

# OZP20S24SS05A

## DATASHEET

| Absolute Maximum Ratings                    | Conditions                                               | Minimum | Typical/Nominal | Maximum   | Units |
|---------------------------------------------|----------------------------------------------------------|---------|-----------------|-----------|-------|
| Input Voltage Continuous                    | Full Temperature Range                                   | 0       | 24              | 36        | Vdc   |
| Input Voltage Transient                     | Operating or non-Operating,<br>100 mS Max Duration       | -       | -               | 50        | Vdc   |
| Isolation Voltage                           | Input to Output Tested                                   | -       | -               | 1600      | Vdc   |
| Input Reverse Polarity                      | None, Install External Fuse                              | -       | None            | -         | Vdc   |
| Off/On Remote Control                       | Power On or Off, Referred to -Vin                        | 0       | -               | 15        | Vdc   |
| Output Power                                |                                                          | 0       | -               | 20        | W     |
| Output Current                              | Current- Limited, No Damage,<br>Short- Circuit Protected | 0       | -               | 4         | A     |
| Storage Temperature Range                   | Vin = Zero ( No Power)                                   | -55     | -               | 125       | °C    |
| Input                                       | Conditions                                               | Minimum | Typical/Nominal | Maximum   | Units |
| Operating Voltage Range                     |                                                          | 9       | 24              | 36        | Vdc   |
| Recommended External Fuse                   | Fast Blow                                                | -       | -               | 4         | A     |
| Start-Up Threshold                          | Rising Input Voltage                                     | -       | 8,2             | -         | Vdc   |
| UnderVoltage Shutdown                       | Falling Input Voltage                                    | -       | 7,2             | -         | Vdc   |
| OverVoltage Shutdown                        | Rising Input Voltage                                     | -       | None            | -         | Vdc   |
| Reverse Polarity Protection                 | None, Install External Fuse                              | -       | None            | -         | Vdc   |
| Internal Filter Type                        | -                                                        | -       | LC              | -         |       |
| Input Current                               |                                                          |         |                 |           |       |
| Full Load Conditions                        | Vin = Nominal                                            | -       | 0,94            |           | A     |
| Output in Short Circuit                     | -                                                        | -       | 150             |           | mA    |
| No Load Input Current                       | Iout = Minimum, Unit = On                                | -       | 15              |           | mA    |
| Shut-Down Mode Input Current<br>(Off,UV,OT) | -                                                        | -       | 44              |           | mA    |
| Pre-biased Startup                          | External Output Voltage < Vset                           | -       | -               | Monotonic | -     |
| General and Safety                          | Conditions                                               | Minimum | Typical/Nominal | Maximum   | Units |
| Efficiency                                  | Vin = 9, Full Load                                       | -       | 90              | -         | %     |
|                                             | Vin = 24, Full Load                                      | -       | 88,7            | -         | %     |
| Isolation                                   |                                                          |         |                 |           |       |
| Isolation Voltage, Input to Output          | -                                                        | -       | 1600            | -         | Vdc   |
| Isolation Voltage,<br>Input to Baseplate    | -                                                        | -       | 1000            | -         | Vdc   |
| Isolation Voltage,<br>Baseplate to Output   | -                                                        | -       | 1000            | -         | Vdc   |
| Insulation Safety Rating                    | -                                                        | -       | Basic           | -         | -     |
| Isolation Resistance                        | -                                                        | 10      | -               | -         | MΩ    |
| Isolation Capacitance                       | -                                                        | -       | -               | 470       | pF    |
| Safety                                      | Certified to UL-60950-1, IEC/EN60950-1                   | -       | Undergoing      | -         | -     |
| Calculated MTBF                             | -                                                        | -       | Undergoing      | -         | -     |

