

WST5020AK

Smart High-Side Power Switch Single Channel, 17 mΩ, PLP4.77x3.5-6L, 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 24 V and 48 V trucks + trailer and transportation systems

Features

- ◆ PRO-SIL™ ISO 26262-ready for supporting the integrator in evaluation of hardware element according to ISO 26262:2018 Clause 8-13
- ◆ Single channel device
- ◆ Very low stand-by current
- ◆ 3.3 V and 5 V compatible logic inputs
- ◆ Optimized electromagnetic compatibility
- ◆ Very low electromagnetic susceptibility

Diagnostic Functions

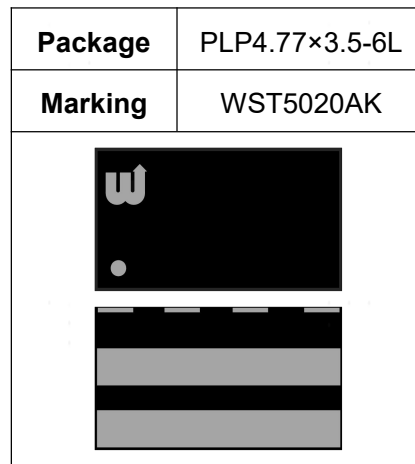
- ◆ Proportional load current sense
- ◆ High current sense precision for wide range currents
- ◆ Off-state open load detection
- ◆ OUT short to VS detection
- ◆ Overload and short to ground latch-off
- ◆ Thermal shutdown latch-off
- ◆ Very low current sense leakage

Protection Functions

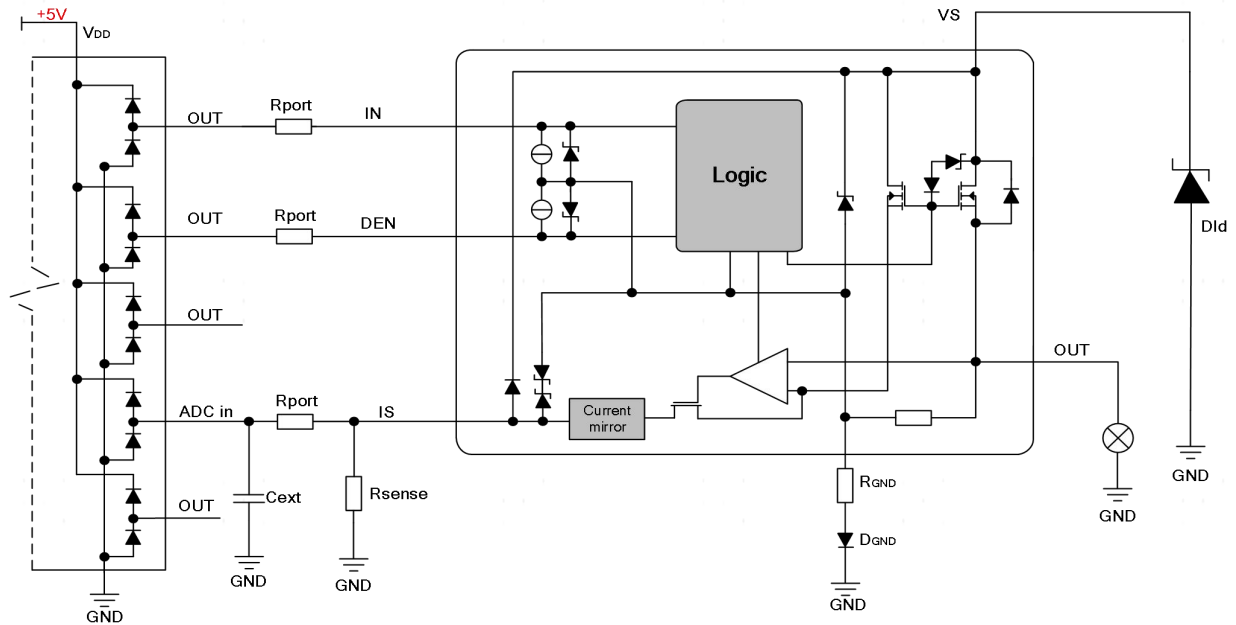
- ◆ undervoltage shutdown
- ◆ Overvoltage clamp
- ◆ Load current limitation
- ◆ Self limiting of fast thermal transients
- ◆ Protection against loss of ground and loss of VS
- ◆ Thermal shutdown

Product Summary

Parameter	Symbol	Value
Max. transient supply voltage($T_j \geq 25^\circ\text{C}$)	V_s	70V
Operating voltage range	V_{NOM}	5-58V
On-state resistance ($T_j = 25^\circ\text{C}$)	R_{ON}	17mΩ
Nominal load current ($T_j = 25^\circ\text{C}$)	$I_{\text{L(NOM)}}$	10A
Typical current sense ratio ($I_{\text{OUT}}=4\text{A}$)	K	3260
Current limitation	I_{LIMH}	24A
Supply current in sleep	I_{SLEEP}	5uA



Typical Application Circuit



Note1: For D_{GND}, the diode with lower V_F is advisable. For R_{GND}, a resistance of 30Ω/1206 is recommended.