

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
- 3-Years Product Warranty


ELECTRICAL SPECIFICATIONS

Model No.	ST15-12-3.3S	ST15-12-5S	ST15-12-12S	ST15-12-15S	ST15-12-24S
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 / 3000mA	5V / 3000mA	12V / 1250mA	15V / 1000mA	24V / 625mA
Efficiency	77%	80%	82%	84%	84%

Model No.	ST15-24-3.3S	ST15-24-5S	ST15-24-12S	ST15-24-15S	ST15-24-24S
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 / 3000mA	5V / 3000mA	12V / 1250mA	15V / 1000mA	24V / 625mA
Efficiency	77%	82%	85%	86%	87%

Model No.	ST15-24F-3.3S	ST15-24F-5S	ST15-24F-12S	ST15-24F-15S
Input Voltage (V.DC.)	24V (10-40V)	24V (10-40V)	24V (10-40V)	24V (10-40V)
Output Voltage (V.DC.)	3.3V / 3000mA	5V / 3000mA	12V / 1250mA	15V / 1000mA
Efficiency	70%	76%	77%	75%

Model No.	ST15-48-3.3S	ST15-48-5S	ST15-48-12S	ST15-48-15S	ST15-48-24S
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 / 3000mA	5V / 3000mA	12V / 1250mA	15V / 1000mA	24V / 625mA
Efficiency	79%	83%	86%	87%	87%

Model No.	ST15-48F-3.3S	ST15-48F-5S	ST15-48F-12S	ST15-48F-15S
Input Voltage (V.DC.)	48V (18-75V)	48V (18-75V)	48V (18-75V)	48V (18-75V)
Output Voltage (V.DC.)	3.3V / 3000mA	5V / 3000mA	12V / 1250mA	15V / 1000mA
Efficiency	71%	78%	79%	79%

Model No. (Dual Output)	ST15-24F-5D	ST15-24F-12D	ST15-24F-15D
Input Voltage (V.DC.)	24V (10-40V)	24V (10-40V)	24V (10-40V)
Output Voltage (V.DC.)	±5V / ±1500mA	±12 / ±625mA	±15 / ±500mA
Efficiency	78%	79%	79%

Model No. (Dual Output)	ST15-48F-5D	ST15-48F-12D	ST15-48F-15D
Input Voltage (V.DC.)	48V (18-75V)	48V (18-75V)	48V (18-75V)
Output Voltage (V.DC.)	±5V / ±1500mA	±12 / ±625mA	±15 / ±500mA
Efficiency	78%	79%	79%

ST15 SERIES
15 Watts

Model No. (Single Output)	ST15-12-3.3S ST15-24-3.3S ST15-24F-3.3S ST15-48-3.3S ST15-48F-3.3S	ST15-12-5S ST15-24-5S ST15-24F-5S ST15-48-5S ST15-48F-5S	ST15-12-12S ST15-24-12S ST15-24F-12S ST15-48-12S ST15-48F-12S	ST15-12-15S ST15-24-15S ST15-24F-15S ST15-48-15S ST15-48F-15S	ST15-12-24S ST15-24-24S ST15-48-24S	
Max Output Wattage (W)	9.9W	15W	15W	15W	15W	
Input	Input Filter	π type				
Output	Voltage (V.DC.)	3.3	5	12	15	24
	Voltage Accuracy	±2%				
	Current (mA) max	3000	3000	1250	1000	625
	Line Regulation (LL-HL) (typ.)	±0.5%				
	Load Regulation (10-100%) (typ.)	±1%				
	Minimum Load	3%	3%	1%	1%	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 ⁸ ohms				
Environment	Capacitance	1000 pF				
	Operating Temperature	-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	Six-side shielded Aluminum with Non-Conductive base, Black Anodize				
	Weight	32 g				
Safety	Agency Approvals	CE, UL				
EMC	EMI (Conducted & Radiated Emission) (Note3)	EN 55022 class A				

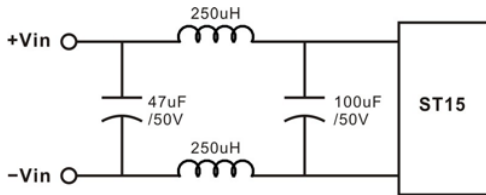
Model No. (Dual Output)	ST15-24F-5D ST15-48F-5D	ST15-24F-12D ST15-48F-12D	ST15-24F-15D ST15-48F-15D	
Max Output Wattage (W)	15W			
Input	Input Filter	π type		
Output	Voltage (V.DC.)	±5	±12	±15
	Voltage Accuracy	±2%		
	Current (mA) max	±1500	±625	±500
	Line Regulation (LL-HL) (typ.)	±0.5%		
	Load Regulation (10-100%)(Balance Load)	±1%		
	Minimum Load	3%		
	Ripple	<0.2% Vout +40mV max (Vp-p)		
	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 ⁸ ohms		
Environment	Capacitance	1000 pF		
	Operating Temperature	-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	Six-side shielded Aluminum with Non-Conductive base, Black Anodize		
	Weight	32 g		
Safety	Agency Approvals	CE, UL		
EMC	EMI (Conducted & Radiated Emission) (Note3)	EN 55022 class A		

