The Analog Mixed Signal Company

ZMD®

SAP5S Spec. 3.0 Compatible Universal AS-i IC

Features

- Compliant with AS-i Complete Specification V3.0
- Integrated safety code generator
- Universal application: in slaves, masters, repeaters and bus-monitors
- On-chip electronic inductor: 55 mA current drive capability
- Two LED outputs to support Spec. V3.0 status indication modes
- User programmable to operation in Standard Slave Mode, Safety Mode or Master Mode
- Supports 5.33/16 MHz crystals by automatic frequency detection
- Data preprocessing functions
- Special burst protection circuitry
- Excellent electromagnetic compatibility
- Clock and communication watchdogs for high system security
- Operation temperature −25 to 85°C
- Available in SOP20 and SOP16 package

Application Examples

Position Switches

Emergency Stop Buttons

Safe Digital Input Module

Brief Description

SAP5S is a new generation CMOS integrated circuit for AS-i networks.

The low-level field bus AS-i (Actuator Sensor Interface) was designed for easy, safe and cost-effective interconnection of sensors, actuators and switches. It transports both power and data over the same two-wire unshielded cable.

SAP5S is used as a part of a master or slave node and works as an interface to the physical bus.

The device realizes power supply, physical data transfer and communication protocol handling and is fully compliant with AS-i Complete Specification V3.0.
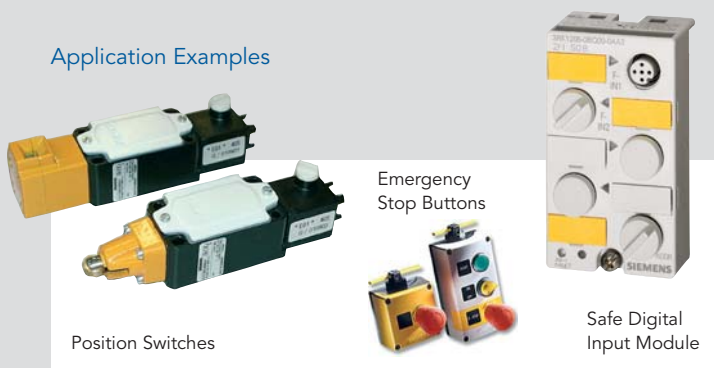
SAP5S can be programmed by the user to operate in Standard Slave Mode, Safety Mode or Master Mode.

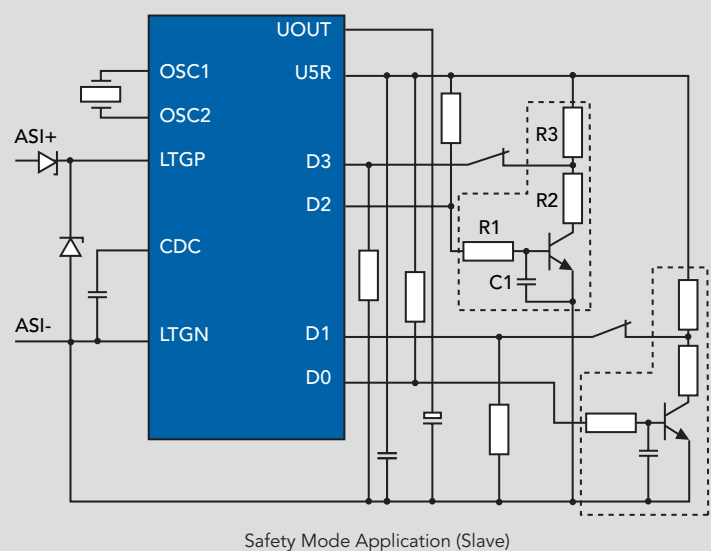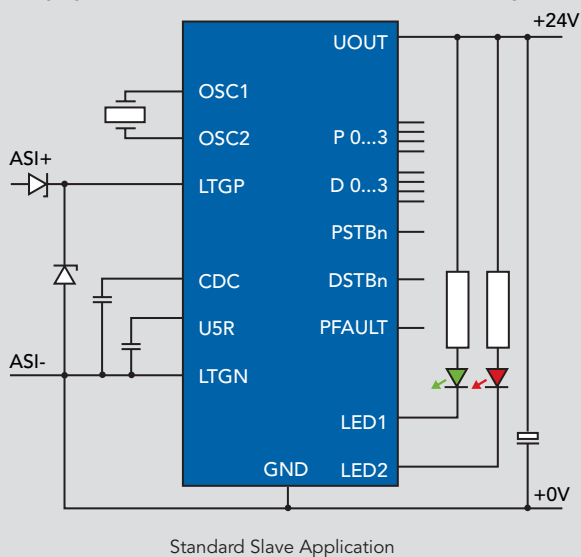The special AS-i Safety Mode assures short response times regarding security related events.

