

10 / 15 / 20 / 30 Watt

eST10 / 15 / 20 / 30 Series

eST10/15/30



eST30



- ◆ Power Module for PCB Mountable
- ◆ Fully Encapsulated Plastic Case
- ◆ Regulated Output
- ◆ Low Ripple and Noise
- ◆ 3-Year Warranty

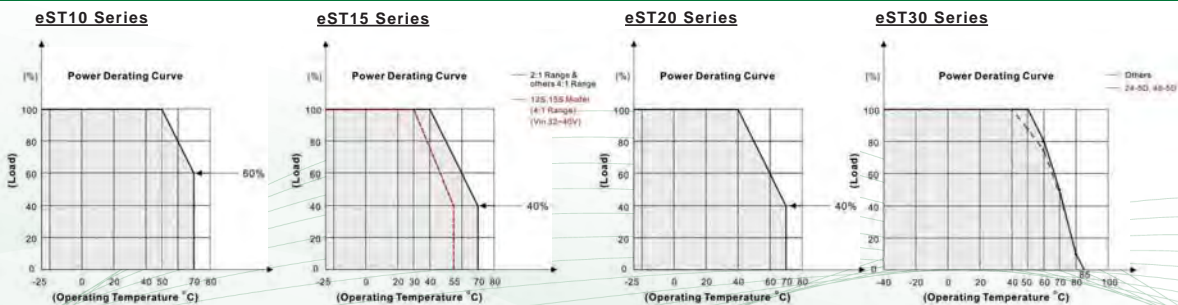
Input Specifications	eST10	eST15	eST20	eST30
Voltage Range	2:1 Range 12V - 9-18 VDC 24V - 18-36 VDC 48V - 36-75 VDC 4:1 Range 24V - 10-40 VDC 48V - 18-75 VDC		2:1 Range 24V - 18-36 VDC 48V - 36-75 VDC	
Filter	π type			
Output Specifications	eST10	eST15	eST20	eST30
Output Power	10 Watt (max.)	15 Watt (max.)	5 Watt (max.)	30 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)			
Line Regulation	±0.5% (LL to HL at Full Load) (typ.)			
Load Regulation	±2% (10% to 100% at Full Load) (typ.)			
Ripple (20MHz bandwidth)	<0.2% Vout +40mV (Vp-p) (max.)		110mV (Vp-p) (max.)	2.5S,3.3S,5S:50mV (Vp-p)(max.) 5D:60-mV (Vp-p)(max.) others:<0.2% Vout +40mV(max.)
Noise (20MHz bandwidth)	<0.5% Vout +50mV (Vp-p) (max.)		200mV (Vp-p) (max.)	2.5S,3.3S,5S:100mV(Vp-p)(max.) 5D:1200mV (Vp-p)(max.) others:<0.5% Vout +50mV (max.)
Temperature Coefficient	±0.02% / °C (max.)			
Short Circuit Protection	Current limit.Auto-recovery			
General Specifications	eST10	eST15	eST20	eST30
Efficiency (see table list)	67% to 84% (typ.)	70% to 87% (typ.)	83% to 87% (typ.)	84% to 90% (typ.)
Freqyebcy	300K Hz (typ.) (max.)		400K Hz (typ.)	
Isolation Voltage	1600 VDC (Input to Output) (min.)			
Isolation Resistance	10 ⁸ Ω (Input to Output)			
Operating Temperature	-25°C to +70 °C (with Derating)			-40°C to +85°C (with Derating)
Storage Temperature	-55°C to +105°C			
Humidity	95% RH (max.)			
Cooling	Free-air Convection			
Physical Specifications	eST10	eST15	eST20	eST30
Dimension (Tolerance ±0.5 mm)	50.1 x 25.4 x 10.8 mm 1.97 x 1.0 x 0.425 inches		50.8 x 25.4 x 11.0 mm 2.0 x 1.0 x 0.433 inches	
Weight	32 g		33 g	
Case Material	Six-side shielded Aluminum with Non-Conductive ase, Black nodize			
Safety	eST10	eST15	eST20	eST30

Application Note: Remote On/ Off

Control Pin is NOT available for standard eST10/eST15/eST20 models Please add suffix-R for models with Control Pin

Ex: eST15-24-12S R

Derating



Model

▶▶ eST10 Single Output (2:1 Range)

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eST10-12-3.3S	9~18	3.3	2000	74
eST10-12-5S	9~18	5	2000	80
eST10-12-12S	9~18	12	830	81
eST10-12-15S	9~18	15	670	82
eST10-12-24S	18~36	24	420	81
eST10-24-3.3S	18~36	3.3	2000	74
eST10-24-5S	18~36	5	2000	81
eST10-24-12S	18~36	12	830	84
eST10-24-15S	18~36	15	670	85
eST10-24-24S	18~36	24	420	84
eST10-48-3.3S	36~75	3.3	2000	76
eST10-48-5S	36~75	5	2000	81
eST10-48-12S	36~75	12	830	84
eST10-48-15S	36~75	15	670	84
eST10-48-24S	36~75	24	420	84

