



P-DUKE POWER

TAD65 Single Series

2 X 3 Inch AC-DC POWER SUPPLIES
Up to 65 Watts

3

YEARS
WARRANTY

ROHS
COMPLIANT

REACH
COMPLIANT

+85°C
-40°C
AMBIENT TEMP.



Automation



Datacom



IPC



Industry



Measurement



Telecom



Medical



Automobile



Boat



Charger



PV



Railway

UL US

CB

CE

FC

POWER
SAVE

PFC
Integrated

3000
VAC
Reinforced
Insulation

ADJ.
Output
Voltage

Internal
EN55032
Class
Filter **B**

LOW
Leakage
Current

LOW
Standby
Power

Operating
Altitude
5000
meter

Protection
Class I
Class II

OCP

OVP

SCP

PART NUMBER STRUCTURE

T	A	D	65	U	S	12	B	-	
Application	Package Code	Dimension Code	Output Power (W)	Input Voltage (VAC)	Output Quantity	Output Voltage (VDC)	Protection Type		Connector Option
Industry Application	A: Open type U: U chassis type E: Enclosed type D: Din rail type			U: Universal 85 ~ 264	S: Single	05: 5 7P5: 7.5 09: 9 12: 12 15: 15 18: 18 24: 24 241: 24 28: 28 281: 28 36: 36 48: 48 53: 53	B: CLASS II Blank: CLASS I		Blank: 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	Input Range VAC	Output Voltage VDC	Output Current Natural convection A	Max. Output Power W	Input Power @ No Load W	Efficiency %
TAD65US05B	85 ~ 264	5	10	50	0.11	90
TUD65US05B						
TED65US05B						
TDD65US05B						
TAD65US7P5B	85 ~ 264	7.5	8.67	65	0.11	90
TUD65US7P5B						
TED65US7P5B						
TDD65US7P5B						
TAD65US09B	85 ~ 264	9	7.23	65	0.11	91
TUD65US09B						
TED65US09B						
TDD65US09B						
TAD65US12B	85 ~ 264	12	5.42	65	0.11	92.5
TUD65US12B						
TED65US12B						
TDD65US12B						
TAD65US15B	85 ~ 264	15	4.34	65	0.11	93.5
TUD65US15B						
TED65US15B						
TDD65US15B						
TAD65US18B	85 ~ 264	18	3.62	65	0.11	93.0
TUD65US18B						
TED65US18B						
TDD65US18B						
TAD65US24B	85 ~ 264	24	2.71	65	0.11	93.5
TUD65US24B						
TED65US24B						
TDD65US24B						
TAD65US241B	85 ~ 264	24	2.71	65	0.11	92
TUD65US241B						
TED65US241B						
TDD65US241B						
TAD65US28B	85 ~ 264	28	2.33	65	0.11	93.5
TUD65US28B						
TED65US28B						
TDD65US28B						
TAD65US281B	85 ~ 264	28	2.33	65	0.11	91.5
TUD65US281B						
TED65US281B						
TDD65US281B						
TAD65US36B	85 ~ 264	36	1.81	65	0.11	92.5
TUD65US36B						
TED65US36B						
TDD65US36B						

Model Number	Input Range VAC	Output Voltage VDC	Output Current Natural convection A	Max. Output Power W	Input Power @ No Load W	Efficiency %
TAD65US48B TUD65US48B TED65US48B TDD65US48B	85 ~ 264	48	1.36	65	0.11	93
TAD65US53B TUD65US53B TED65US53B TDD65US53B	85 ~ 264	53	1.24	65	0.11	92.5

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 and Full Load			1.6	A	
	240VAC and Full Load			0.9		
No load input power	230VAC		0.11		Watts	
Leakage current	264VAC			75	μA	
Start up time				1000	ms	
Rise time			20		ms	
Hold up time	115VAC and Full Load		16		ms	
Input inrush current	230VAC			60	A	
Input protection	Internal fuse			T3.15A/250VAC		

OUTPUT SPECIFICATIONS							
Parameter	Conditions		Min.	Typ.	Max.	Unit	
Output power					65	Watts	
Initial set voltage accuracy	230VAC and Full Load		-1.0		+1.0	%	
Line regulation	Low Line to High Line at Full Load		-0.2		+0.2	%	
Load regulation	No Load to Full Load	5Vout	-0.7		+0.7	%	
		Others	-0.5		+0.5		
	10% Load to 90% Load	5Vout	-0.6		+0.6		
		Others	-0.4		+0.4		
Voltage adjustability	Single output	53Vout	-20		+10	%	
		Others	-10		+10		
Minimum load			0			%	
Ripple and noise	Measured by 20MHz bandwidth With a 10μF/25V 1206 X7R MLCC	5Vout, 7.5Vout, 9Vout	75			mVp-p	
		12Vout, 15Vout, 18Vout					
		With a 1μF/50V 1206 X7R MLCC	24Vout, 28Vout, 36Vout	75			
		With a 0.1μF/100V 1206 X7R MLCC	48Vout, 53Vout	150			
Temperature coefficient			-0.02		+0.02	%/°C	
Transient response	Load step from 50 ~ 75% change at 2.5A/μs	Peak deviation	600			% Vout	
		Recovery time					
Over voltage protection	% of Vout(nom); Latch mode		125		140	%	
Over load protection	% of Iout rated; Hiccup mode		145			%	
Short circuit protection			Continuous, automatics recovery				

