

**KEY FEATURES**

- Power Module for PCB Mountable
- 2:1 & 4:1 Wide Input Range
- Regulated Output
- Low Ripple and Noise
- Screw Terminal For Optional
- Remote ON/OFF Control (Optional)
- Standard 2" x 1" Package and Pinout
- CE, UL Approval



**ELECTRICAL SPECIFICATIONS**

Model No. ( Single Output )	ST10-12-3.3S	ST10-12-5S	ST10-12-12S	ST10-12-15S	ST10-12-24S
Input Voltage (V.DC.)	12V (9-18V)	12V (9-18V)	12V (9-18V)	12V (9-18V)	12V (9-18V)
Output Voltage (V.DC.)	3.3V / 2000mA	5V / 2000mA	12V / 830mA	15V / 670mA	24V / 420mA
Efficiency	74%	80%	81%	82%	81%

Model No. ( Single Output )	ST10-24-3.3S	ST10-24-5S	ST10-24-12S	ST10-24-15S	ST10-24-24S
Input Voltage (V.DC.)	24V (18-36V)	24V (18-36V)	24V (18-36V)	24V (18-36V)	24V (18-36V)
Output Voltage (V.DC.)	3.3V / 2000mA	5V / 2000mA	12V / 830mA	15V / 670mA	24V / 420mA
Efficiency	74%	81%	84%	85%	84%

Model No. ( Single Output )	ST10-24F-3.3S	ST10-24F-5S	ST10-24F-12S	ST10-24F-15S
Input Voltage (V.DC.)	24V (10-40V)	24V (10-40V)	24V (10-40V)	24V (10-40V)
Output Voltage (V.DC.)	3.3V / 2000mA	5V / 2000mA	12V / 830mA	15V / 670mA
Efficiency	67%	75%	75%	75%

Model No. ( Single Output )	ST10-48-3.3S	ST10-48-5S	ST10-48-12S	ST10-48-15S	ST10-48-24S
Input Voltage (V.DC.)	48V (36-75V)	48V (36-75V)	48V (36-75V)	48V (36-75V)	48V (36-75V)
Output Voltage (V.DC.)	3.3V / 2000mA	5V / 2000mA	12V / 830mA	15V / 670mA	24V / 420mA
Efficiency	76%	81%	84%	84%	84%

Model No. ( Single Output )	ST10-48F-3.3S	ST10-48F-5S	ST10-48F-12S	ST10-48F-15S
Input Voltage (V.DC.)	48V (18-75V)	48V (18-75V)	48V (18-75V)	48V (18-75V)
Output Voltage (V.DC.)	3.3V / 2000mA	5V / 2000mA	12V / 830mA	15V / 670mA
Efficiency	66%	75%	77%	75%

Model No. ( Dual Output )	ST10-24F-5D	ST10-24F-12D	ST10-24F-15D
Input Voltage (V.DC.)	24V (10-40V)	24V (10-40V)	24V (10-40V)
Output Voltage (V.DC.)	±5V / ±1000mA	±12 / ±415mA	±15 / ±333mA
Efficiency	75%	75%	75%

Model No. ( Dual Output )	ST10-48F-5D	ST10-48F-12D	ST10-48F-15D
Input Voltage (V.DC.)	48V (18-75V)	48V (18-75V)	48V (18-75V)
Output Voltage (V.DC.)	±5V / ±1000mA	±12 / ±415mA	±15 / ±333mA
Efficiency	75%	77%	77%

