

TOTAL POWER INT.

TPS350 SWITCHING MODE 350W U CHANNEL POWER SUPPLY



KEY FEATURES

- *Universal input/ Built-in EMI filter
- *Optional remote sense on main output
- *Optional constant current charger
- *Optional Power Good signal/ AC fail signal
- *Optional remote On/ Off signal/ Optional cover
- *Optional $\pm 12\text{VDC}/\pm 24\text{VDC}/\pm 48\text{VDC}$ input
- *Optional constant current change (for single output)

APPLICATIONS

- *Telecommunications/ Medical instruments
- *Computer peripherals/ Business machines
- *Test, Burn-In & industrial equipments

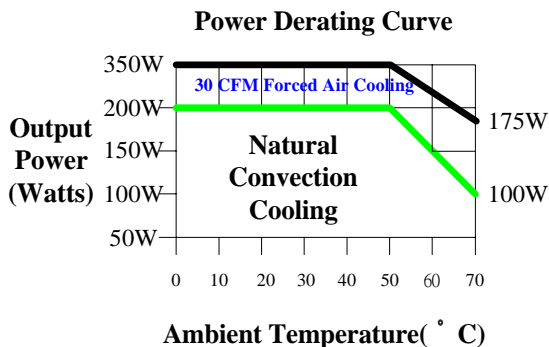
ELECTRICAL SPECIFICATIONS

INPUT

- *Input range-----90~264 VAC, auto ranging
- *Frequency-----47~63Hz
- *Inrush current-----45A typical, Cold start @25°C, 115VAC
- *Efficiency-----65%~85% typical at full load
- *EMI filter-----FCC Class B conducted, CISPR 22 Class B conducted, EN55022 class B Conducted
- *Line regulation----- +/- 0.5% typical

OUTPUT

- *Maximum power---- 350W with 30 CFM forced air (Refer next page)
- *Hold-up time -----10ms typical at full load and 115 VAC nominal line
- *Overload protection-Short circuit protection
- *Overvoltage protection -----Main output 20% to 40% above nominal output
- *Ripple/Noise ----- +/- 1% Max. @full load (Optional +/-0.5% per inquiry)



EMI & EMC

- *FCC part 15, Class B
- *CISPR 22 / EN55022, Class B
- *VCCI, Class 2
- *CE, EN 61000-3-2 (Class A)(Optional) and -3; EN 61000-4-2,-3,-4,-5,-6 and -11

SAFETY APPROVAL

- *UL1950 / c UL
- *Optional CSA 22.2, LEVEL 6 (COMPLY WITH)
- *TUV EN60950
- *Optional UL 2601 (EMI Class A) (COMPLY WITH)

ENVIRONMENTAL

- *Operating temperature : 0 to 50°C ambient; derate each output at 2.5% per degree from 50°C to 70°C
- *Humidity: Operating; non-condensing, 5% to 95%
- *Vibration : 10~55 Hz at 1G 3 minutes period, 30 minutes along X, Y and Z axis
- *Storage temperature: -40 to 85°C
- *Temperature coefficient: +/- 0.05% per degree C
- *MTBF demonstrated: >100,000 hours at full load and 25°C ambient conditions

MODEL	OUTPUT VOLTAGE	ADJUSTMENT RANGE	MAXIMUM OUTPUT CURRENT	PEAK OUTPUT CURRENT(NOTE1)	MINIMUM OUTPUT CURRENT	TOTAL REGULATION(NOTE3)	RIPPLE & NOISE %P-P(NOTE2)	PEAK OUTPUT POWER(NOTE1)
TPS350-10	+5V	±10% Typical	60 A	69A	0A	±3%	±1%	400W Typical
TPS350-11	+12V	±10% Typical	29.2A	33.6A	0A	±3%	±1%	400W Typical
TPS350-12	+15V	±10% Typical	23.3A	26.8A	0A	±3%	±1%	400W Typical
TPS350-13	+24V	±10% Typical	14.6A	16.8A	0A	±3%	±1%	400W Typical
TPS350-14	+48V	±10% Typical	7.3A	8.4A	0A	±3%	±1%	400W Typical
TPS350-15	+36V	±10% Typical	9.7A	11.2A	0A	±3%	±1%	400W Typical
TPS350-16	+56V	±10% Typical	6.25A	7.2A	0A	±3%	±1%	400W Typical
TPS350-17	+18V	±10% Typical	19.4A	22.3A	0A	±3%	±1%	400W Typical
TPS350-18	+3.3V	±10% Typical	60 A	69A	0A	±5%	±1.5%	400W Typical

