

## 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



UL US



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

### Selection chart

| Output                        |                            | Input voltage   | Rated power                | Efficiency                 | Type        | Options     |
|-------------------------------|----------------------------|-----------------|----------------------------|----------------------------|-------------|-------------|
| $U_{o \text{ nom}}$<br>[V DC] | $I_{o \text{ nom}}$<br>[A] | $U_i$<br>[V DC] | $P_{o \text{ tot}}$<br>[W] | $\eta_{\text{typ}}$<br>[%] |             |             |
| 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 |

## Chassis Mountable

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### 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**

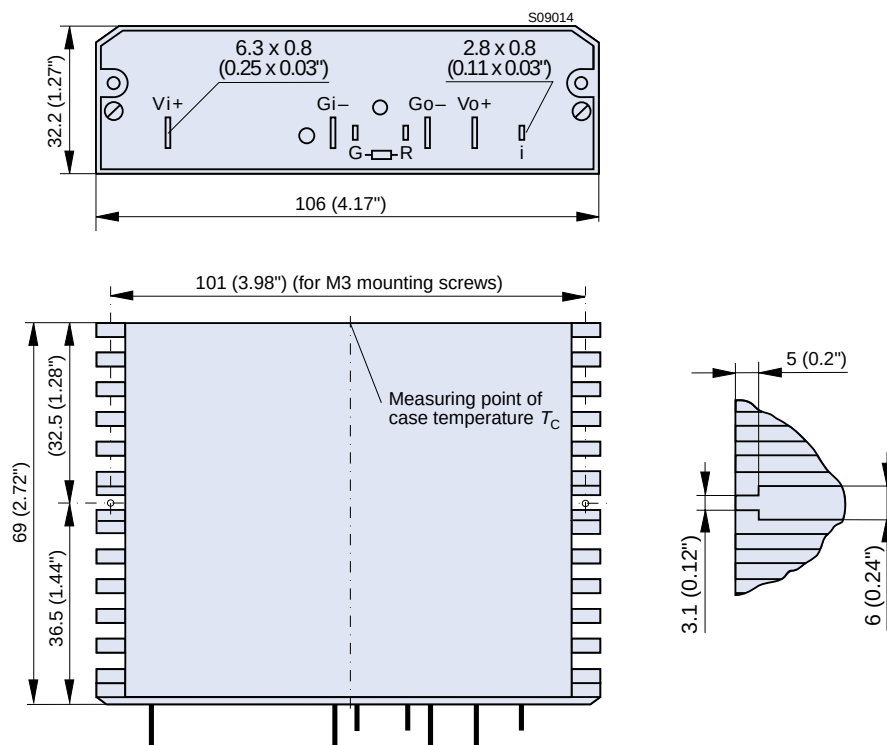
|                                                    |                                |    |
|----------------------------------------------------|--------------------------------|----|
| Extended temperature range                         | -40...71°C, ambient, operating | -9 |
| Inhibit, TTL input, 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  |

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### Mechanical data

Tolerances  $\pm 0.3$  mm (0.012") unless otherwise indicated.



### Accessories

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