

# Flyback Transformers for DC/DC Embedded Applications FLYT Series



- Microspire's «SESI Technology» planar solution for DC/DC flyback converters
- Seven standard packages in a qualified technology for extreme working conditions
- Compliant with MIL-STD-202, ECSS-Q-70-02 (aerospace) and DO-160 (avionics) standards
- Already evaluated by the CNES for space applications (ESCC Capability Approval in process)
- Low profile and light, highly efficient and reliable
- Extended operating temperature range from  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- SMD versions suited for IR and vapor reflow soldering
- Packaging in Tape&Reel upon request for SMD versions

| Package                 | Indicative Max Output Power at 100kHz (W) | Max Dimensions (LxWxH in mm) | Number of Pins | Weight (grams) | Permitted Losses* for 25°C heating above 100°C (W) |
|-------------------------|---|------------------------------|----------------|----------------|--|
| SESI 15 W – FLYT 15     | 5   | 22 x 16 x 8                  | 2 x 4 SMD      | 5              | 0.6  |
| SESI 15.1 W – FLYT 15.1 | 5   | 22 x 16 x 8                  | 2 x 6 SMD      | 5              | 0.6  |
| SESI 18 W – FLYT 18     | 15  | 26 x 20 x 8,9                | 2 x 4 SMD      | 10             | 0.8  |
| SESI 18.1 W – FLYT 18.1 | 15  | 36 x 20 x 8,9                | 2 x 9 SMD      | 12             | 0.8  |
| SESI 22 – FLYT 22       | 30  | 37 x 24 x 11,9               | 2 x 4 SMD      | 26             | 1.1  |
| SESI 22.1 W – FLYT 22.1 | 30  | 39 x 24 x 11,9               | 2 x 8 SMD      | 26             | 1.1  |
| SESI 32 W/P – FLYT 32   | 65  | 49 x 34 x 13,7               | 2 x 8 PTH**    | 56             | 1.7  |

\* Values without heatsink ; these values can be increased with appropriate cooling device

\*\* Through-hole terminations only

## Electrical Data Examples

| Package          | DC Input Voltage Range (Vdc) | Output Power (W) | Designed Outputs                 | Working Frequency | Primary Inductance | Insulation > 100 MΩ |
|------------------|------------------------------|------------------|----------------------------------|-------------------|--------------------|---------------------|
| SESI 15 / 15.1 W | 12 - 20.5V (2° - 1)          | 1.5W             | 5V / 280mA<br>-5V / 20mA         | 80 - 120kHz       | 90μF               | 500Vdc              |
|                  | 26 - 29V (2° - 1)            | 1.1W - 2.2W      | 5.2V / 400mA                     | 130kHz            | 256μF              | 500Vdc              |
|                  | 26 - 29V (2° - 1)            | 2.1W - 2.4W      | 9V / 250mA                       | 130kHz            | 231μF              | 500Vdc              |
|                  | 18 - 40V (1° - 2)            | 2.4W             | 48V / 50mA                       | 500kHz            | 23μF               | 1500Vdc             |
|                  | 18 - 40V (1° - 2)            | 3.3W             | 2x3.3V / 0.5A                    | 500kHz            | 17.9μF             | 1500Vdc             |
|                  | 18 - 40V (1° - 2)            | 4.5W             | 15V / 5.2V / 1A                  | 500kHz            | 13μF               | 1500Vdc             |
|                  | 18 - 40V (1° - 2)            | 10.5W            | 2x5.2V / 1A                      | 500kHz            | 6.2μF              | 1500Vdc             |
| SESI 18 / 18.1 W | 23 - 37V (2° - 1)            | 3.85W            | 3.5V / 1A                        | 100kHz            | 152.5μF            | 500Vdc              |
|                  | 23 - 37V (2° - 1)            | 4.56W            | -15.25V / 300mA<br>15.25V / 50mA | 100kHz            | 126μF              | 500Vdc              |
|                  | 23 - 37V (2° - 1)            | 5.25W            | 5.25V / 1A                       | 100kHz            | 113.7μF            | 500Vdc              |
|                  | 23 - 37V (2° - 1)            | 9.45W            | 5.25V / 1.8A                     | 100kHz            | 61.7μF             | 1500Vdc             |
| SESI 22 / 22.1 W | 12 - 20.5V (2° - 1)          | 18.5W            | 5V / 450mA<br>22V / 600mA        | 90 - 130kHz       | 13μF               | 500Vdc              |
|                  | 12 - 20.5V (3° - 4)          | 19.5W            | 5V / 340mA<br>12V / 1.2mA        | 90 - 130kHz       | 13μF               | 500Vdc              |

Each Flyback Transformer shall be the result of a common definition after technical agreement between both engineering teams