DUAL OUTPUT MODEL SELECTION CHART

TPS350-20Y	+5 V	±10% Typical	42A	54.6A	4.2A	±5%	±1%	400W Typical
	+12V	±5% Typical	14A	18.2A	1.4A	±5%	±1%	
TPS350-21Y	+5 V	±10% Typical	37A	45.5A	3.7A	±5%	±1%	400W Typical
	+24V	±5% Typical	7A	9.1A	0.7A	±5%	±1%	
TPS350-22Y	+5 V	±10% Typical	42A	54.6A	4.2A	±5%	±1%	400W Typical
	- 5 V	±5% Typical	42A	54.6A	4.2A	±5%	±1%	
TPS350-23Y	+12V	±10% Typical	15A	19.5A	1.5A	±5%	±1%	400W Typical
	- 12 V	±5% Typical	15A	19.5A	1.5A	±5%	±1%	
TPS350-24Y	+15 V	±10% Typical	12A	15.6A	1.2A	±5%	±1%	400W Typical
	- 15 V	±5% Typical	12A	15.6A	1.2A	±5%	±1%	
TPS350-25Y	+3.3V	±10% Typical	48A	62.4A	4.8A	±5%	±1.5%	400W Typical
	+12 V	±5% Typical	15A	19.5A	1.5A	±5%	±1%	
TPS350-26Y	+ 12V	±10% Typical	16A	20.8A	1.6A	±5%	±1%	400W Typical
	+ 24V	±5% Typical	8A	10.4A	0.8A	±5%	±1%	
TPS350-27Y	+ 12V	±10% Typical	20A	26A	2A	±5%	±1%	400W Typical
	+ 5 V	±5% Typical	25A	32.5A	2.5A	±5%	±1%	
TPS350-28Y	+ 3.3V	±10% Typical	45A	58.5A	4.5A	±5%	±1.5%	400W Typical
	+ 5 V	±5% Typical	45A	58.5A	4.5A	±5%	±1%	

TRIPLE OUTPUT MODEL SELECTION CHART

TPS350-30	+ 5V	±10% Typical	35A	40.3A	3.5A	±5%	±1%	400W Typical
	+12V	Fixed	14A	16.1A	1.4A	±5%	±1%	
	- 5 V	Fixed	3.5A	4A	0.35A	±10%	±1%	
TPS350-31	+ 5V	±10% Typical	35A	40.3A	3.5A	±5%	±1%	400W Typical
	+12V	Fixed	12A	13.8A	1.2A	±5%	±1%	
	- 12V	Fixed	3.5A	4A	0.35A	±10%	±1%	
TPS350-32	+ 5V	±10% Typical	35A	40.3A	3.5A	±5%	±1%	400W Typical
	+15V	Fixed	10A	11.5A	1A	±5%	±1%	
	-15V	Fixed	3.5A	4A	0.35A	±10%	±1%	
TPS350-33Y	+ 5V	±10% Typical	35A	40.3A	3.5A	±5%	±1%	400W Typical
	+15V	Fixed	11A	9.2A	1.1A	±5%	±1%	
	- 5 V	Fixed	3.5A	4A	0.35A	±10%	±1%	
TPS350-34Y	+ 5V	±10% Typical	35A	40.3A	3.5A	±5%	±1%	400W Typical
	+15V	Fixed	9A	9.2A	0.9A	±5%	±1%	
	-12V	Fixed	3.5A	4A	0.35A	±10%	±1%	
TPS350-35	+ 5 V	±10% Typical	35A	40.3A	3.5A	±5%	±1%	400W Typical
	+24V	Fixed	7.2A	8.3A	0.72A	±5%	±1%	
	-12V	Fixed	3.5A	4A	0.35A	±10%	±1%	
TPS350-36	+ 5V	±10% Typical	30A	34.5A	3A	±5%	±1%	400W Typical
	+12V	Fixed	15A	17.3A	1.5A	±5%	±1%	
	- 12V	Fixed	5A	5.8A	0.5A	±10%	±1%	
TPS350-37	+ 5V	±10% Typical	35A	40.3A	3.5A	±5%	±1%	400W Typical
	+12V	Fixed	12A	13.8A	1.2A	±5%	±1%	
	+24V	Fixed	3.5A	4A	0.35A	±10%	±1%	
TPS350-38Y	+ 5V	±10% Typical	35A	40.3A	3.5A	±5%	±1%	400W Typical
	+24V	Fixed	2 A	6.9A	0.2 A	±5%	±1%	
	+48V	Fixed	3.5A	4A	0.35A	±10%	±1%	

