

## SERIES 3000 MAGNETICALLY-ACTIVATED SWITCHES

### TYPE UGN-3201M, UGN/UGS-3019T, UGN-3203M, and UGN/UGS-3020T DIGITAL SENSORS

These devices are magnetically-activated electronic switches utilizing the Hall Effect for sensing a magnetic field. Each circuit consists of a silicon Hall generator, amplifier, trigger, and output stage integrated with its own voltage regulator onto a monolithic silicon chip.

Circuit outputs can be interfaced directly with bipolar or MOS logic circuits.

#### FEATURES

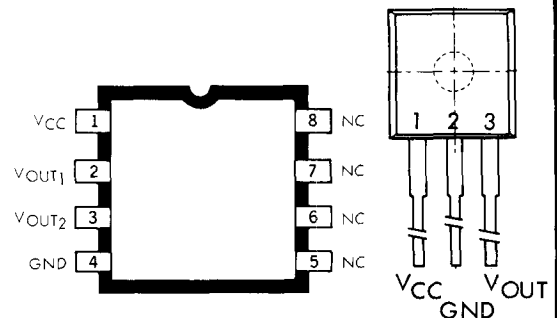
- Operable with a small permanent magnet
- High Reliability - eliminates contact wear, contact bounce; no moving parts
- Small size
- Constant amplitude output - independent of frequency
- Operating Temperature Range: 0°C to +70°C (ULN Series), -40°C to +125°C (ULS Series)
- Two Plastic Package Configurations:  
Suffix 'M' = 8-pin dual in-line M  
Suffix 'T' = 3-pin single-ended T

Series 3000 Hall Effect Integrated Circuits were formerly furnished under another series of part numbers:

Old Part no.	New Part No.	Old Part No.	New Part No.
ULN-3006M	UGN-3201M	ULN-3100M	UGN-3600M
ULN-3006T	UGN-3019T	ULN-3101M	UGN-3601M
ULN-3007M	UGN-3203M	ULS-3006T	UGS-3019T
ULN-3008M	UGN-3501M	ULN-3020T	UGS-3020T
ULN-3020T	UGN-3020T		

#### CHARACTERISTICS

Type	Supply Voltage V <sub>CC</sub> (VDC)	Magnetic Flux Density in Gauss				Typical Hysteresis (Gauss)
		Operate		Release		
		Max.	Typ.	Typ.	Min.	
UGN-/UGS-3019T	5 - 16	750	500	225	100	225
UGN/UGS-3020T	4.5 - 24	350	300	210	50	090
UGN-3201M	5 - 16	750	450	300	100	150
UGN-3203M	5 - 16	350	235	100	25	135

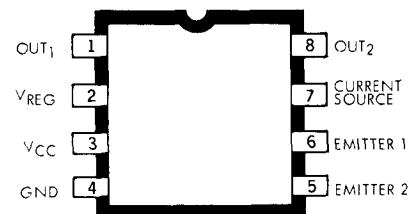


UGN-3201M  
UGN-3203M

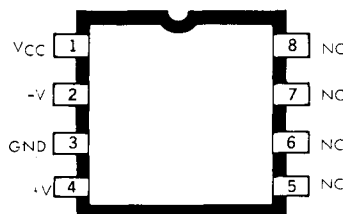
UGN-3019T  
UGS-3019T  
UGN-3020T  
UGS-3020T

### TYPE UGN-3501M LINEAR SENSOR

The Type UGN-3501M is a monolithic integrated circuit consisting of a linear Hall cell and differential amplifier which has provisions for gain and offset adjust. By placing an appropriate value potentiometer across the two emitters and bringing the wiper arm to the current source, the outputs can be nulled for zero volts offset differential at zero gauss and will produce approximately 1000 mV for 1000 gauss. The circuit has a built-in voltage regulator so changes in V<sub>CC</sub> from 8 V to 16 V produce very little change in the output.



### TYPE UGN-3600M and UGN-3601M CALIBRATED HALL CELLS



The UGN-3600M and UGN-3601M are intended for use as an empirical design aid or as a production test vehicle. Each device consists of the Hall generator only with connections brought out on pins 2 and 4. Type UGN-3600M is supplied with a calibration chart for monitoring magnetic field intensity without the use of a gauss meter. Type UGN-3601M is supplied without the calibration chart.

**Supply Voltage: 5 V.**