GENERAL SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Isolation voltage	1 minute (Reinforced insulation) Input to Output Input (Output) to F.G.	3000 2500			VAC
Isolation resistance	500VDC	0.1			GΩ
Switching frequency	230VAC 5Vout 7.5Vout 9Vout Others		60 80 70 120		kHz
Safety approvals	IEC/ EN/ UL60950-1			UL:E193009 CB:UL(Demko)	
Weight	TAD TUD TED TDD			117g (4.13oz) 157g (5.54oz) 172g (6.07oz) 193g (6.81oz)	
MTBF	MIL-HDBK-217F, Full load			1.494 x 10 ⁶ hrs	

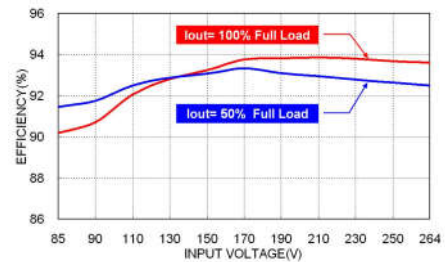
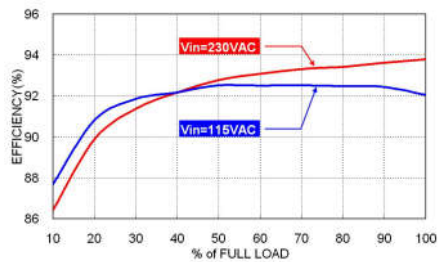
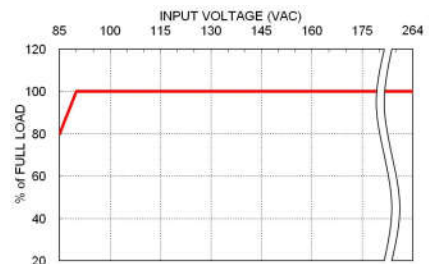
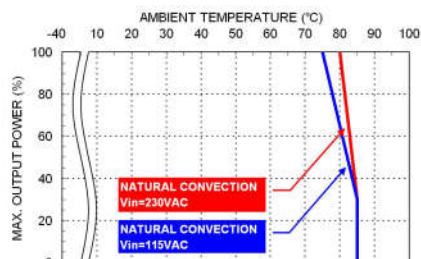
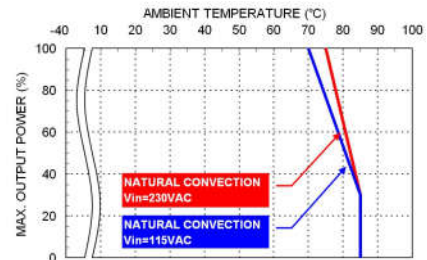
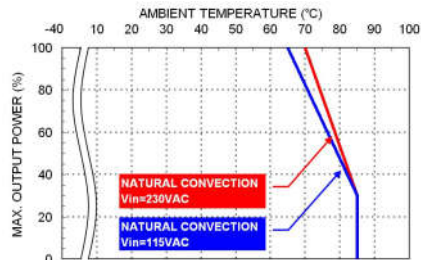
ENVIRONMENTAL SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Operating ambient temperature	Natural convection 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

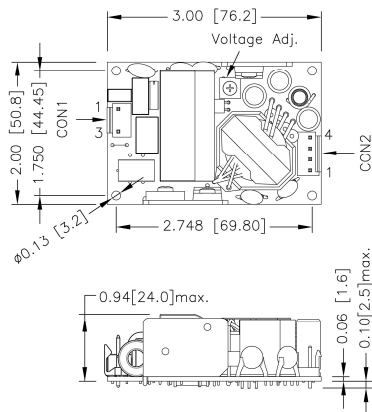
Parameter	Conditions	Level
EMI	EN55011, EN55032 and FCC Part 15 External components may be required for class I application.	Conducted Class B Radiated Class B
Harmonic currents	EN61000-3-2 Full Load	Class A
Voltage flicker	EN61000-3-3	
EMS	EN55024 and Complies with EN 61850-3	
ESD	EN61000-4-2 Air ± 15kV and Contact ± 6kV	Perf. Criteria A
Radiated immunity	EN61000-4-3 20 V/m	Perf. Criteria A
Fast transient	EN61000-4-4 ± 4kV	Perf. Criteria A
Surge	EN61000-4-5 DM ± 2kV and CM ± 4kV	Perf. Criteria A
Conducted immunity	EN61000-4-6 20 Vr.m.s	Perf. Criteria A
Power frequency magnetic field	EN61000-4-8 100 A/m	Perf. Criteria A
Dip and interruptions	EN61000-4-11 230VAC 50Hz 30% 20mS 30% 500mS 60% 1000mS >95% 10mS >95% 5000mS	Perf. Criteria A Perf. Criteria A Perf. Criteria A Perf. Criteria A Perf. Criteria B
Damped Oscillatory Wave	EN 61000-4-18 DM ± 1kV and CM ± 2.5kV	Perf. Criteria A