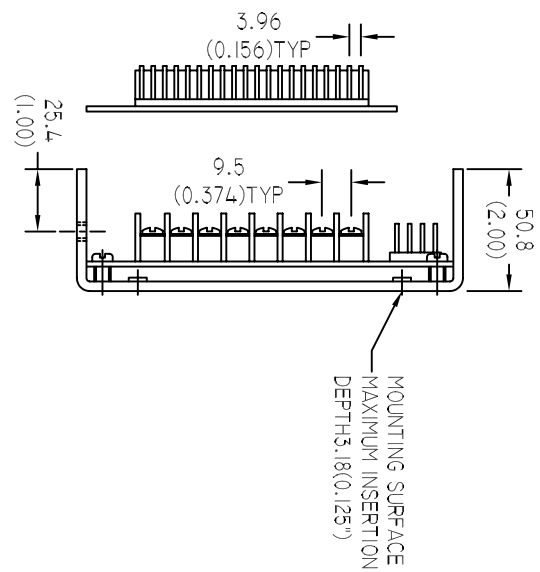
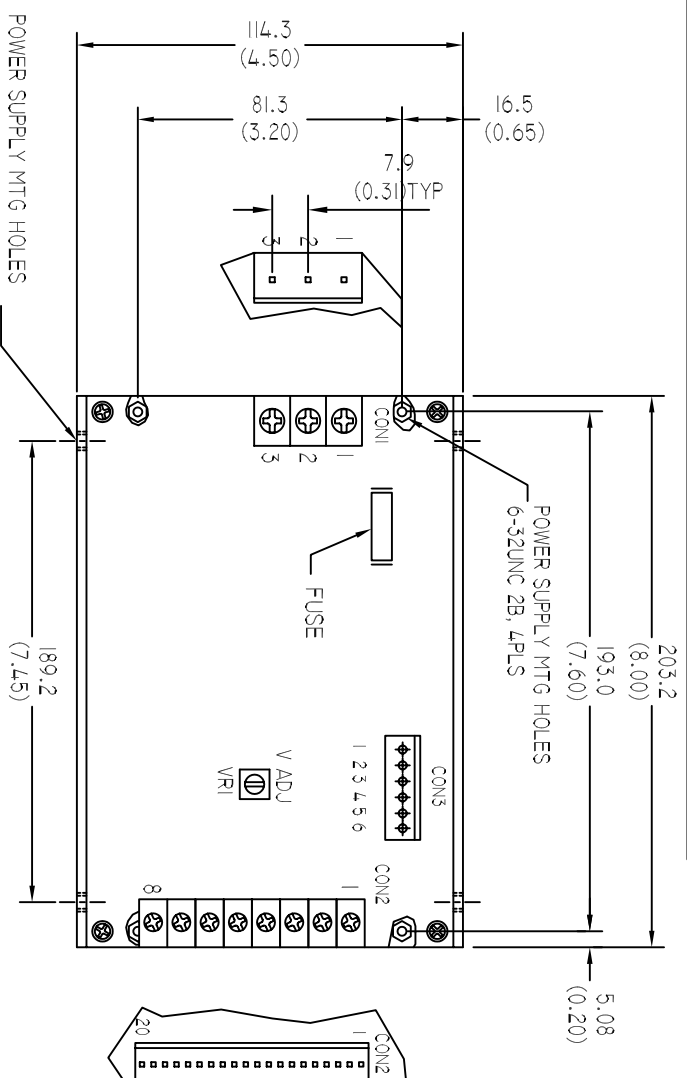
MODEL	OUTPUT VOLTAGE	ADJUSTMENT RANGE	MAXIMUM OUTPUT CURRENT	PEAK OUTPUT CURRENT(NOTE1)	MINIMUM OUTPUT CURRENT	TOTAL REGULATION(NOTE3)	RIPPLE & NOISE %P-P(NOTE2)	PEAK OUTPUT POWER(NOTE1)
TRIPLE OUTPUT MODEL SELECTION CHART								
TPS350-39	+3.3V	±10% Typical	35A	40.3A	3.5A	±5%	±1.5%	400W Typical
	+ 5 V	Fixed	20A	23A	2A	±5%	±1%	
	+12V	Fixed	7A	8A	0.7A	±10%	±1%	
QUAD OUTPUT MODEL SELECTION CHART								
TPS350-40	+ 5V	±10% Typical	35A	40.3A	3.5A	±5%	±1%	400W Typical
	+12V	Fixed	12A	13.8A	1.2A	±5%	±1%	
	- 5 V	Fixed	3.5A	4A	0.35A	±10%	±1%	
	- 12V	±5% Typical	2A	2.3A	0.2A	±5%	±1%	
TPS350-41	+ 5V	±10% Typical	35A	40.3A	3.5A	±5%	±1%	400W Typical
	+12V	Fixed	10A	11.5A	1A	±5%	±1%	
	- 5 V	Fixed	4A	4.6A	0.4A	±10%	±1%	
TPS350-42	+ 5V	±10% Typical	35A	40.3A	3.5A	±5%	±1%	400W Typical
	+12V	Fixed	7A	8.1A	0.7A	±5%	±1%	
	+15V	Fixed	3A	4.5A	0.3A	±10%	±1%	
TPS350-43	+ 5V	±10% Typical	25A	28.8A	2.5A	±5%	±1%	400W Typical
	+12V	Fixed	4A	4.6A	0.4A	±5%	±1%	
	- 12V	Fixed	2.5A	2.9A	0.25A	±10%	±1%	
