

# Smoke Detector - NEW

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# Smoke Detector - NEW

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## Vishay Components Used:

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- IR emitter/detector
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- Power MOSFETs
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- Diodes
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- Capacitors
- 
- Inductors
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- Transient Protection Devices
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- ESD Protection Devices
- 
- Reverse Polarity Protection Devices
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- Precision Resistors
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## Application Overview

Smoke detector use smoke as an indicator of fire powered by battery. In the smoke chamber infrared emitter and detector sense smoke reflective. Detector only receive an infrared signal if there is smoke in the chamber and the signal from the emitter reflects on the smoke. If smoke is detected an acoustic alarm signal will be generated. Smoke detectors can also be linked to smart home via LAN or wireless. VISHAY's broad product line includes components for optical sensors, power supply (SMPS), input signal conditioning and communication functions.

## Smoke Detector - NEW : Battery Management, reverse polarity protection

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### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">Si1021R</a>		P-Channel 60V (D-S) MOSFET	Rdson=4Ohm	SC-75A	

## Smoke Detector - NEW : Battery Management, SMPS buck converter

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### Capacitor

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">TP3</a>		Solid Tantalum Surface Mount Chip Capacitors	0.1uF...470uF; 4V...50V	A...E	

### Diode

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">SD103AWS</a>		Small signal schottky diode	If=350mA	SOD-323	

### Inductor

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">IDCP-2218</a>		High Current Surface Mount Inductors - Non-Shielded	10uH...220uH 0.35A...1.44A	5.8x4.5x5.2mm	

### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">2N7002K</a>		N-Channel 60-V (D-S) MOSFET	Rdson=20hm; Id=300mA	SOT-23	

## Smoke Detector - NEW : Battery Management, transient protection

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Diode

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">MMSZ5225-G to MMSZ5267-G</a>		Small signal Zener diode	Vz 3...75V	SOD-123	

## Smoke Detector - NEW : Connectivity, ethernet

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### MLCC

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">VJ...31X RoHS Automotive MLCC</a>		Surface Mount Multilayer Ceramic Chip Capacitors for Automotive Applications	120pF...1uF 16V...1000V	0402 to 1812	

### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">Si7308DN</a>		N-Channel 60V (D-S) MOSFET	Rdson=58mOhm	Power PAK 1212-8	

### Resistor

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">TNPW</a>		High Stability Thin Film Flat Chip Resistors	4.7Ohm...3M0hm	0402...1210	

### Schottky Diode

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">SS2P4</a>		High Current Density Surface Mount Schottky Barrier Rectifier	If=2A Vf=0.5V Vrrm=40V	'DO-220AA (SMP)	

## Smoke Detector - NEW : Connectivity, wireless

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### MLCC

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">VJ...31X RoHS Automotive MLCC</a>		Surface Mount Multilayer Ceramic Chip Capacitors for Automotive Applications	120pF...1uF 16V...1000V	0402 to 1812	

### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">Si7308DN</a>		N-Channel 60V (D-S) MOSFET	Rdson=58mOhm	Power PAK 1212-8	

### Resistor

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">TNPW</a>		High Stability Thin Film Flat Chip Resistors	4.7Ohm...3MOhm	0402...1210	

### Schottky Diode

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">SS2P4</a>		High Current Density Surface Mount Schottky Barrier Rectifier	If=2A Vf=0.5V Vrrm=40V	'DO-220AA (SMP)	

## Smoke Detector - NEW : Signaling, audio amplifier

### Inductor

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">IHLD-3232HB-5A</a>		Low Profile, High Current Dual Inductors	5uH...33uH 2.4A...6A	3232	

### MLCC

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">VJ...31X RoHS Automotive MLCC</a>		Surface Mount Multilayer Ceramic Chip Capacitors for Automotive Applications	120pF...1uF 16V...1000V	0402 to 1812	

### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">SiS488DN</a>		N-Channel 40V (D-S) MOSFET	Rdson=5.5mOhm	Power PAK 1212-8	

### Resistor

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">MC-Series</a>		Professional Thin Film Chip Resistors	1Ohm...4.99MOhm	0402...1206	

### Schottky Diode

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">SS2P4</a>		High Current Density Surface Mount Schottky Barrier Rectifier	If=2A Vf=0.5V Vrrm=40V	'DO-220AA (SMP)	



## Smoke Detector - NEW : Signaling, flashlight

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### LED

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">VLMD31...</a>		Standard SMD LED PLCC-2	648nm	PLCC-2	

### MOSFET

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">Si2356DS</a>		N-Channel 40V (D-S) MOSFET	Rdson=5.1mOhm	SOT-23	

## Smoke Detector - NEW : Smoke Detection, amplification

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### Resistor

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">MC-Series</a>		Professional Thin Film Chip Resistors	1Ohm...4.99MOhm	0402...1206	

## Smoke Detector - NEW : Smoke Detection, optical smoke detection

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### IR Emitter

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">VSMY2850</a>		High Speed Infrared Emitting Diodes	850nm	2.3x2.3x2.8mm	

### IR Receiver

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">VEMD2003</a>		Silicon PIN Photodiode	750nm...1050nm	2.3x2.3x2.55mm	

## Smoke Detector - NEW : Smoke Detection, temperature sensing

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NTC

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">NTCS0603</a>		Glass protected NTC Thermistor	2kOhm...100kOhm	'0603	

## Smoke Detector - NEW : Test Button, ESD Protection

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Diode

Product Name	Status	Description	Features	Package	Q-Level
<a href="#">GL05T</a>		Low Capacitance ESD Protection Diodes	300W	SOT-23	