

## MM5837 Digital Noise Source

### General Description

The MM5837 digital noise source is an MOS pseudo-random sequence generator, designed to produce a broadband white noise signal for audio applications. Unlike traditional semiconductor junction noise sources, the MM5837 provides very uniform noise quality and output amplitude. The shift register starts at a random non-zero state when power is applied. The circuit is packaged in an 8-lead plastic DIP.

### Features

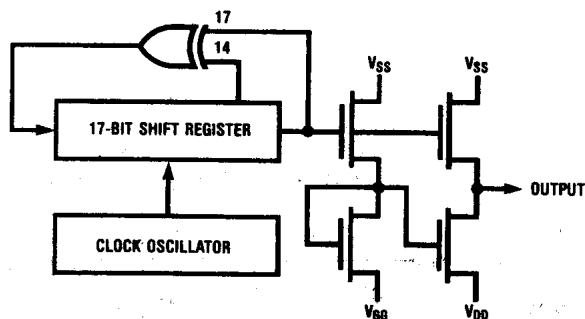
- Uniform noise quality
- Uniform noise amplitude

- Eliminates noise preamps
- Self-contained oscillator
- Single component insertion

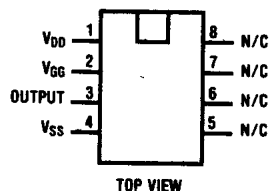
### Applications

- Electronic musical rhythm instrument sound generators
- Music synthesizer white and pink noise generators
- Room acoustics testing/equalization

### Logic and Connection Diagrams



Dual-In-Line Package



Order Number MM5837N  
See Package 17

## Absolute Maximum Ratings

Optional Gate Supply Voltage, $V_{GG}$	$V_{SS} - 33V$ to $V_{SS} + 0.3V$
Logic Supply Voltage, $V_{DD}$	$V_{SS} - 25V$ to $V_{SS} + 0.3V$
Storage Temperature, $T_S$	$-55^{\circ}C$ to $+100^{\circ}C$
Operating Temperature, $T_A$	$0^{\circ}C$ to $+70^{\circ}C$
Lead Temperature (Soldering, 10 seconds)	$300^{\circ}C$

## Electrical Characteristics

$T_A$  within operating range,  $V_{SS} = 0V$ ,  $V_{DD} = -14V \pm 1.0V$ ,  $V_{GG} = -27V, \pm 2V$  unless otherwise noted

Parameter	Conditions	Min.	Typ.	Max.	Units
Output (Loaded $20k\Omega$ to $V_{SS}$ and $20k\Omega$ to $V_{DD}$ )	$T_A = 25^{\circ}C$				
Logical "1" Level		$V_{SS} - 1.5$		$V_{SS}$	V
Logical "0" Level		$V_{DD}$		$V_{DD} + 1.5$	V
Logical "0" Level	$V_{GG} = -14V \pm 1V$	$V_{DD}$		$V_{DD} + 3.5$	V
Supply Currents	No Output Load				
$I_{DD}$		3		8	mA
$I_{GG}$				7	mA
Half Power Point		24		56	kHz
Cycle Time		1.1		2.4	Sec.

## Typical Application