	+24V	±5% Typical	6.5A	7.5A	0.65A	±5%	±1%	
TPS350-44	+ 5V	±10% Typical	25A	28.8A	2.5A	±5%	±1%	400W Typical
	+12V	Fixed	4 A	4.6A	0.4A	±5%	±1%	
	- 12V	Fixed	3 A	3.5A	0.3A	±10%	±1%	
	+48V	±5% Typical	4 A	4.6A	0.4A	±5%	±1%	
TPS350-45	+5V	±10% Typical	25A	28.8A	2.5A	±5%	±1%	400W Typical
	+12V	Fixed	11A	12.7A	1.1A	±5%	±1%	
	-12V	Fixed	2.5A	2.9A	0.25A	±10%	±1%	
	+24V	±5% Typical	3.5A	4A	0.35A	±5%	±1%	
TPS350-46	+ 5V	±10% Typical	35A	40.3A	3.5A	±5%	±1%	400W Typical
	+12V	Fixed	3 A	3.5A	0.3A	±5%	±1%	
	- 5 V	Fixed	6 A	6.9A	0.6A	±10%	±1%	
	+48V	±5% Typical	2.5A	2.9A	0.25A	±5%	±1%	
TPS350-47Y	+ 5V	±10% Typical	30A	34.5A	3A	±5%	±1%	400W Typical
	+15V	Fixed	1.5A	4A	0.15A	±5%	±1%	
	- 15V	Fixed	1.5A	4A	0.15A	±10%	±1%	
	+48V	±5% Typical	4 A	4.6A	0.4A	±5%	±1%	
TPS350-48Y	+ 5V	±10% Typical	25 A	28.8A	2.5A	±5%	±1%	400W Typical
	+24V	Fixed	2A	5.8A	0.2A	±5%	±1%	
	- 12V	Fixed	2A	5.2A	0.2A	±10%	±1%	
	+48V	±5% Typical	4A	7.5A	0.4A	±5%	±1%	
TPS350-49	+3.3V	±10% Typical	35A	40.3A	3.5A	±5%	±1.5%	400W Typical
	+ 5 V	Fixed	20A	23A	2A	±5%	±1%	
	+12V	Fixed	6 A	6.9A	0.6A	±10%	±1%	
	- 12V	±5% Typical	6 A	6.9A	0.6A	±5%	±1%	