| Dynamic Characteristics             | Conditions                                                | Minimum                                  | Typical/Nominal    | Maximum | Units    |
|-------------------------------------|-----------------------------------------------------------|------------------------------------------|--------------------|---------|----------|
| Fixed Switching Frequency           | -                                                         | -                                        | 330                | -       | KHz      |
| Power Up Startup Time               | Power On to Vout Regulated                                | -                                        | 25                 | -       | mS       |
| On/ Off Startup Time                | Remote On to Vout Regulated                               | -                                        | 25                 | -       | mS       |
| Dynamic Load Response               | 50-75-50% Load Step,<br>Setting time to within 1% of Vout | -                                        | 200                | -       | µS       |
| Dynamic Load Peak Deviation         | 50-75-50% Load Step,<br>Setting time to within 1% of Vout | -                                        | ±150               | -       | mV       |
| Features                            | Conditions                                                | Minimum                                  | Typical/Nominal    | Maximum | Units    |
| Positive Logic, On State            | On = Pin Open or External Voltage                         | 10                                       | -                  | 15      | Vdc      |
| Positive Logic, Off State           | Off = Ground Pin or External Voltage                      | 0                                        | -                  | 0,7     | Vdc      |
| Control Current                     | Open Collector/ Drain                                     | -                                        | 1                  | 2       | mA       |
| Output                              | Conditions                                                | Minimum                                  | Typical/Nominal    | Maximum | Units    |
| Total Output Power                  | -                                                         | 0                                        | 20                 | 20      | W        |
| Voltage                             |                                                           |                                          |                    |         |          |
| Nominal Output Voltage              | No Trim                                                   | 4,95                                     | 5                  | 5,05    | Vdc      |
| Output Voltage Range                | User- Adjustable                                          | -20                                      | -                  | 10      | %Of Vnom |
| Overvoltage Protection              | -                                                         | 6,5                                      | 7                  | 8       | Vdc      |
| Current                             |                                                           |                                          |                    |         |          |
| Output Current Range                | Vin = 9-36V                                               | 0                                        | -                  | 4       | A        |
| Minimum Load                        | -                                                         | -                                        | No Minimum Load    | -       | -        |
| Current Limit Inception             | -                                                         | 4,4                                      |                    | 7       | A        |
| Short Circuit                       |                                                           |                                          |                    |         |          |
| Short Circuit Current               | Hiccup Technique,<br>Autorecovery within 1% of Vout       | -                                        | 0,15               | -       | A        |
| Short Circuit Duration              | Output Shorted to Ground, No Damage                       | -                                        | Continuous         | -       | -        |
| Short Circuit Protection Method     | Current Limiting                                          | -                                        | -                  | -       | -        |
| Regulation                          |                                                           |                                          |                    |         |          |
| Line Regulation                     | Vin = Min to Max, Vout = Nom, Full Load                   | -                                        | ±0.01              | -       | %        |
| Load Regulation                     | Iout = Min to Max, Vin = 24V                              | -                                        | ±0.02              | -       | %        |
| Ripple and Noise                    | With a 1µF Output Caps in<br>Vin = 24V and Full Load      | -                                        | 40                 | -       | mV pk-pk |
| Maximum Capacitive Load             | Constant Resistance Mode, Low ESR                         | 0                                        | 5000               | -       | µF       |
| Mechanical                          | Conditions                                                | Minimum                                  | Typical/Nominal    | Maximum | Units    |
| Outline Dimentions                  | L x W x H                                                 | -                                        | 27 x 27 x 8.5      | -       | mm       |
|                                     |                                                           | -                                        | 1.06 x 1.06 x 0.33 | -       | Inches   |
| Weight                              | -                                                         | -                                        | 15                 | -       | Grams    |
| Through Hole Pin Diameter           | -                                                         | -                                        | 1,09               | -       | mm       |
| Through Hole Pin Material           | -                                                         | Brass Alloy & Gold Contact Finish (0.25) |                    |         | µm       |
| EMI/RFI Shielding                   | -                                                         |                                          | None               |         | -        |
| Enviromental                        | Conditions                                                | Minimum                                  | Typical/Nominal    | Maximum | Units    |
| Operating Ambient Temperature Range | -                                                         | -40                                      | -                  | 85      | °C       |
| Operating Case Temperature Range    | -                                                         | -40                                      | -                  | 105     | °C       |
| Storage Temperature                 | Vin = Zero (No Power)                                     | -55                                      | -                  | 125     | °C       |
| Thermal Protection/ Shutdown        | -                                                         | -                                        | 155                | -       | °C       |
| Electromagnetic Interference        | External Filter is Required                               | -                                        | -                  | -       | -        |
| Conducted EN55022/CISPR22           | -                                                         | -                                        | Undergoing         | -       | -        |
| RoHS Rating                         | -                                                         | -                                        | Undergoing         | -       | -        |