

## KEY FEATURES

- Power Module for PCB Mountable
- Smaller Size (2"x1") with High Efficiency
- 2:1 Input Range
- Regulated Output
- Low Ripple and Noise
- Screw Terminal For Optional
- Operating Temperature: -40°C...+85°C (with derating)
- Remote ON/OFF Control
- Standard 2" x 1" Package and Pinout
- 3-Years Product Warranty



## ELECTRICAL SPECIFICATIONS

Model No. ( Single Output )	ST30-24-2.5S	ST30-24-3.3S	ST30-24-5S	ST30-24-12S	ST30-24-15S	ST30-24-24S
Max. Output Wattage (W)	15W	19.8W	30W	30W	30W	30W
Input Voltage (V.DC.)	24V (18-36V)	24V (18-36V)	24V (18-36V)	24V (18-36V)	24V (18-36V)	24V (18-36V)
Output Voltage (V.DC.)	2.5V / 6000mA	3.3V / 6000mA	5V / 6000mA	12V / 2500mA	15V / 2000mA	24V / 1250mA
Efficiency	84%	87%	90%	88%	88%	88%
Capacitor Load (max)	6800uF	6800uF	4700uF	680uF	680uF	120uF

Model No. ( Single Output )	ST30-48-2.5S	ST30-48-3.3S	ST30-48-5S	ST30-48-12S	ST30-48-15S	ST30-48-24S
Max. Output Wattage (W)	15W	19.8W	30W	30W	30W	30W
Input Voltage (V.DC.)	48V (36-75V)	48V (36-75V)	48V (36-75V)	48V (36-75V)	48V (36-75V)	48V (36-75V)
Output Voltage (V.DC.)	2.5V / 6000mA	3.3V / 6000mA	5V / 6000mA	12V / 2500mA	15V / 2000mA	24V / 1250mA
Efficiency	85%	88%	90%	88%	88%	88%
Capacitor Load (max)	6800uF	6800uF	4700uF	680uF	680uF	120uF

Model No. ( Single Output )		ST30-24-2.5S	ST30-24-3.3S	ST30-24-5S	ST30-24-12S	ST30-24-15S	ST30-24-24S
Max Output Wattage (W)		15W	19.8W	30W	30W	30W	30W
Input	Input Filter	π type					
	Voltage (V.DC.)	2.5	3.3	5	12	15	24
Output	Trim Voltage Range	±10%					
	Voltage Accuracy	±2%					
	Current (mA) max	6000	6000	6000	2500	2000	1250
	Line Regulation (LL-HL) (typ.)	±0.5%					
	Load Regulation (10-100%) (typ.)	±1%					
	Ripple	2.5S-5S:50mV / other: <0.2% Vout +40mV max (Vp-p)					
	Noise	2.5S-5S:100mV / other: <0.5% Vout +50mV max (Vp-p)					
	Minimum Load	0%	0%	0%	1%	1%	0.5%
Protection	Switching Frequency	400KHz					
	Over Power Protection	Works over 120% of rating and recovers automatically.					
	Over Voltage Protection	Zener diode clamp					
Isolation	Short Circuit Protection	Current limit, auto-recovery					
	Voltage	1600 VDC.					
	Resistance	10 <sup>8</sup> ohms					
Environment	Capacitance	1000 pF					
	Operating Temperature	-40°C...+85°C (with derating)					
	Storage Temperature	-55°C...+105°C					
	Case Temperature	+105°C max.					
	Temperature Coefficient	±0.02% Per°C					
	Humidity	95% RH					
Physical	MTBF	>550,000 h @ 25°C (MIL-HDBK-217F)					
	Dimension (L x W x H)	2.0 x 1.0 x 0.433 Inches ( 50.8 x 25.4 x 11.0 mm ) Tolerance ±0.5 mm					
	Case Material	Five-side shielded Aluminum with Non-Conductive base, Black Anodize					
	Weight	33 g					
Cooling Method	Free-air convection						

1.All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

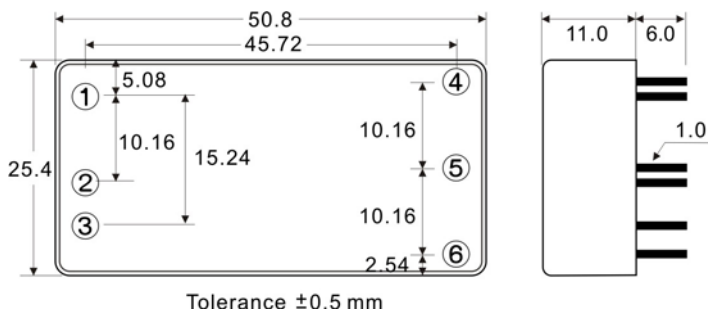
2.Ripple & Noise are measured at 20MHz of bandwidth with 0.1UF & 47UF parallel capacitor.

