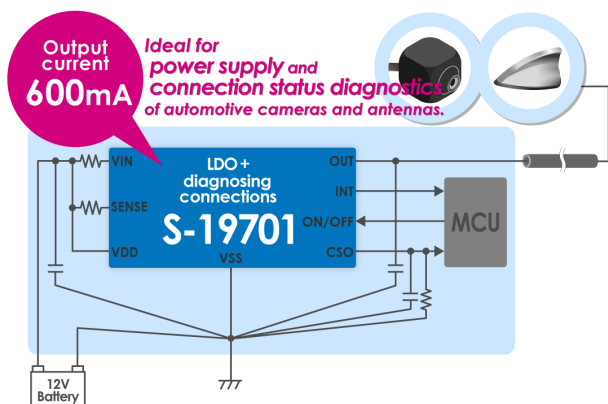


## Simple circuit S-19701 improves safety of automotive devices with built-in protection circuits



### Single chip solution for power supply and connection status diagnostics for various applications

The S-19701 Series of diagnostic ICs is ideal for diagnosing the connection status of automotive cameras, V2X antennas and other devices.

Key features of the S-19701 Series

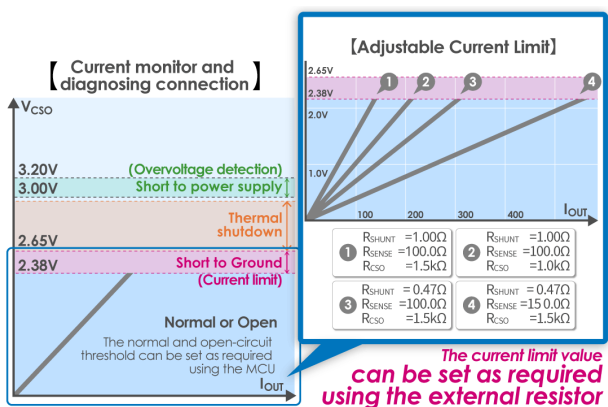
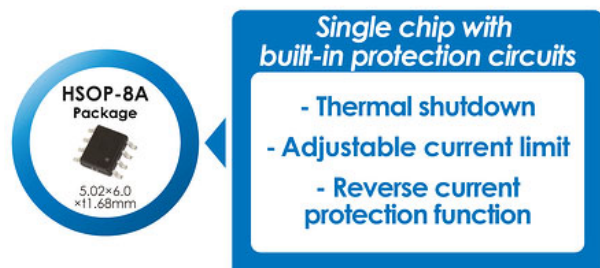
- Built-in LDO functions such as high output current of 600mA and a high accuracy output voltage of  $\pm 2.3\%$ .
- Can be used as a high side switch.
- The current monitor function allows the MCU to diagnose whether devices are operating normally or are open and finds the presence of short to ground and short to power supply faults.

This single chip can handle connection diagnosis and power supply of automotive cameras, antennas and a variety of applications even as they are becoming more multifunctional.

### A variety of protection functions provides safety

In addition to the LDO regulator function and connection status diagnosis function, three protection circuits are built in to offer thermal shutdown, adjustable current limit and reverse current protection functions. It also has an overvoltage detection circuit.

Thanks to a simple circuit configuration, the S-19701 Series improves safety of automotive devices with on-chip protection functions



### Implements flexible connection diagnosis tailored to load

The S-19701 Series can diagnose antenna connection status (open, normal and short to ground and short to power supply faults) by using the MCU to monitor CSO pin voltage.

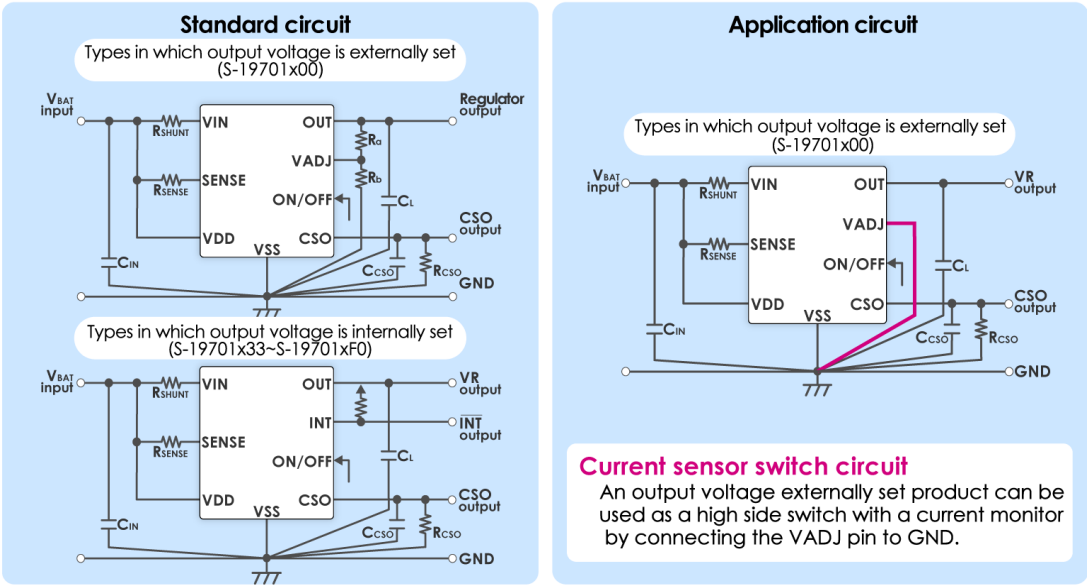
Since the value of the external resistor can be changed, the current limit can be set as required. This means connection diagnosis and current limit can be set to accommodate the load of connected devices.



# Application Examples

- Camera
- Antenna(5G,DAB/Sirius,GPS,AM/FM etc)
- Junction Box

## Circuit Example



## [Automotive] Connection Diagnosis ICs Lineup

For Automotive						
Function	Operation temperature range	Output current	Input voltage	Absolute maximum rating	Series	
LDO+Antenna diagnosis*	Ta=-40°C ~ +125°C	400mA	4.5V to 36V	45V	S-19700 Series	
		600mA	4.5V to 36V	45V	S-19701 Series <b>New</b>	
High side switch+Antenna diagnosis	Ta=-40°C ~ +105°C	100mA	2.7V to 10V	12V	S-19680 Series	

\*Applicable to a high side switch.

## Features

Product name	S-19701 Series Automotive
Output current	600mA
Output voltage (externally set)	3.3 V to 20.0 V, settable via an external resistor
Output voltage (internally set)	3.3 V to 15.0 V, selectable in 0.1 V step
Input voltage	4.5 V to 36.0 V
Output voltage accuracy	±2.3% (1.0 mA ≤ Iout ≤ 30 mA, Tj = -40°C to +150°C)
Current consumption	During operation : 80 μA typ., 170 μA max. (Tj = -40°C to +150°C) During power-off : 1.0 μA typ., 5.0 μA max. (Tj = -40°C to +90°C)
Package	HSOP-8A
Operation temperature range	Ta=-40°C to +125°C

As of 1/19, 2023. All the information described herein is subject to change without notice.