▶▶ eST10 Single Output (4:1 Range)

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eST10-24F-3.3S	10~40	3.3	2000	67
eST10-24F-5S	10~40	5	2000	75
eST10-24F-12S	10~40	12	830	75
eST10-24F-15S	10~40	15	670	75
eST10-48F-3.3S	18~75	3.3	2000	66
eST10-48F-5S	18~75	5	2000	75
eST10-48F-12S	18~75	12	830	77
eST10-48F-15S	18~75	15	670	75

▶▶ eST10 Dual Output (4:1 Range)

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eST10-24F-5D	10~40	±5	±1000	75
eST10-24F-12D	10~40	±12	±415	75
eST10-24F-15D	10~40	±15	±333	75
eST10-48F-5D	18~75	±5	±1000	75
eST10-48F-12D	18~75	±12	±415	77
eST10-48F-15D	18~75	±15	±333	77
			±1000/±2000	

▶▶ eST15 Single Output (2:1 Range)

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eST15-12-3.3S	9~18	3.3	2000	77
eST15-12-5S	9~18	5	2000	80
eST15-12-12S	9~18	12	830	82
eST15-12-15S	9~18	15	670	84
eST15-12-24S	18~36	24	420	84
eST15-24-3.3S	18~36	3.3	2000	77
eST15-24-5S	18~36	5	2000	82
eST15-24-12S	18~36	12	830	85
eST15-24-15S	18~36	15	670	86
eST15-24-24S	18~36	24	420	87
eST15-48-3.3S	36~75	3.3	2000	79
eST15-48-5S	36~75	5	2000	83
eST15-48-12S	36~75	12	830	86
eST15-48-15S	36~75	15	670	87
eST15-48-24S	36~75	24	420	87

▶▶ eST15 Single Output (4:1 Range)

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eST15-24F-3.3S	10~40	3.3	3000	70
eST15-24F-5S	10~40	5	3000	76
eST15-24F-12S	10~40	12	1250	77
eST15-24F-15S	10~40	15	1000	75
eST15-48F-3.3S	18~75	3.3	3000	71
eST15-48F-5S	18~75	5	3000	78
eST15-48F-12S	18~75	12	1250	79
eST15-48F-15S	18~75	15	1000	79

▶▶ eST15 Dual Output (4:1 Range)

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eST15-24F-5D	10~40	±5	±1500	78
eST15-24F-12D	10~40	±12	±625	79
eST15-24F-15D	10~40	±15	±500	79
eST15-48F-5D	18~75	±5	±1500	78
eST15-48F-12D	18~75	±12	±625	79
eST15-48F-15D	18~75	±15	±500	79

▶▶ eST20 Single Output (2:1 Range)

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eST20-24-2.5S	18~36	2.5	4000	83
eST20-24-3.3S	18~36	3.3	4000	86
eST20-24-5S	18~36	5	4000	87
eST20-48-2.5S	36~75	2.5	4000	83
eST20-48-3.3S	36~75	3.3	4000	86
eST20-48-5S	36~75	5	4000	87

▶▶ eST20 Single Output (2:1 Range)

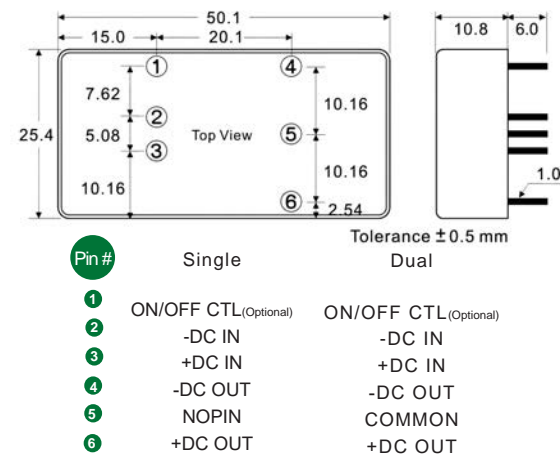
Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eST30-24-2.5S	18~36	2.5	6000	84
eST30-24-3.3S	18~36	3.3	6000	87
eST30-24-5S	18~36	5	6000	90
eST30-24-12S	18~36	12	2500	88
eST30-24-15S	18~36	15	2000	88
eST30-24-24S	18~36	24	1250	88
eST30-48-2.5S	36~75	2.5	6000	85
eST30-48-3.3S	36~75	3.3	6000	88
eST30-48-5S	36~75	5	6000	90
eST30-48-12S	36~75	12	2500	88
eST30-48-15S	36~75	15	2000	88
eST30-48-24S	36~75	24	1250	88

▶▶ eST30 Dual Output (2:1 Range)

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eST30-24-5D	18~36	±5	±2400	85
eST30-24-12D	18~36	±12	±1250	88
eST30-24-15D	18~36	±15	±1000	88
eST30-48-5D	36~75	±5	±2400	85
eST30-48-12D	36~75	±12	±1250	88
eST30-48-15D	36~75	±15	±1000	88

Outline Dimensions & Pin Connections

eST10/eST15/eST20 Series



eST30 Series