CHARACTERISTIC CURVE



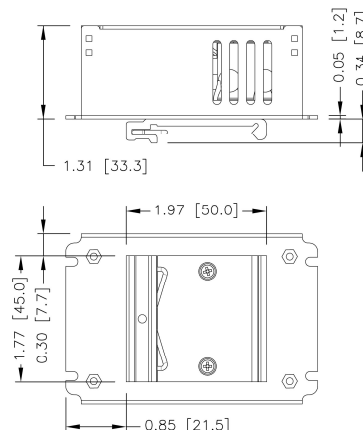
MECHANICAL DRAWING

TAD Open type



FRONT VIEW

TDD Din rail type



BOTTOM VIEW

1. All dimensions in inch [mm]
2. Tolerance : x.xx±0.02 [x.x±0.5] x.xxx±0.01 [x.xx±0.25]
3. M3×0.5 screw locked torque MAX 5Kgf.cm/0.49N.m

CONNECTORS CONNECTIONS

CON1 – Input Connector

Pin 1	Line
Pin 3	Neutral

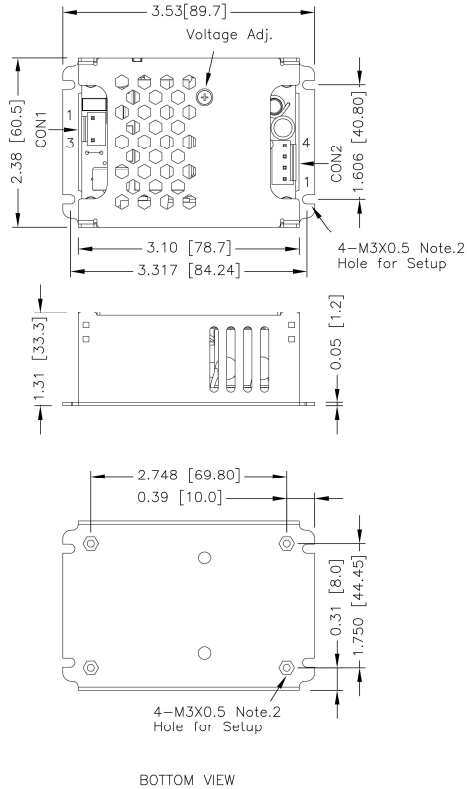
CON2 – Output Connector

Pin 1,2	-Vout
Pin 3,4	+Vout

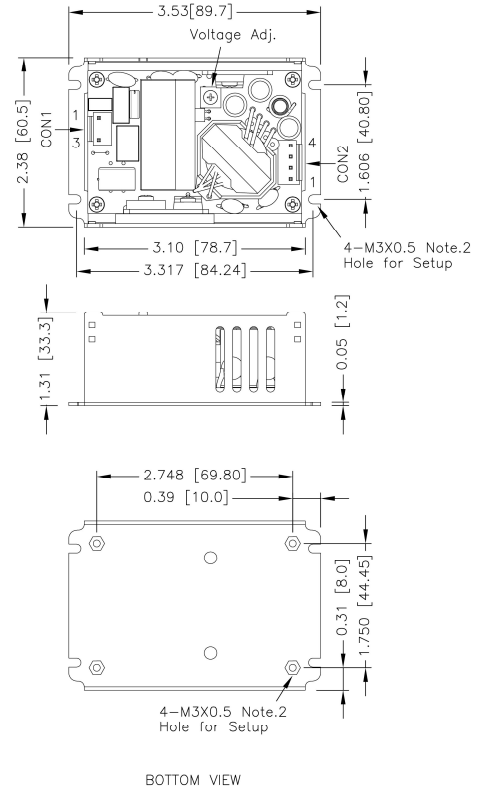
*Either one of four screws holes of Open / Chassis type can be considered as PE connection for CLASS I application.

MECHANICAL DRAWING

TED Enclosed type



TUD U chassis type



1. All dimensions in inch [mm]
2. Tolerance : x.xx±0.02 [x.x±0.5] x.xxx±0.01 [x.xx±0.25]
3. M3×0.5 screw locked torque MAX 5Kgf.cm/0.49N.m

CONNECTORS CONNECTIONS

CON1 – Input Connector	
Pin 1	Line
Pin 3	Neutral

CON2 – Output Connector	
Pin 1,2	-Vout
Pin 3,4	+Vout

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

CONNECTOR OPTIONS

Blank:	JST Type	-M	Molex Type	-T	Terminal Block
	Mates with housing CON1: VHR-3N CON2: VHR-4N		Mates with housing CON1: 09-50-8031 CON2: 09-50-8021		Screw locked torque MAX 2.5Kgf.cm/0.25N.m
	Crimp terminals CON1: SVH-21T-P1.1 CON2: SVH-21T-P1.1		Crimp terminals CON1: SD-2478 CON2: SD-2478		Wire dimension range 18 ~ 14AWG