Model No. (Single Output)	ST10-12-3.3S ST10-24-3.3S ST10-24F-3.3S ST10-48-3.3S ST10-48F-3.3S	ST10-12-5S ST10-24-5S ST10-24F-5S ST10-48-5S ST10-48F-5S	ST10-12-12S ST10-24-12S ST10-24F-12S ST10-48-12S ST10-48F-12S	ST10-12-15S ST10-24-15S ST10-24F-15S ST10-48-15S ST10-48F-15S	ST10-12-24S ST10-24-24S ST10-48-24S	
Max Output Wattage (W)	6.6W	10W	10W	10W	10W	
Input	Input Filter	π type				
Output	Voltage (V.DC.)	3.3	5	12	15	24
	Voltage Accuracy	±2%				
	Current (mA) max	2000	2000	830	670	420
	Line Regulation (LL-HL) (typ.)	±0.5%				
	Load Regulation (10-100%) (typ.)	±1%				
	Minimum Load	3%	3%	0%	0%	0%
	Ripple	<0.2% Vout +40mV max (Vp-p)				
	Noise	<0.5% Vout +50mV max (Vp-p)				
Protection	Switching Frequency	300KHz				
	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	2:1 Range: -25°C...+70°C (at Full Load)		4:1 Range: -25°C...+70°C (with derating)		
	Storage Temperature	-55°C...+105°C				
	Case Temperature	+100°C max.				
	Temperature Coefficient	±0.02% Per°C				
	Humidity	95% RH				
Physical	MTBF	>800,000 h @ 25°C (MIL-HDBK-217F)				
	Dimension (L x W x H)	1.97 x 1.0 x 0.425 Inches ( 50.1 x 25.4 x 10.8 mm ) Tolerance ±0.5 mm				
	Case Material	Five-side shielded Aluminum with Non-Conductive base, Black Anodize				
	Weight	32 g				
Safety	Cooling Method	Free-air convection				
	Agency Approvals	CE, UL				
EMC	EMI (Conducted & Radiated Emission)	EN 55022 class A				

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

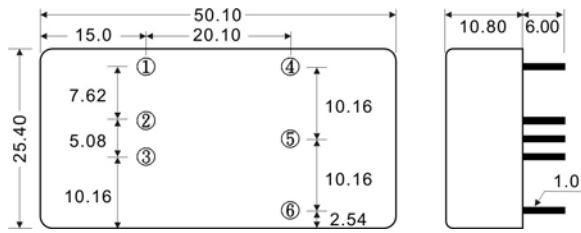
II.Ripple & Noise are measured at 20MHz of bandwidth with 0.1µF & 47µF parallel capacitor.

Model No. (Dual Output)	ST10-24F-5D ST10-48F-5D	ST10-24F-12D ST10-48F-12D	ST10-24F-15D ST10-48F-15D	
Max Output Wattage (W)	10W			
Input	Input Filter			
Output	π type			
	Voltage (V.DC.)	±5	±12	±15
	Voltage Accuracy	±2%		
	Current (mA) max	±1000	±415	±333
	Line Regulation (LL-HL) (typ.)	±0.5%		
	Load Regulation (10-100%)(Balance Load)	±1%		
	Minimum Load	3%		
	Ripple	<0.2% Vout +40mV max (Vp-p)		
Protection	Noise	<0.5% Vout +50mV max (Vp-p)		
	Switching Frequency	300KHz		
	Over Power Protection	Works over 120% of rating and recovers automatically.		
Isolation	Over Voltage Protection	Zener diode clamp		
	Short Circuit Protection	Current limit, auto-recovery		
	Voltage	1600 VDC.		
Environment	Resistance	10 <sup>8</sup> ohms		
	Capacitance	1000 pF		
	Operating Temperature	2:1 Range: -25°C...+70°C (at Full Load)		4:1 Range: -25°C...+70°C (with derating)
	Storage Temperature	-55°C...+105°C		
	Case Temperature	+100°C max.		
	Temperature Coefficient	±0.02% Per°C		
Physical	Humidity	95% RH		
	MTBF	>800,000 h @ 25°C (MIL-HDBK-217F)		
	Dimension (L x W x H)	1.97 x 1.0 x 0.425 Inches ( 50.1 x 25.4 x 10.8 mm ) Tolerance ±0.5 mm		
	Case Material	Five-side shielded Aluminum with Non-Conductive base, Black Anodize		
Safety	Weight	32 g		
	Cooling Method	Free-air convection		
EMC	Agency Approvals	CE, UL		
	EMI (Conducted & Radiated Emission)	EN 55022 class A		

