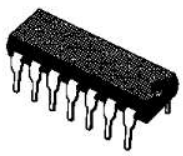
SGS-THOMSON MICROELECTRONICS

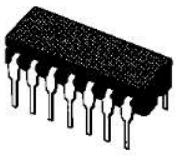
M54HC386
M74HC386

QUAD EXCLUSIVE OR GATE

- HIGH SPEED
  t_{PD} = 10 ns (TYP.) AT V_{CC} = 5 V
- LOW POWER DISSIPATION
  I_{CC} = 1 ∝A (MAX.) AT T_A = 25 °C
- HIGH NOISE IMMUNITY
  V_{NIH} = V_{NIL} = 28 % V_{CC} (MIN.)
- OUTPUT DRIVE CAPABILITY
  10 LSTTL LOADS
- SYMMETRICAL OUTPUT IMPEDANCE
  $|I_{OH}|$ = I_{OL} = 4 mA (MIN.)
- BALANCED PROPAGATION DELAYS
  t_{PLH} = t_{PHL}
- WIDE OPERATING VOLTAGE RANGE
  V_{CC} (OPR) = 2 V TO 6 V
- PIN AND FUNCTION COMPATIBLE WITH 54/74LS386



B1R
(Plastic Package)



F1R
(Ceramic Package)

M1R
(Micro Package)

C1R
(Chip Carrier)

ORDER CODES :

M54HC386F1R	M74HC386M1R
M74HC386B1R	M74HC386C1R

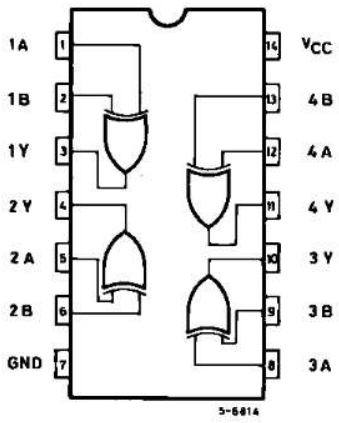
DESCRIPTION

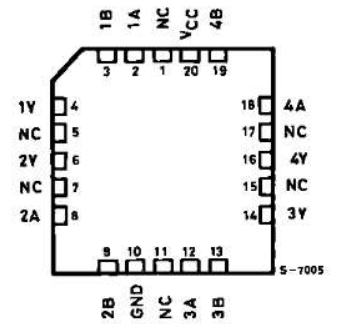
The M54/74HC386 is a high speed CMOS QUAD EXCLUSIVE-OR GATE fabricated in silicon gate C^2MOS technology.

It has the same high speed performance of LSTTL combined with true CMOS low power consumption. An output buffer provides high noise immunity and a stable output.

All inputs are equipped with protection circuits against static discharge and transient excess voltage.

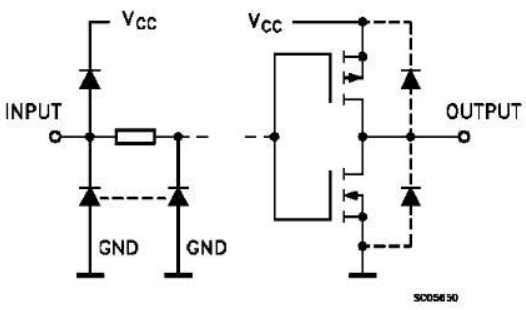
PIN CONNECTIONS (top view)





NC = No Internal Connection

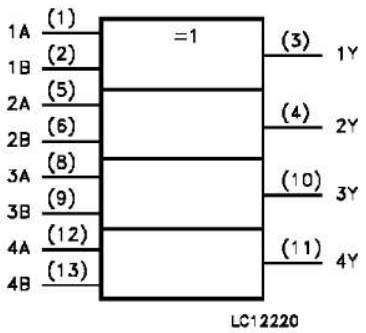
INPUT AND OUTPUT EQUIVALENT CIRCUIT



TRUTH TABLE

A	B	Y
L	L	L
L	H	H
H	L	H
H	H	L

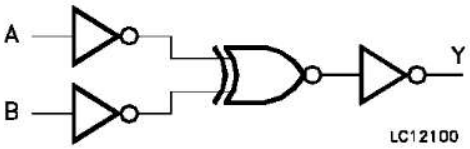
IEC LOGIC SYMBOL



PIN DESCRIPTION

PIN No	SYMBOL	NAME AND FUNCTION
1, 2, 5, 6, 8, 9, 12, 13	1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B	Data Inputs
3, 4, 10, 11	1Y to 4Y	Data Outputs
7	GND	Ground (0V)
14	V_{CC}	Positive Supply Voltage

SCHEMATIC CIRCUIT (Per Gate)



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CC}	Supply Voltage	-0.5 to +7	V
V_I	DC Input Voltage	-0.5 to V_{CC} + 0.5	V
V_O	DC Output Voltage	-0.5 to V_{CC} + 0.5	V
I_{IK}	DC Input Diode Current	± 20	mA
I_{OK}	DC Output Diode Current	± 20	mA
I_O	DC Output Source Sink Current Per Output Pin	± 25	mA
I_{CC} or I_{GND}	DC V_{CC} or Ground Current	± 50	mA
P_D	Power Dissipation	500 (*)	mW
T_{stg}	Storage Temperature	-65 to +150	°C
T_L	Lead Temperature (10 sec)	300	°C

Absolute Maximum Ratings are those values beyond which damage to the device may occur. Functional operation under these condition is not implied.
(*) 500 mW: ≅ 65 °C derate to 300 mW by 10mW/°C: 65 °C to 85 °C