

Features

- Highest Power Density in SIP8 Package
- Wide 2:1 Input Voltage Range
- High Efficiency up to 88%
- 6W Single and Dual outputs
- I/O Isolation 3KVDC
- Operating Temperature Range -40°C to +60°C
- Continuous Short Circuit Protection
- Remote ON/OFF Control

SIP8, Single & Dual Outputs



RoHS

The BS6 series is an excellent performance and high power density design, Wide 2:1 input voltage ranges: 4.5V-9V, 9V-18V, 18V-36V and 36V-75V.

The highest efficiency allows -40°C to +60°C operating temperatures. The very low stand-by (no-load) input power consumption 50mW typ. makes them an ideal solution for application in battery-powered equipment and instrumentation.

Selection Guide

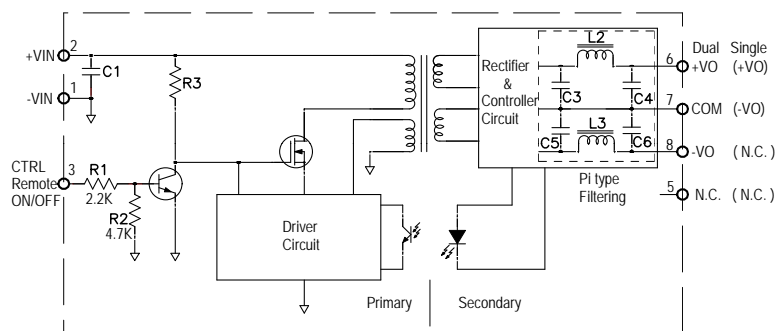
Part Number	Input Voltage	Output Voltage	Output Current max.	Efficiency Typ.	Max. Capacitive Load
BS6-0503S	4.5-9VDC (5VDC nominal)	3.3 VDC	1300 mA	79%	1000uF
BS6-0505S		5 VDC	1200 mA	81%	1000uF
BS6-0509S		9 VDC	666 mA	82%	680uF
BS6-0512S		12 VDC	500 mA	84%	470uF
BS6-0515S		15 VDC	400 mA	85%	330uF
BS6-0505D		±5 VDC	±600 mA	81%	±470uF
BS6-0512D		±12 VDC	±250 mA	84%	±100uF
BS6-0515D		±15 VDC	±200 mA	85%	±47uF
BS6-1203S	9-18VDC (12VDC nominal)	3.3 VDC	1300 mA	81%	1000uF
BS6-1205S		5 VDC	1200 mA	84%	1000uF
BS6-1209S		9 VDC	666 mA	85%	680uF
BS6-1212S		12 VDC	500 mA	87%	470uF
BS6-1215S		15 VDC	400 mA	87%	330uF
BS6-1205D		±5 VDC	±600 mA	84%	±470uF
BS6-1212D		±12 VDC	±250 mA	86%	±100uF
BS6-1215D		±15 VDC	±200 mA	86%	±47uF
BS6-2403S	18-36VDC (24VDC nominal)	3.3 VDC	1300 mA	81%	1000uF
BS6-2405S		5 VDC	1200 mA	84%	1000uF
BS6-2409S		9 VDC	666 mA	86%	680uF
BS6-2412S		12 VDC	500 mA	87%	470uF
BS6-2415S		15 VDC	400 mA	88%	330uF
BS6-2405D		±5 VDC	±600 mA	84%	±470uF
BS6-2412D		±12 VDC	±250 mA	88%	±100uF
BS6-2415D		±15 VDC	±200 mA	88%	±47uF
BS6-4803S	36-75VDC (48VDC nominal)	3.3 VDC	1300 mA	81%	1000uF
BS6-4805S		5 VDC	1200 mA	84%	1000uF
BS6-4809S		9 VDC	666 mA	85%	680uF
BS6-4812S		12 VDC	500 mA	87%	470uF
BS6-4815S		15 VDC	400 mA	87%	330uF
BS6-4805D		±5 VDC	±600 mA	84%	±470uF
BS6-4812D		±12 VDC	±250 mA	88%	±100uF
BS6-4815D		±15 VDC	±200 mA	88%	±47uF

