

PSB Series

3...8 A Switching Regulators



Input voltage up to 144 V DC
Single output of 5.1...48 V DC
No input to output isolation



- Efficiency up to 96%
- Low input-output differential voltage
- No derating over temperature

Selection chart

Output		Input voltage	Rated power	Efficiency	Type	Options
$U_{o\ nom}$ [V DC]	$I_{o\ nom}$ [A]	U_i [V DC]	$P_{o\ tot}$ [W]	η_{typ} [%]		
5.1	4...5	15...144	25.5	80	PSB 5A4-7iR	-9, L, P, C
5.1	6	8...80	30.6	81	PSB 5A6-7iR	-9, L, P, C
5.1	7	7...40	35.7	84	PSB 5A7-7iR	-9, L, P, C
5.1	8	7...40	40.8	81	PSB 5A8-2	iR-Package
12	3...4	18...144	48	89	PSB 123-7iR	-9, L, P, C
12	5	15...80	60	90	PSB 125-7iR	-9, L, P, C
12	6	15...40	72	90	PSB 126-2	iR-Package
15	3...4	22...144	60	90	PSB 153-7iR	-9, L, P, C
15	5	19...80	75	92	PSB 155-7iR	-9, L, P, C
15	6	15...40	90	92	PSB 156-2	iR-Package
24	3...4	31...144	96	94	PSB 243-7iR	-9, L, P, C
24	5	29...80	120	95	PSB 245-7iR	-9, L, P, C
24	6	29...60	144	95	PSB 246-2	iR-Package
36	3...4	44...144	144	90	PSB 153-7iR	-9, L, P, C
36	5	42...80	180	92	PSB 155-7iR	-9, L, P, C
48	3...4	58...144	192	96	PSB 483-7iR	-9, L, P, C

Input

Input voltage	refer to selection chart
No load input current	≤50 mA

Output

Efficiency	$U_{i \text{ nom}}, I_{o \text{ nom}}$	up to 96%
Output voltage setting accuracy	$U_{i \text{ nom}}, I_{o \text{ nom}}$	±0.6% $U_{o \text{ nom}}$
Output voltage switching noise	IEC/EN 61204, total	typ. 0.3%
Line regulation	$U_{i \text{ min}} \dots U_{i \text{ max}}, I_{o \text{ nom}}$	typ. ±0.3%
Load regulation	$U_{i \text{ nom}}, 0 \dots I_{o \text{ nom}}$	typ. 0.25%
Minimum load	not required	0 A
Current limitation	rectangular U/I characteristic	typ. 110% $I_{o \text{ nom}}$
Operation in parallel	by current limitation	

Protection

Input reverse polarity	with external fuse (built-in fuse with option C installed)
Input undervoltage lockout	typ. 80% $U_{i \text{ min}}$
Input transient protection	suppressor diode
Output	no-load, overload and short circuit proof
Output overvoltage	suppressor diode in each output typ. 150% $U_{o \text{ nom}}$

Safety

Approvals	EN 60950, UL 1950, CSA C22.2 No. 950
Protection degree	IP 20
Electric strength test voltage	I/case and O/case 500/750/1500 V DC

EMC

Electrostatic discharge	IEC/EN 61000-4-2
Electromagnetic field	IEC/EN 61000-4-3
Electr. fast transients/bursts	IEC/EN 61000-4-4
Surge	IEC/EN 61000-4-5
Conducted disturbances	IEC/EN 61000-4-6
Electromagnetic emissions	CISPR 22/EN 55022

Environmental

Operating ambient temperature	-2, $U_{i\text{ nom}}, I_{o\text{ nom}}$, convection cooled	-10...50°C
Operating case temperature T_C	-2, $U_{i\text{ nom}}, I_{o\text{ nom}}$	-10...80°C
Storage temperature	-2, non operational	-25...100°C
Operating ambient temperature	-7, $U_{i\text{ nom}}, I_{o\text{ nom}}$, convection cooled	-25...71°C
Operating case temperature T_C	-7, $U_{i\text{ nom}}, I_{o\text{ nom}}$	-25...95°C
Storage temperature	-7, non operational	-40...100°C
Damp heat	IEC/EN 60068-2-3	
Vibration, sinusoidal	IEC/EN 60068-2-6	
Shock	IEC/EN 60068-2-27	
Bump	IEC/EN 60068-2-29	
Random vibration	IEC/EN 60068-2-64	
MTBF	MIL-HDBK-217	

Options

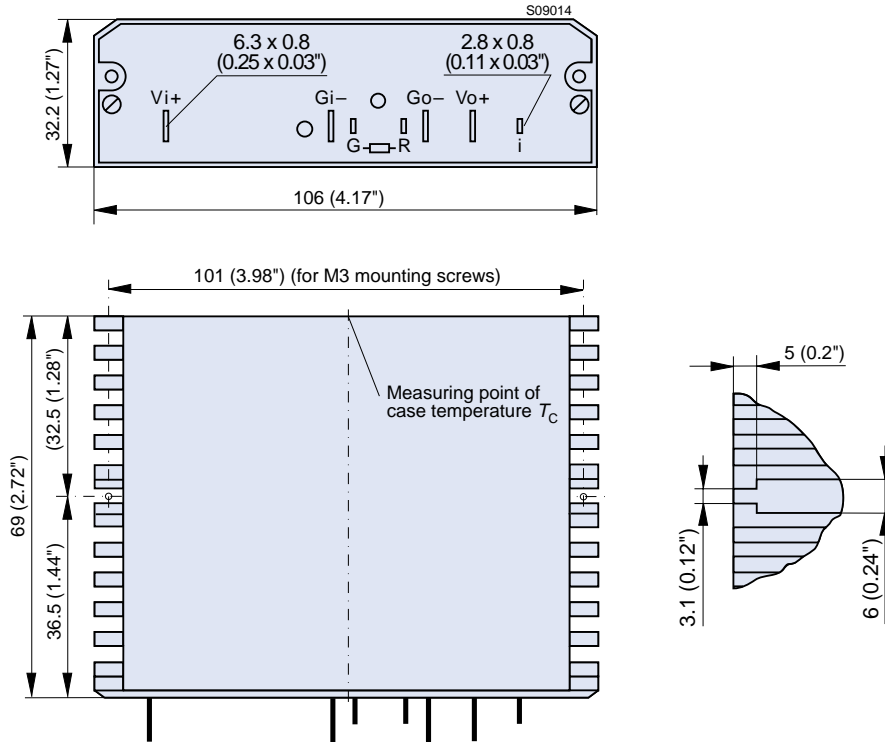
Extended temperature range	-40...71 °C, ambient, operating	-9
Inhibit, TTL input, output(s) enabled if left open		i
Output voltage adjustment	0...108% $U_{o\text{ nom}}$	R
Additional internal input filter		L
Output voltage adjustment	±8% $U_{o\text{ nom}}$	P
Thyristor crowbar on output		C

Chassis Mountable

PSB Series

Mechanical data

Tolerances ± 0.3 mm (0.012") unless otherwise indicated.



Accessories

- Isolation pads for easy and safe PCB mounting
- Ring core chokes for ripple and interference reduction