

WST6050AN

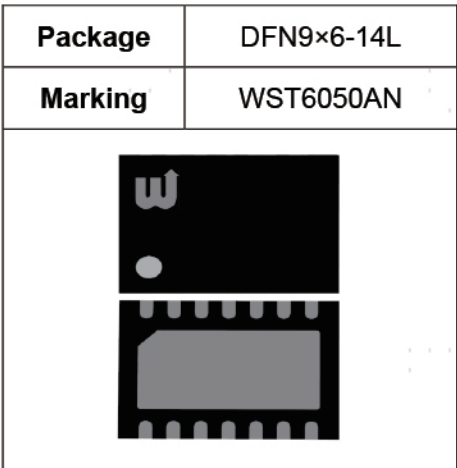
Smart High-Side Power Switch Single Channel, 35mΩ, DFN9×6-14L , AEC-Q100 qualified

Application

- ◆ Suitable for resistive, inductive and capacitive loads
- ◆ Replaces electromechanical relays, fuses and discrete circuits
- ◆ Most suitable for loads with high inrush current, such as lamps
- ◆ Suitable for 12 V and 24 V trucks + trailer and transportation systems

Basic Features

- ◆ Single channel device
- ◆ Very low stand-by current
- ◆ 3.3 V and 5 V compatible logic inputs
- ◆ Optimized electromagnetic compatibility
- ◆ Very low electromagnetic susceptibility



Product Summary

| Parameter                                          | Symbol              | Value |
|----------------------------------------------------|---------------------|-------|
| Max. transient supply voltage                      | V <sub>S</sub>      | 60V   |
| Operating voltage range                            | V <sub>NOM</sub>    | 8-36V |
| On-state resistance (T <sub>J</sub> = 25°C)        | R <sub>ON</sub>     | 35mΩ  |
| Nominal load current (T <sub>J</sub> = 25°C)       | I <sub>L(NOM)</sub> | 7A    |
| Typical current sense ratio (I <sub>OUT</sub> =2A) | K                   | 1800  |
| Current limitation                                 | I <sub>LIMH</sub>   | 20A   |
| Supply current in sleep                            | I <sub>SLEEP</sub>  | 3uA   |

Diagnostic Functions

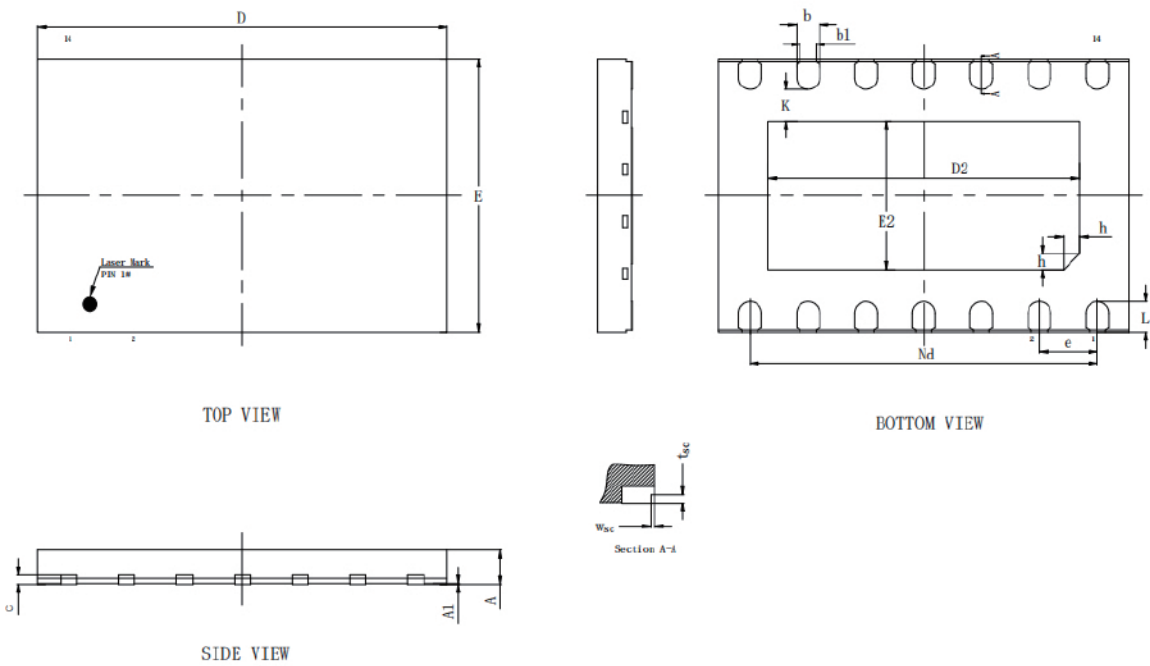
- ◆ Proportional load current sense
- ◆ High current sense precision for wide range currents
- ◆ Off-state open load detection
- ◆ OUT short to VS detection
- ◆ Overload and short to ground latch-off
- ◆ Thermal shutdown latch-off
- ◆ Very low current sense leakage

Protection Functions

- ◆ Undervoltage shutdown
- ◆ Overvoltage clamp
- ◆ Load current limitation
- ◆ Self limiting of fast thermal transients
- ◆ Protection against loss of ground and loss of VS
- ◆ Thermal shutdown
- ◆ Electrostatic discharge protection

Package Outline

DFN9×6-14L



| SYMBOL          | MILLIMETER |      |      |
|-----------------|------------|------|------|
|                 | MIN        | NOM  | MAX  |
| A               | 0.70       | 0.75 | 0.80 |
| A1              | 0          | 0.02 | 0.05 |
| b               | 0.45       | 0.50 | 0.55 |
| b1              | 0.35REF    |      |      |
| c               | 0.203REF   |      |      |
| D               | 8.90       | 9.00 | 9.10 |
| D2              | 6.75       | 6.85 | 6.95 |
| e               | 1.27BSC    |      |      |
| Nd              | 7.62BSC    |      |      |
| E               | 5.90       | 6.00 | 6.10 |
| E2              | 3.16       | 3.26 | 3.36 |
| L               | 0.62       | 0.67 | 0.72 |
| h               | 0.30       | 0.35 | 0.40 |
| K               | 0.70REF    |      |      |
| W <sub>sc</sub> | 0.01       | -    | 0.09 |
| t <sub>sc</sub> | 0.08       | -    | 0.18 |