**ST30 SERIES**
**30 Watts**
**ELECTRICAL SPECIFICATIONS**

Model No. ( Dual Output )	ST30-24-5D	ST30-24-12D	ST30-24-15D	ST30-48-5D	ST30-48-12D	ST30-48-15D
Max. Output Wattage (W)	24W	30W	30W	25W	30W	30W
Input Voltage (V.DC.)	24V (18-36V)	24V (18-36V)	24V (18-36V)	48V (36-75V)	48V (36-75V)	48V (36-75V)
Output Voltage (V.DC.)	±5V / ±2400mA	±12V / ±1250mA	±15V / ±1000mA	±5V / ±2500mA	±12V / ±1250mA	±15V / ±1000mA
Efficiency	85%	88%	88%	85%	88%	88%
Capacitor Load (max)	±820uF	±150uF	±120uF	±820uF	±150uF	±120uF

Model No. ( Dual Output )		ST30-24-5D	ST30-48-5D	ST30-24-12D	ST30-24-15D
Max Output Wattage (W)		24W	25W	30W	30W
Input	Input Filter	π type			
Output	Voltage (V.DC.)	±5	±12	±15	
	Voltage Accuracy	±2%			
	Current (mA) max	±2400	±2500	±1250	±1000
	Line Regulation (LL-HL) (typ.)	±0.5%			
	Load Regulation (10-100%) (typ.)	±1%			
	Ripple	5D:60mV / other: <0.2% Vout +40mV max (Vp-p)			
	Noise	5D:120mV / other: <0.5% Vout +50mV max (Vp-p)			
	Minimum Load	0.5%	0.5%	0.5%	0.5%
	Switching Frequency	400KHz			
Protection	Over Power Protection	Works over 120% of rating and recovers automatically.			
	Over Voltage Protection	Zener diode clamp			
	Short Circuit Protection	Current limit, auto-recovery			
Isolation	Voltage	1600 VDC.			
	Resistance	10 <sup>8</sup> ohms			
	Capacitance	1000 pF			
Environment	Operating Temperature	-40°C...+85°C (with derating)			
	Storage Temperature	-55°C...+105°C			
	Case Temperature	+105°C max.			
	Temperature Coefficient	±0.02% Per°C			
	Humidity	95% RH			
Physical	MTBF	>550,000 h @ 25°C (MIL-HDBK-217F)			
	Dimension (L x W x H)	2.0 x 1.0 x 0.433 Inches ( 50.8 x 25.4 x 11.0 mm ) Tolerance ±0.5 mm			
	Case Material	Five-side shielded Aluminum with Non-Conductive base, Black Anodize			
	Weight	33 g			
	Cooling Method	Free-air convection			

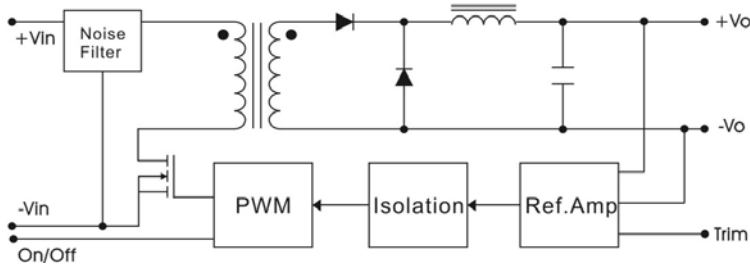
- All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.
- Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

**MECHANICAL DIMENSION ( Top View )**


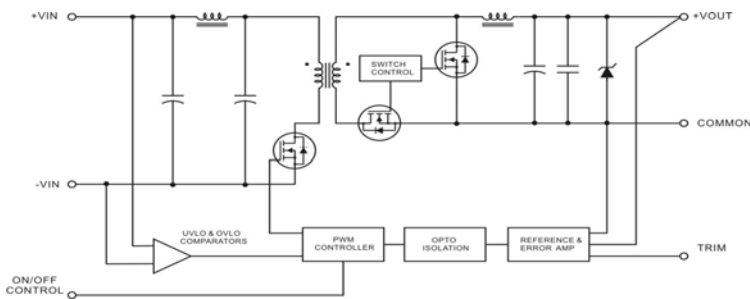
PIN#	Single	Dual	24Vout
1	CTRL	CTRL	CTRL
2	-DC IN	-DC IN	-DC IN
3	+DC IN	+DC IN	+DC IN
4	TRIM	-DC OUT	NC
5	-DC OUT	COMMON	-DC OUT
6	+DC OUT	+DC OUT	+DC OUT

