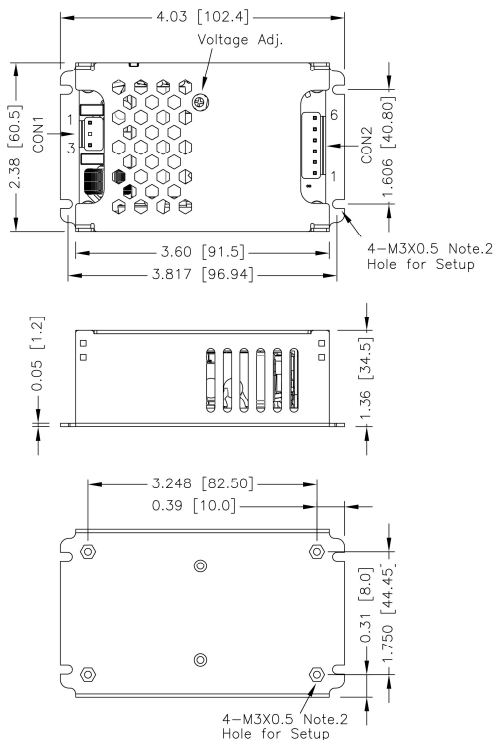
VPDD Din rail type e



BOTTOM VIEW

- 1.All dimensions in inch[mm]
Tolerance: $x.xx \pm 0.02 [x.x \pm 0.5]$ $x.xxx \pm 0.010 [x.xx \pm 0.25]$
- 2.The screw locked torque: MAX 5.0kgf-cm/0.49N-m

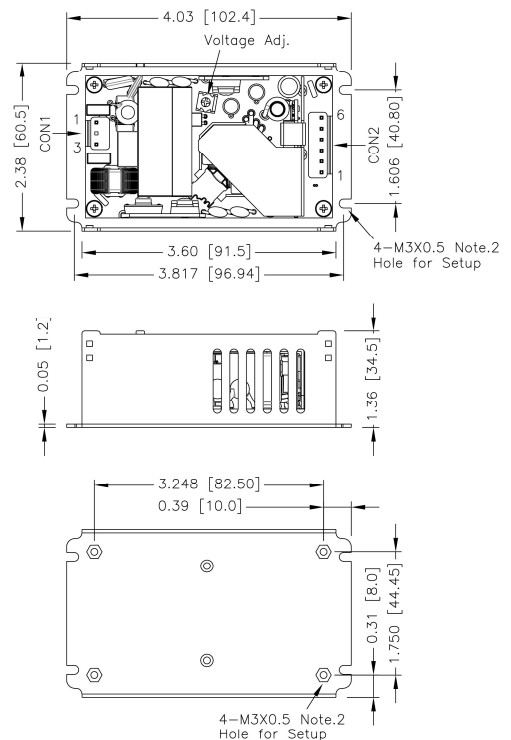
VPED Enclosed type



BOTTOM VIEW

- 1.All dimensions in inch[mm]
Tolerance: $x.xx \pm 0.02 [x.x \pm 0.5]$ $x.xxx \pm 0.010 [x.xx \pm 0.25]$
- 2.The screw locked torque: MAX 5.0kgf-cm/0.49N-m

VPUD U chassis type



BOTTOM VIEW

- 1.All dimensions in inch[mm]
Tolerance: $x.xx \pm 0.02 [x.x \pm 0.5]$ $x.xxx \pm 0.010 [x.xx \pm 0.25]$
- 2.The screw locked torque: MAX 5.0kgf-cm/0.49N-m

CONNECTOR CONNECTIONS

CON1 – Input Connector

Pin Number	AC Input	DC Input	
		VP D40U DXXC \ VP D40UDXXD	VP D40UTXXC \ VP D40UTXXD
Pin 1	Line	DC+	
Pin 3	Neutral	DC-	

CON2 – Output Connector

Pin 1	Vout3
Pin 2,3	Com
Pin 4,5	Vout2
Pin 6	Vout1

*Either one of four screws holes of Chassis type can be considered as PE connection for CLASS I application.

CONNECTOR OPTIONS

Blank:

JST Type

Mates with housing

CON1: VHR-3N

CON2: VHR-6N



Crimp terminals

CON1: SVH-21T-P1.1

CON2: SVH-21T-P1.1

-M

Molex Type

Mates with housing

CON1: 09-50-8031

CON2: 09-50-8061



Crimp terminals

CON1: SD-2478

CON2: SD-2478

-T

Terminal Block

**Screw locked torque
MAX 2Kgf.cm/0.2N.m**



**Wire dimension range
26 ~ 16AWG**