

5 / 8 Watt

eSB05 / eSB08 Series



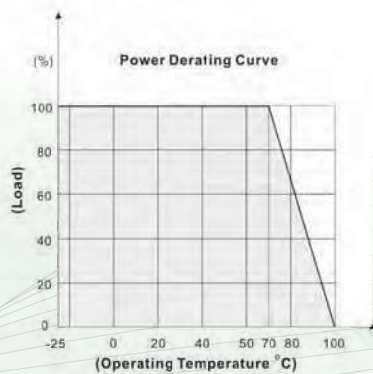
- ◆ Power Module for PCB Mountable
- ◆ Fully Encapsulated Plastic Case
- ◆ Regulated Output
- ◆ Low Ripple and Noise
- ◆ 3-Year Warranty



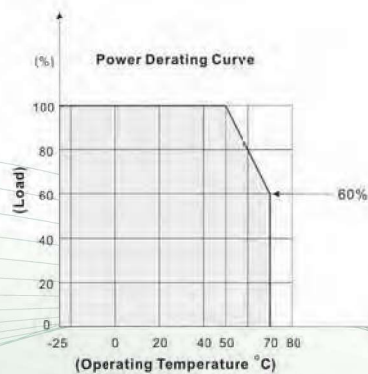
Input Specifications	eSB05	eSB08
Voltage Range	24V - 9-36 VDC 48V - 18-75 VDC	2:1 Range 12V - 9-18 VDC 24V - 18-36 VDC 48V - 36-75 VDC 4:1 Range 24V - 9-36 VDC 48V - 18-75 VDC
Filter	$\pi$ type	
Output Specifications	eSB05	eSB08
Output Power	5 Watt (max.)	5 Watt (max.)
Voltage Accuracy	$\pm 2\%$ (Full Load and Nominal Vin)	
Line Regulation	$\pm 0.5\%$ (LL to HL at Full Load) (typ.)	
Load Regulation	3.3S: $\pm 3\%$ / others: $\pm 1\%$ (typ.) (10% to 100% at Full Load)	
Ripple (20MHz bandwidth)	$< 0.5\%$ Vout +50mV (Vp-p) (max.)	$< 0.2\%$ Vout +20mV (max.)
Noise (20MHz bandwidth)	$< 0.5\%$ Vout +50mV (Vp-p) (max.)	$< 0.5\%$ Vout +50mV (max.)
Temperature Coefficient	$\pm 0.02\%$ / °C (max.)	
Short Circuit Protection	Current limit.Auto-recovery	
General Specifications	eSB05	eSB08
Efficiency (see table list)	70% to 85% (typ.)	67% to 80% (typ.)
Isolation Voltage	1600 VDC (Input to Output) (min.)	
Isolation Resistance	$10^9 \Omega$ (Input to Output) (min.)	
Operating Temperature	-25 °C to +70°C (at Full Load)	
Storage Temperature	-55°C to +105°C	-25°C to +70°C (with Derating)
Humidity	95% RH (max.)	
Cooling	Free-air Convection	
Physical Specifications	eSB05	eSB08
Dimension (Tolerance $\pm 0.5$ mm)	31.8 x 20.3 x 10.2 mm 1.25 x 0.8 x 0.4 inches	31.8 x 20.3 x 10.2 mm 1.25 x 0.8 x 0.4 inches
Weight	20 g	13 g
Case Material	Five-side shielded Aluminum with Non-Conductive base, Black Anodize	Six-side shielded Aluminum with Non-Conductive base, Black Anodize

Derating

eSB05 Series



eSB08 Series



**Model**

► **eSB05 Single Output (4:1 Range)**

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eSB05-24-3.3S	9~36	3.3	1200	71
eSB05-24-5S	9~36	5	1000	75
eSB05-24-12S	9~36	12	500	81
eSB05-24-15S	9~36	15	400	80
eSB05-24-24S	9~36	24	250	80
(at 24VDC)				
eSB05-48-3.3S	18~75	3.3	1200	70
eSB05-48-5S	18~75	5	1000	75
eSB05-48-12S	18~75	12	500	80
eSB05-48-15S	18~75	15	400	80
eSB05-48-24S	18~75	24	250	80

► **eSB05 Single Output (4:1 Range)**

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
(at 12VDC)				
eSB05-24-5D	9~36	± 5	± 500	75
eSB05-24-12D	9~36	± 12	± 250	78
eSB05-24-15D	9~36	± 15	± 200	76
(at 24VDC)				
eSB05-48-5D	18~75	± 5	± 500	77
eSB05-48-1D	18~75	± 12	± 250	83
eS805-48-1D	18~75	± 15	± 200	81

► **eSB08 Single Output (2:1 Range)**

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eSB08-12-3.3S	9~18	3.3	2000	67
eSB08-12-5S	9~18	5	1500	69
eSBOB-12-12S	9~18	12	666	76
eS808-12-15S	9~18	15	533	75
eSB08-12-24S	9~18	24	333	68
eSB08-24-3.3S	18~36	3.3	2000	72
eS808-24-5S	18~36	5	1500	73
eS808-24-12S	18~36	12	666	80
eS808-24-15S	18~36	15	533	80
eS808-24-24S	18~36	24	333	77
eS808-48-3.3S	36~75	3.3	2000	73
eSB08-48-5S	36~75	5	1500	74
eS808-48-12S	36~75	12	666	80
eS808-48-15S	36~75	15	533	80
eSB08-48-24S	36~75	24	333	79

► **eSB08 Dual Output (2:1 Range)**

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eSB08-12-5D	9~18	± 5	± 800	70
eSBOB-12-12D	9~18	± 12	± 333	75
eS808-12-15D	9~18	± 15	± 267	74
eS808-24-5D	18~36	± 5	± 800	73
eS808-24-12D	18~36	± 12	± 333	78
eSB08-24-15D	18~36	± 15	± 267	74
eSB08-48-5D	36~75	± 5	± 800	73
eS808-48-12D	36~75	± 12	± 333	77
eSB08-48-15D	36~75	± 15	± 267	74

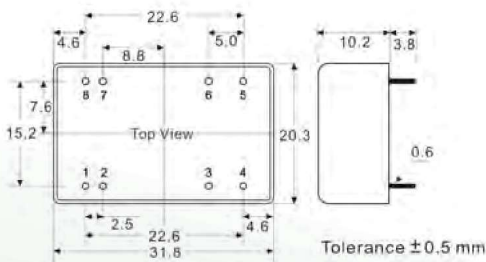
► **eSB08 Single Output (4:1 Range)**

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eSB08-24F-5S	9-36	5	1500	66
eSB08-24F-12S	9-36	12	666	72
eSB08-24F-15S	9-36	15	533	71
eSB08-48F-5S	18-75	5	1500	73

► **eSB08 Single Output (4:1 Range)**

Model & Ordering No	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (m.A) max.	Eff (%)
eSB08-24F-15D	9-36	±15	± 267	74

**Outline Dimensions & Pin Connections**



Pin #	Single	Dual
1	+VIN	+VIN
2	-VIN	-VIN
3	NC	COMMON
4	NC	+VOUT
5	+VOUT	-VOUT
6	-VOUT	COMMON
7	+VIN	+VIN
8	+VIN	+VIN