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

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

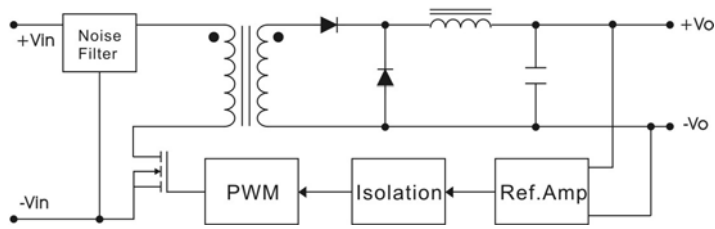
**MECHANICAL DIMENSION ( Top View )**



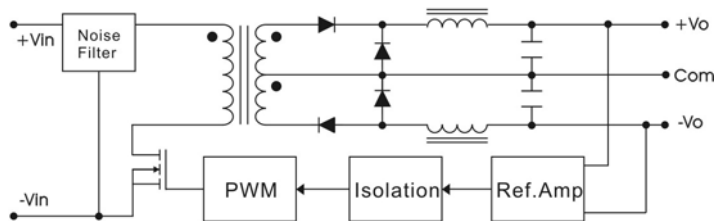
PIN#	Single	Dual
1	ON / OFF CTL (Optional)	ON / OFF CTL (Optional)
2	-DC IN	-DC IN
3	+DC IN	+DC IN
4	-DC OUT	-DC OUT
5	NO PIN	COMMON
6	+DC OUT	+DC OUT

**BLOCK DIAGRAM**

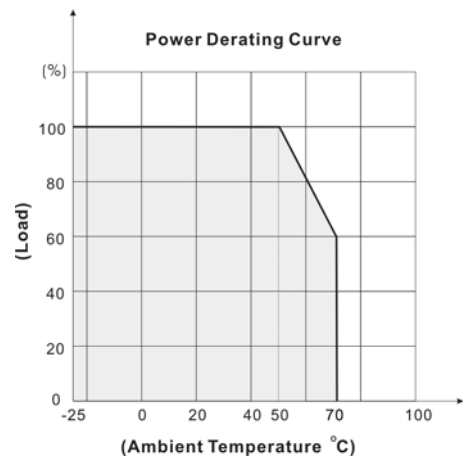
**Single Output**



**Dual Outputs**



**DERATING**

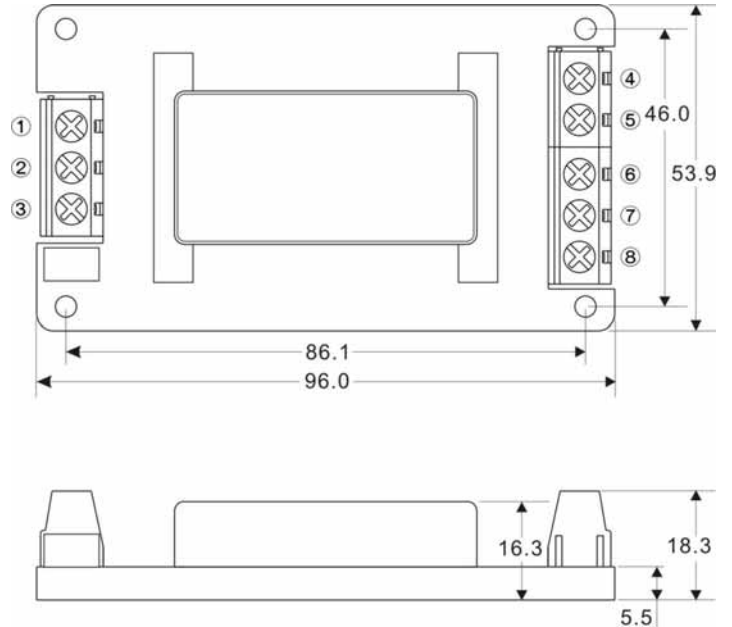


SCREW TERMINAL

ST10-A2



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



ST10-A5



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

