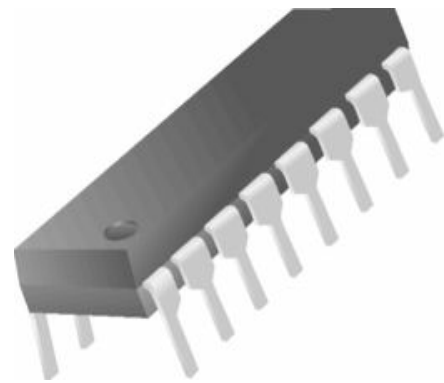




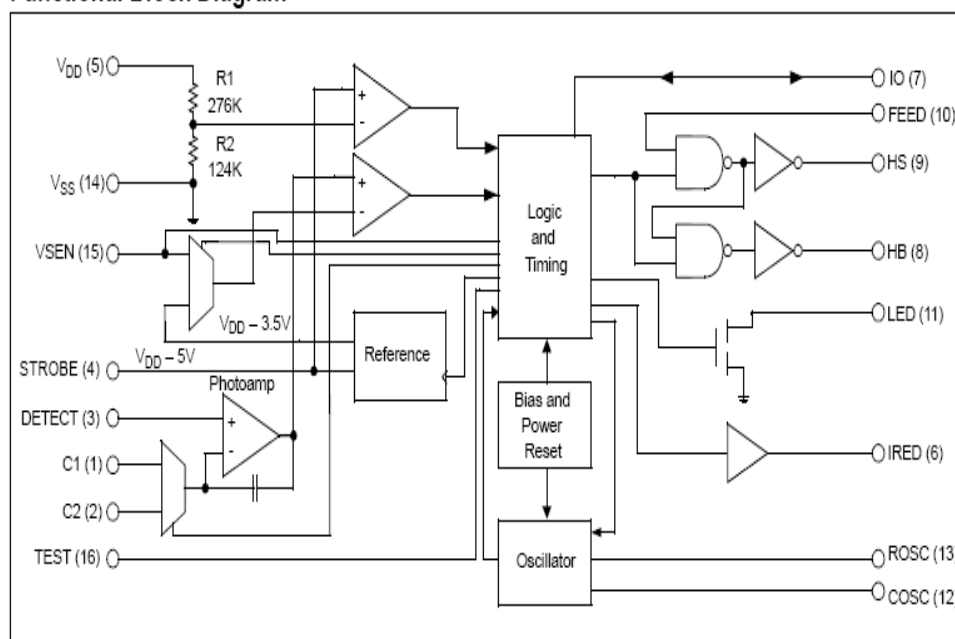
RE46C165/6/7/8 CMOS Photoelectric Smoke Detector

General Description:

The RE46C165 device is a low-power, CMOS photoelectric type, smoke detector IC. With minimal external components, this circuit will provide all the required features for a photoelectric type smoke detector. Each design incorporates a gain selectable photo amplifier for use with an infrared emitter/detector pair. An internal oscillator strobes power to the smoke detection circuitry for 100 μ s every 10 seconds to keep standby current to a minimum. If smoke is sensed, the detection rate is increased to verify an alarm condition. A high gain mode is available for push button chamber testing. A check for a low battery condition and chamber integrity is performed every 43 seconds when in standby. The temporal horn pattern supports the NFPA 72 emergency evacuation signal. An interconnect pin allows multiple detectors to be connected so when one unit alarms, all units will sound. A charge dump feature will quickly discharge the interconnect line when exiting a local alarm. An internal 9 minute timer allows for single button, push-to-test to be used for a reduced sensitivity mode. An alarm memory feature allows the user to determine if the unit has previously entered a local alarm condition. Utilizing low-power CMOS technology, the RE46C165 was designed for use in smoke detectors that comply with Underwriters Laboratory Specification UL217 and UL268.



Functional Block Diagram



Key Features:

- Temporal Horn Pattern or Continuous Tone
- Alarm Memory
- Sensitivity Control Times:
 - 9 minutes (RE46C165/6)
 - 1.2 minutes (RE46C167/8)
- I/O Filter and Charge Dump
- Interconnect up to 40 Detectors
- Internal Power-on Reset
- >2000V ESD Protection (HBM) on All Pins
- Low Quiescent Current Consumption (<8 μ A)
- Internal Low Battery Detection and Chamber Test
- RoHS Compliant Lead-Free Packaging

Applications:

- Smoke detection

Related Products Information:

Mfr Part #	Farnell #	Newark #	Description
RE46C165S16TF	1814903	74R7828	CMOS Photoelectric Smoke Detector- Narrow, 3.90 mm Body, 16-Lead (SOIC)
RE46C165S16F	1814905	63R7896	CMOS Photoelectric Smoke Detector- Narrow, 3.90 mm Body, 16-Lead (SOIC)
RE46C165E16F	1814906	73R8694	CMOS Photoelectric Smoke Detector- 300 mil. Body, 16-Lead (PDIP)
RE46C166S16F	1814907	65R6115	CMOS Photoelectric Smoke Detector- Narrow, 3.90 mm Body, 16-Lead (SOIC)
RE46C166E16F	1814908	73R8695	CMOS Photoelectric Smoke Detector- 300 mil. Body, 16-Lead (PDIP)
RE46C167S16F	1814909	65R6117	CMOS Photoelectric Smoke Detector- Narrow, 3.90 mm Body, 16-Lead (SOIC)
RE46C167E16F	1814910	73R8696	CMOS Photoelectric Smoke Detector- 300 mil. Body, 16-Lead (PDIP)
RE46C168S16F	1814911	65R6119	CMOS Photoelectric Smoke Detector- Narrow, 3.90 mm Body, 16-Lead (SOIC)

RE46C168E16F	1814912	73R8697	CMOS Photoelectric Smoke Detector- 300 mil. Body, 16-Lead (PDIP)
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