Specifications

(measured at $T_A=25^{\circ}\text{C}$, nominal input voltage, full load and after warm-up)

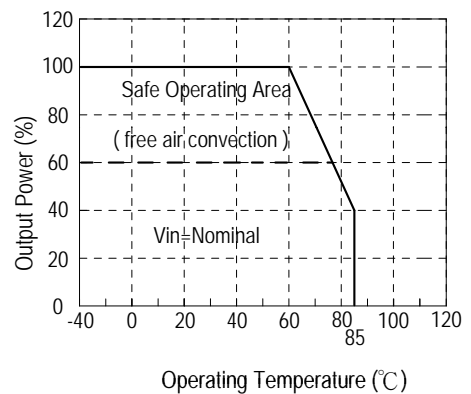
Input Voltage Range	4.5-9V,9-18V,18-36V,36-75V	2:1
Input Filter		Capacitor
Output Voltage Accuracy	Nominal V_{in} and full load	$\pm 2\%$
Line Voltage Regulation	$V_{in}=\text{min}$ to max,full load	$\pm 0.5\%$ typ.
Load Voltage Regulation	20% to 100% of full load	$\pm 0.5\%$ typ.
Output Ripple and Noise	20MHz BW	60mVp-p max.
Operating Frequency		200kHz min.
No Load Power Consumption	$V_{in}=\text{Nominal}$	50mW typ. / 150mW max.
Isolation Voltage	1 second	3KVDC
Isolation Capacitance	100KHz tested	30PF max.
Isolation Resistance	500VDC, input to output	15G Ω min.
Short Circuit Protection		Continuous
Temperature Coefficient	-40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$ ambient	0.02%/ $^{\circ}\text{C}$ typ.
Operating Temperature Range	see Graph	-40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$
Operating Case Temperature		+110 $^{\circ}\text{C}$ max.
Storage Temperature Range		-55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$
Relative Humidity		95% RH
Case Material	UL94-V0	Non-conductive black plastic
Polting Material	UL94-V0	Epoxy
Package Weight		4.7g
Packing Quantity		23 pcs per Tube
Lead Temperature		300 $^{\circ}\text{C}$ max. 1.5mm from case for 10 sec
Remote Power OFF (leave open if not used) (15VDC max.)	Device ON Device OFF Device OFF Stand by input current	open or <0.8VDC CTRL>1.5VDC 0.5mA max.
MTBF(+25 $^{\circ}\text{C}$)	using MIL-HDBK 217F	1319x10 ³ hours
(+71 $^{\circ}\text{C}$)	using MIL-HDBK 217F	159x10 ³ hours