All configuration data are stored in an internal EEPROM that can be easily programmed by a stationary or handheld programming device.

SAP5S is optimized for harsh environments by it's special burst protection circuitry and excellent electromagnetic compatibility.
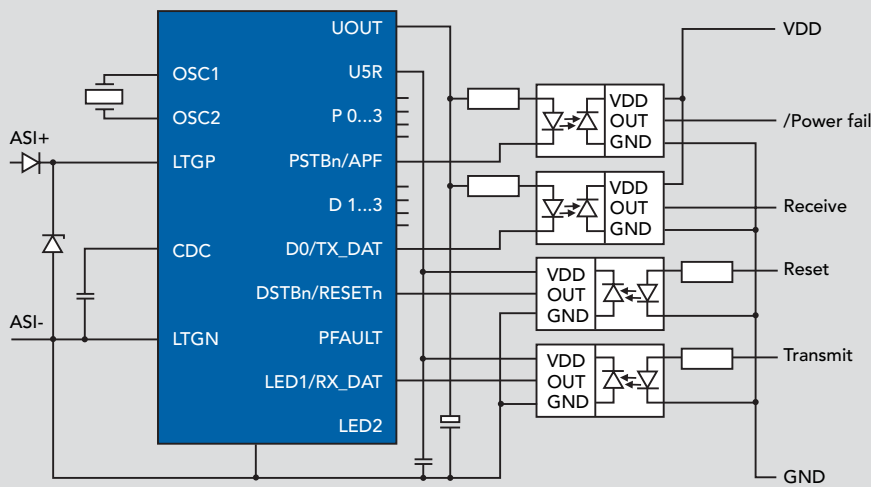
Application Circuit Examples

Standard Slave Application

Safety Mode Application (Slave)

Related Products: SAP5M, SAP51

Master Mode Application

Ordering Information

Ordering Code	Operating Temperature Range	Package Type	RoHs Conform	Shipping Form	Minimum Order Quantity
SAP5SB-A-T	-25°C to 85°C	SOP20/300mill	N	Tubes (37 parts/tube)	740 pcs. (20 tubes)
SAP5SB-A-R	-25°C to 85°C	SOP20/300mill	N	Tape-and-Reel (1000 parts/reel)	1000 pcs. (1 reel)
SAP5SB-A-G1-T	-25°C to 85°C	SOP20/300mill	Y	Tubes (37 parts/tube)	740 pcs. (20 tubes)
SAP5SB-A-G1-R	-25°C to 85°C	SOP20/300mill	Y	Tape-and-Reel (1000 parts/reel)	1000 pcs. (1 reel)
SAP5SB-B-T	-25°C to 85°C	SOP16/300mill	N	Tubes (46 parts/tube)	690 pcs. (15 tubes)
SAP5SB-B-R	-25°C to 85°C	SOP16/300mill	N	Tape-and-Reel (1000 parts/reel)	1000 pcs. (1 reel)
SAP5SB-B-G1-T	-25°C to 85°C	SOP16/300mill	Y	Tubes (46 parts/tube)	690 pcs. (15 tubes)
SAP5SB-B-G1-R	-25°C to 85°C	SOP16/300mill	Y	Tape-and-Reel (1000 parts/reel)	1000 pcs. (1 reel)

Application Support
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Development tool available:
ZMD ASI Programmer
(PC-connectable, incl. hard- and software)

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