- NOTES:** 1) Peak loads for lasting <30 seconds with a maximum 10% duty cycle are acceptable. Please contact us if need special peak load.
 2) Maximum peak to peak noise expressed as a percentage of output voltage, 20MHz bandwidth, input not less nominal line, 0.1 μF and 47 μF Cap. on outputs.
 3) Loading test conditions are set for all outputs at minimum, middle and maximum of loads. Special cross loading requirement is welcomed.
 4) Detailed engineering specification of each model is available for inquiry.
 5) Special output voltage/current inquiry is welcomed.
 6) Specifications subject to change without notice.
 7) 25% derated if 24 VDC input version; 50% derated if 12 VDC input version; 25% derated if additional cover.

TOTAL POWER INTERNATIONAL

TOLL FREE# 877-646-0900

TPS350 SERIES



POWER SUPPLY MTG HOLES
6-32UNC 2B, 4PLS

POWER SUPPLY MTG HOLES
6-32UNC 2B, 4PLS

CON1 (CONNECTORS) CONFIGURATION

1	2	3
LINE(+)	NEUT(-)	FG

CON1 (TERMINAL BLOCK) CONFIGURATION

1	2	3
LINE(+)	NEUT(-)	FG

CON2 (TERMINAL BLOCK) CONFIGURATION
FOR V₁ ISOLATED

MULTIPLE	1	2	3	4	5	6	7	8
OUTPUT	V ₁	RET	V ₂	V ₃	V ₄ RET	V ₄		

CON2 (TERMINAL BLOCK) CONFIGURATION
FOR V₁ POSITIVE

MULTIPLE	1	2	3	4	5	6	7	8
OUTPUT	V ₁	RET	V ₂	V ₃	RET	V ₄ (-)		

CON2 (TERMINAL BLOCK) CONFIGURATION
FOR V₁ NEGATIVE

MULTIPLE	1	2	3	4	5	6	7	8
OUTPUT	V ₁	RET	V ₂	V ₃	RET	V ₄ (+)		

CON2 (TERMINAL BLOCK) CONFIGURATION
FOR V₂ ISOLATED

DUAL	1	2	3	4	5	6	7	8
OUTPUT	V ₁	V ₁ RET	V ₂ RET	V ₂				

CON2 (TERMINAL BLOCK) CONFIGURATION
FOR V₂ POSITIVE

DUAL	1	2	3	4	5	6	7	8
OUTPUT	V ₁	RET	RET	RET	V ₂ (+)			

CON2 (TERMINAL BLOCK) CONFIGURATION
FOR V₂ NEGATIVE

DUAL	1	2	3	4	5	6	7	8
OUTPUT	V ₁	RET	RET	V ₂ (-)				

CON2 (TERMINAL BLOCK) CONFIGURATION

SINGLE	1-4	5-8
OUTPUT	V ₁ (+)	RET(-)

CON2 (CONNECTORS) CONFIGURATION
FOR V₁ ISOLATED

MULTIPLE	1-6	7-11	12	13	14	15-17	18-20
OUTPUT	V ₁	RET	V ₂	RET	V ₃	V ₄ RET	V ₄

CON2 (CONNECTORS) CONFIGURATION
FOR V₁ POSITIVE

MULTIPLE	1-6	7-11	12	13	14	15-17	18-20
OUTPUT	V ₁	RET	V ₂	RET	V ₃	RET	V ₄ (+)

CON2 (CONNECTORS) CONFIGURATION
FOR V₁ NEGATIVE

MULTIPLE	1-6	7-11	12	13	14	15-17	18-20
OUTPUT	V ₁	RET	V ₂	RET	V ₃	RET	V ₄ (-)

CON2 (CONNECTORS) CONFIGURATION
FOR V₂ ISOLATED

DUAL	1-6	7-10	11-14	15-20
OUTPUT	V ₁	V ₁ RET	V ₂ RET	V ₂

CON2 (CONNECTORS) CONFIGURATION
FOR V₂ POSITIVE

DUAL	1-6	7-10	11-14	15-20
OUTPUT	V ₁	RET	RET	V ₂ (+)

CON2 (CONNECTORS) CONFIGURATION
FOR V₂ NEGATIVE

DUAL	1-6	7-10	11-14	15-20
OUTPUT	V ₁	RET	V ₂ (-)	RET

CON2 (CONNECTORS) CONFIGURATION

SINGLE	1-10	11-20
OUTPUT	V ₁ (+)	RET(-)

CON3 CONFIGURATION

1	2	3	4	5	6
S-	S+	R,C	AC FAIL	RET	PG

TOLERANCE : ± 0.5 MM
(INCH) ± 0.02

UNIT : MM
(INCH)

TERMINAL BLOCKS
CON1:PITCH=9.5 MM
CON2:PITCH=9.5 MM

CON1=CONNECTOR,MOLEX#09-65-2058(OR EQUIVALENT)
(MATING CONNECT. #MOLEX#09-50-3051)
CON2=CONNECTOR,MOLEX#09-65-2208(OR EQUIVALENT)
(MATING CONNECT. #MOLEX#09-50-3201)
ALL MATING TERMINAL=MOLEX#08-50-0105(OR EQUIVALENT)

CON3=CONNECTOR,MOLEX#22-27-206(OR EQUIVALENT)
(MATING CONNECT. #MOLEX#22-01-3067)
MATING TERMINAL=MOLEX#08-50-0113(OR EQUIVALENT)