ST15 SERIES

15 Watts

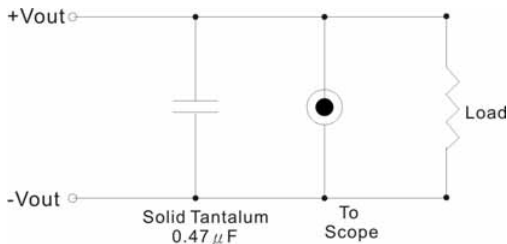
Note:

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.
3. For EMI test, Please refer to below.

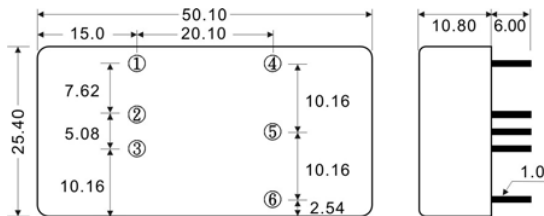


OUTPUT NOISE

The output noise is measured with 0.47μF tantalum capacitor across output.

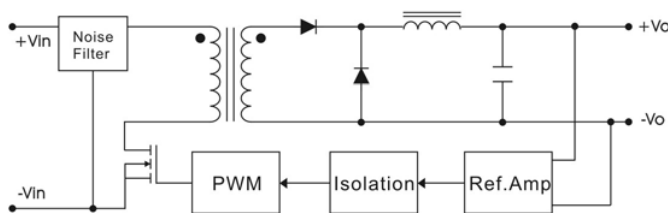


MECHANICAL DIMENSION (Top View)

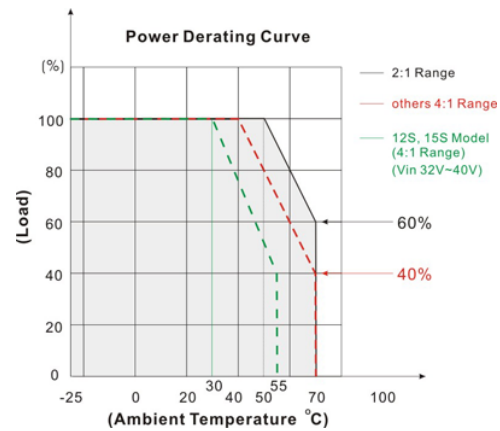


BLOCK DIAGRAM

Single Output

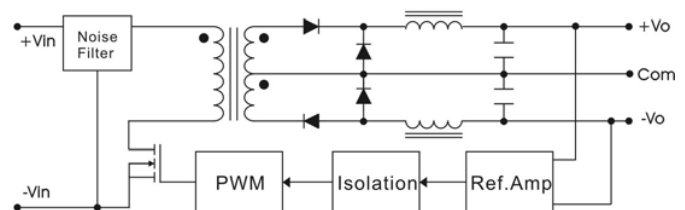


DERATING



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

Dual Outputs



ST15 SERIES

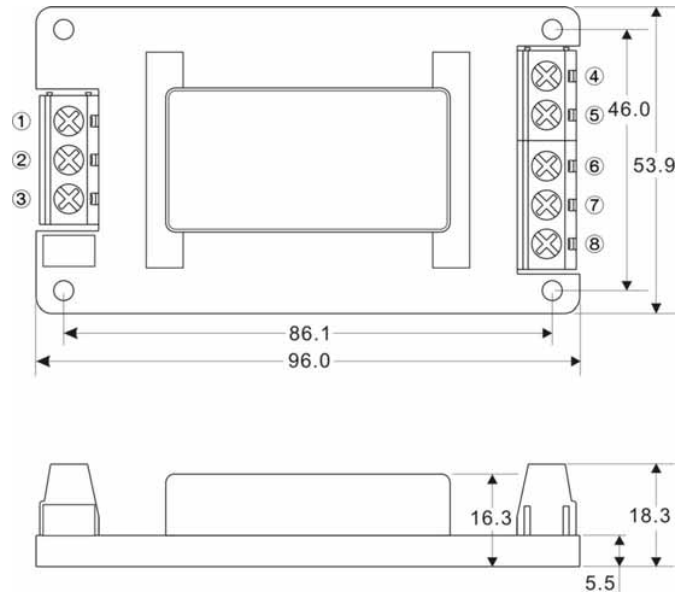
15 Watts

SCREW TERMINAL

ST15-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



ST15-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

