

## WS7140AD

Smart High-Side Power Switch Single Channel, 145mΩ, DFN5×6-16L , AEC-Q100 qualified

### Application

- ◆ Suitable for resistive, inductive and capacitive loads
- ◆ Specially intended for automotive signal lamps
- ◆ Replaces electromechanical relays, fuses and discrete circuits

### Basic Features

- ◆ Single channel device
- ◆ Standby current <1.0μA
- ◆ 3.3 V and 5 V compatible logic inputs
- ◆ RoHS compliant and lead free
- ◆ AEC-Q100 qualified

Package Information	
Package	DFN5×6-16L
Marking	WS7140AD

### Product Summary

Parameter	Symbol	Value
Max. DC supply voltage	V <sub>CC</sub>	35V
Operating voltage range	V <sub>NOM</sub>	4.5-28V
On-state resistance (per channel, Typ.)	R <sub>ON</sub>	145mohm
Nominal load current	I <sub>L(NOM)</sub>	2.5A
Typical current sense ratio (I <sub>OUT</sub> =2A)	K	520
Current limitation (typ.)	I <sub>LIMH</sub>	6A
Supply current in standby mode	I <sub>STBY</sub>	<1.0μA

### Diagnostic Functions

- ◆ Multiplexed analog feedback of load current with high precision proportional current mirror
- ◆ Off-state open load detection
- ◆ Output short to V<sub>S</sub> detection

### Protection Functions

- ◆ Undervoltage shutdown
- ◆ Overvoltage clamp
- ◆ Load current limitation
- ◆ Output short-circuit protection
- ◆ Self limiting of fast thermal transients
- ◆ Protection against loss of ground and loss of V<sub>S</sub>
- ◆ Thermal shutdown indication
- ◆ Electrostatic discharge protection