**BLOCK DIAGRAM**

**Single Output**

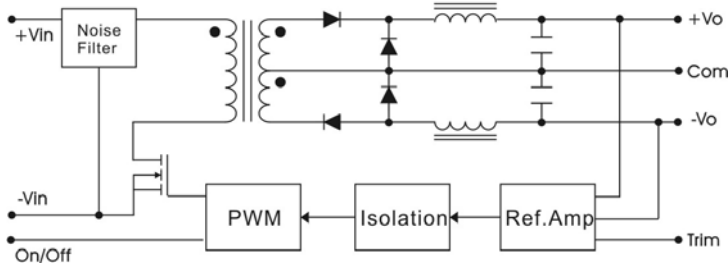


Output Voltage (V.DC) : 12V, 15V, 24V

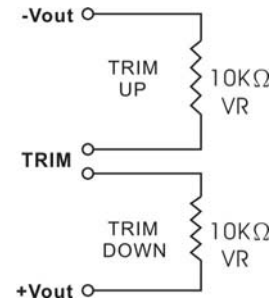


Output Voltage (V.DC) : 2.5V, 3.3V, 5V

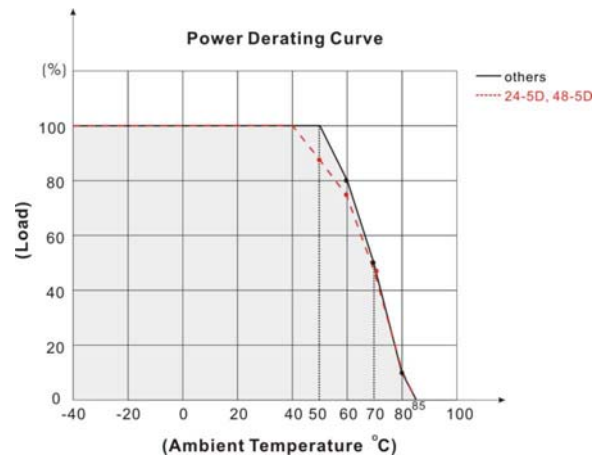
**Dual Output**



**TRIM**

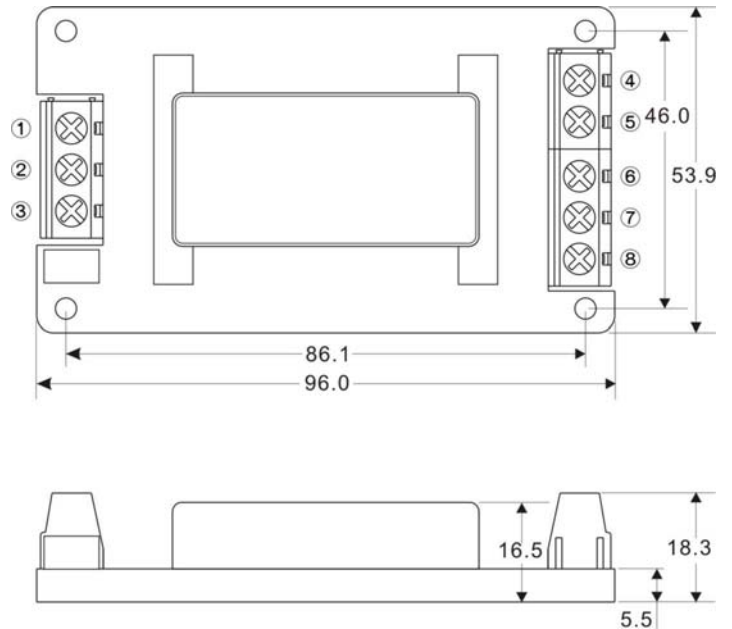


**DERATING**



**ST30 SERIES**
**30 Watts**
**SCREW TERMINAL**
**ST30-A2**


PIN#	Single	Dual	24Vout
1	CTRL	CTRL	CTRL
2	-DC IN	-DC IN	-DC IN
3	+DC IN	+DC IN	+DC IN
4.	TRIM	-DC OUT	NO CONNECT
5	-DC OUT	COM	-DC OUT
6	NO CONNECT	NO CONNECT	NO CONNECT
7	+DC OUT	+DC OUT	+DC OUT
8	NO CONNECT	NO CONNECT	NO CONNECT


**ST30-A5**


PIN#	Single	Dual	24Vout
1	CTRL	CTRL	CTRL
2	-DC IN	-DC IN	-DC IN
3	+DC IN	+DC IN	+DC IN
4.	TRIM	-DC OUT	NO CONNECT
5	-DC OUT	COM	-DC OUT
6	NO CONNECT	NO CONNECT	NO CONNECT
7	+DC OUT	+DC OUT	+DC OUT
8	NO CONNECT	NO CONNECT	NO CONNECT

