

1.5 Watt

eSB1R5 Series



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

Input Specifications

Voltage Range	5V - 4.5-5.5 VDC
	12v - 10.8-13.2 VDC
	24v - 21.6-26.4 VDC
	48V - 43.2-52.8 VDC
Filter	π type

Output Specifications

Output Power	1.5 Watt(max.)
Voltage Accuracy	$\pm 3\%$ (Full Load and Nominal Vin)
Line Regulation	$\pm 0.3\%$ (LL to HL at Full Load) (typ.)
Load Regulation	$\pm 0.5\%$ (10% to 100% at Full Load) (typ.)
Ripple (20MHz bandwidth)	$< 0.2\%$ Vout +10mV (Vp-p) (max.)
Noise (20MHz bandwidth)	$< 0.5\%$ Vout +30mV (Vp-p) (max.)
Temperature Coefficient	$\pm 0.03\%$ / °C (max.)
Short Circuit Protection	Current limit.Auto-recovery

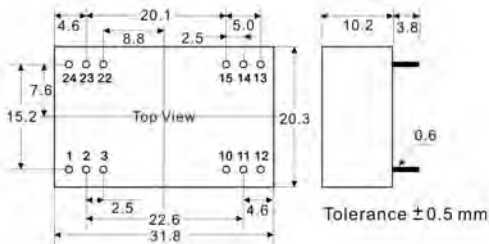
General Specifications

Efficiency (see table list)	51% to 65% (typ.)
	20K Hz (typ.)
Isolation Voltage	500 VDC (min.)
Isolation Resistance	$10^9 \Omega$ (Input to Output) (min.)
Operating Temperature	-25 °C to +70°C (with Derating)
Storage Temperature	-55°C to +105°C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications

Dimension (Tolerance ± 0.5 mm)	31.8 x 20.3 x 10.2 mm
Weight	13 g
Case Material	Plastic

Outline Dimensions & Pin Connections



Pin #	Single	Dual
1	+VIN	+VIN
2	NC	-VOUT
3	NO PIN	COMMON
10	+VOUT	COMMON
11	-VOUT	+VOUT
12	-VIN	-VIN
13	-VIN	-VIN
14	+VOUT	+VOUT
15	-VOUT	COMMON
22	NO PIN	COMMON
23	NC	-VOUT
24	+VIN	+VIN

Model

▶▶ eSB1R5 Single Output

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eSB1R5-5-5S	4.5-5.5	5	300	60
eSB1R5-5-12S	4.5-5.5	12	125	54
eSB1R5-5-15S	4.5-5.5	15	100	56
eSB1R5-5-24S	4.5-5.5	24	63	58
eSB1R5-12-5S	10.8-13.2	5	300	65
eSB1R5-12-12S	10.8-13.2	12	125	60
eSB1R5-12-15S	10.8-13.2	15	100	62
eSB1R5-12-24S	10.8-13.2	24	63	64
eSB1R5-24-5S	21.6-26.4	5	300	57
eSB1R5-24-12S	21.6-26.4	12	125	55
eSB1R5-24-15S	21.6-26.4	15	100	55
eSB1R5-24-24S	43.2-52.8	24	63	58
eSB1R5-48-5S	43.2-52.8	5	300	53
eSB1R5-48-12S	43.2-52.8	12	125	52
eSB1R5-48-15S	43.2-52.8	15	100	51
eSB1R5-48-24S	43.2-52.8	24	63	54

▶▶ eSB1R5 Dual Output

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eSB1R5-5-5D	4.5-5.5	± 5	± 150	57
eSB1R5-5-12D	4.5-5.5	± 12	± 60	59
eSB1R5-5-15D	4.5-5.5	± 15	± 50	61
eSB1R5-12-5D	10.8-13.2	± 5	± 150	60
eSB1R5-12-12D	10.8-13.2	± 12	± 60	61
eSB1R5-12-15D	10.8-13.2	± 15	± 50	65
eSB1R5-24-5D	21.6-26.4	± 5	± 150	54
eSB1R5-24-12D	21.6-26.4	± 12	± 60	54
eSB1R5-24-15D	21.6-26.4	± 15	± 50	56
eSB1R5-48-5D	43.2-52.8	± 5	± 150	52
eSB1R5-48-12D	43.2-52.8	± 12	± 60	54
eSB1R5-48-15D	43.2-52.8	± 15	± 50	54

Derating