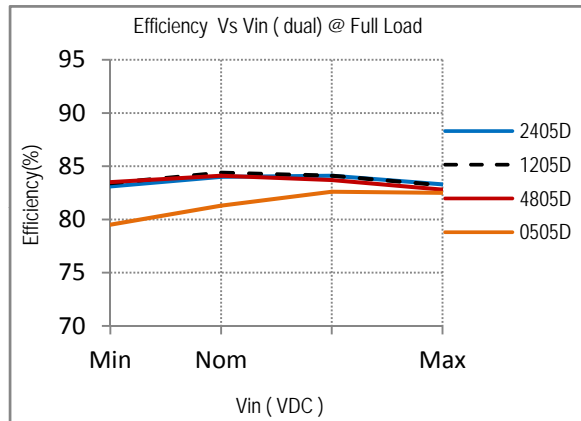
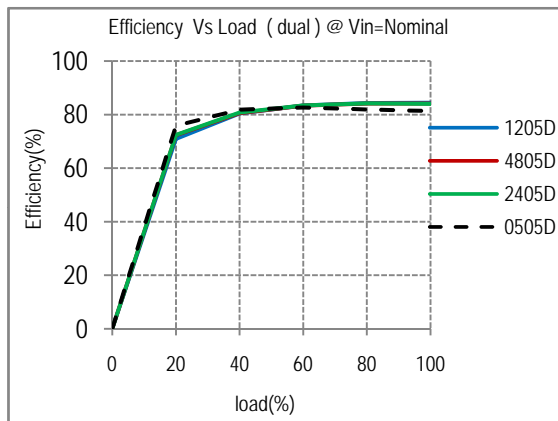
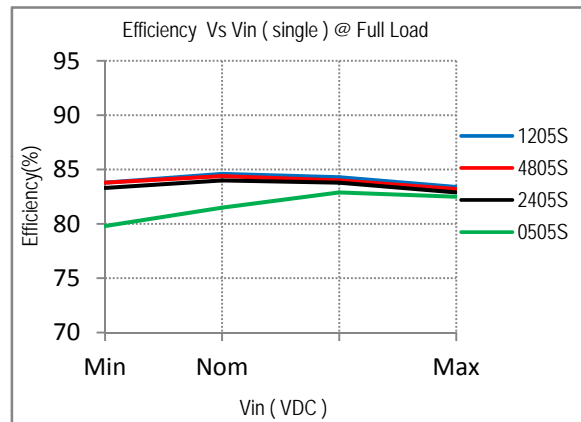
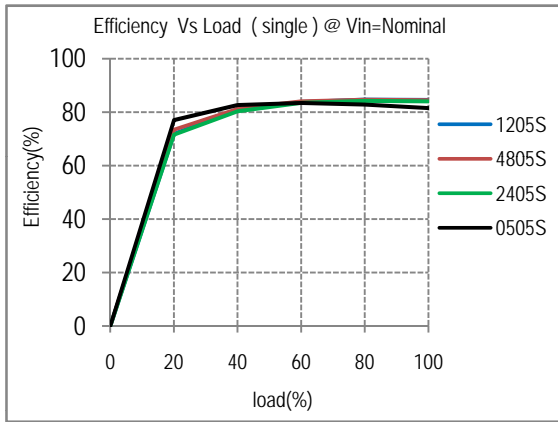
Functional Block Diagram



Input Voltage	C1 Values
4.5-9VDC	22uF/16V
9-18VDC	10uF/25V
18-36VDC	4.7uF/50V
36-75VDC	2.2uF/100V

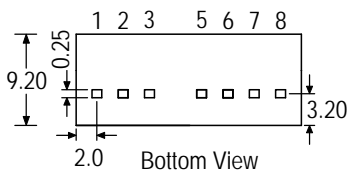
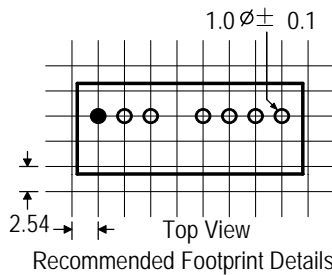
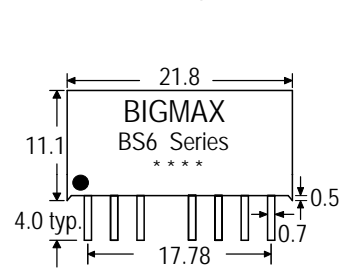
Derating Graph





Package Style and Pinning (mm)

8 Pin SIP Package



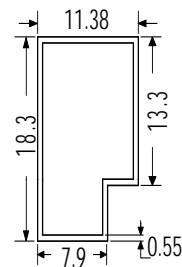
XX.X ± 0.25 mm
XX.XX ± 0.15 mm

Pin Connections

Pin#	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	CTRL	CTRL
5	NC	NC
6	+Vout	+Vout
7	-Vout	COM
8	NC	-Vout

NC=No Connection
CTRL=Remote ON/OFF Control

Tube Outline Dimensions (mm)



Tolerance:
XX.X ± 0.5 mm

Note:
L=520 ± 2 mm

Devices per tube quantity: 23PCS