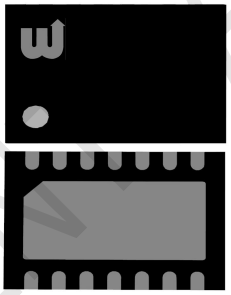
WSTD5020AN

Smart High-Side Power Switch Dual Channel，18mΩ，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 24 V and 48 V trucks + trailer and transportation systems

Package	DFN9×6-14L
Marking	WSTD5020AN



AEC Qualified

RoHS

ISO 26262 ready

Halogen-free

Features

- PRO-SIL™ ISO 26262-ready for supporting the integrator in evaluation of hardware element according to ISO 26262:2018 Clause 8-13
- Dual 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

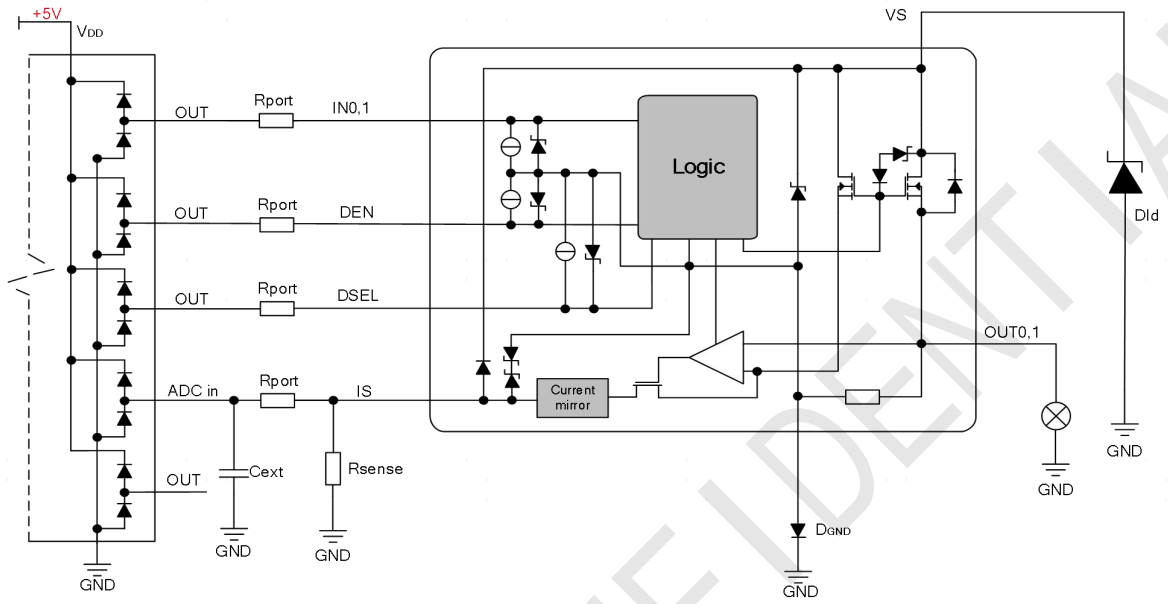
Protection Functions

- 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≥25 °C)	V_S	70V
Operating voltage range	V_{NOM}	5-58V
On-state resistance (per channel，T_j = 25℃)	R_{ON}	18mΩ
Nominal load current (one channel active，T_j = 25℃)	$I_{L(NOM)1}$	9A
Nominal load current (All channels active，T_j = 25℃)	$I_{L(NOM)2}$	7A
Typical current sense ratio (I_{OUT}=4A)	K	2680
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.