

PRELIMINARY DATA

16-STAGE COUNTER

- LOW QUIESCENT POWER DISSIPATION
- WIDE SUPPLY VOLTAGE RANGE: 3 to 16V
- FULLY PROTECTED INPUTS
- INVERTER AVAILABILITY IN CRISTAL OSCILLATOR IMPLEMENTATION FOR TIMING APPLICATION

The **M 706** is a 16-stage binary counter constructed with COS/MOS technology on a single monolithic chip. The device may be used as timing circuit. It consists of 16 flip-flops, input inverter for use in a crystal oscillator and two output buffers providing push-pull bridge operation. The device is available in 8-lead minidip.

ABSOLUTE MAXIMUM RATINGS*

V_{DD}^{**}	Supply voltage	-0.5 to 16	V
V_I	Input voltage (at any pin)	-0.5 to $V_{DD} + 0.5$	V
P_{tot}	Total power dissipation (per package)	200	mW
T_{stg}	Storage temperature	-65 to 150	°C
T_{op}	Operating temperature	-40 to 85	°C

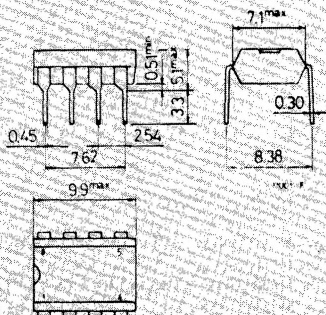
* Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

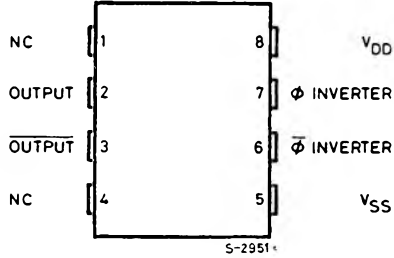
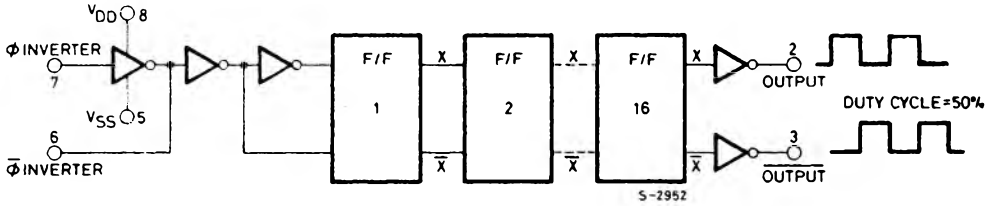
** This voltage is with respect to V_{SS} (GND) pin voltage.

ORDERING NUMBER: **M 706 B1**

MECHANICAL DATA

Dimensions in mm



PIN CONNECTIONS

LOGIC BLOCK DIAGRAM

RECOMMENDED OPERATING CONDITIONS

V_{DD}	Supply voltage: for general applications	3 to 15	V
	for crystal oscillator in clock application	7 to 15	V
V_i	Input voltage	0 to V_{DD}	V
T_{op}	Operating temperature	-40 to 85	°C



STATIC ELECTRICAL CHARACTERISTICS (over recommended operating conditions)

Parameter	Test conditions	Values at 25° C			Unit		
		V _O (V)	V _{DD} (V)	Min.		Typ.	Max.
I _L Quiescent supply current			5		1	50	μA
			10		2	100	
V _{OH} High output voltage	I _O = 0		5	4.99	5		V
			10	9.99	10		
V _{OL} Low output voltage	I _O = 0		5		0	0.01	V
			10		0	0.01	
I _{DN} Output drive current N-channel		0.5	5	6	7.5		mA
		0.5	10	9	10		
I _{DP} Output drive current P-channel		4.5	5	-6	-7.5		mA
		4.5	10	-9	-10		

TYPICAL APPLICATION

Digital equipment in which ultra-low dissipation and/or operation using a battery source are primary design requirements.

Accurate timing from a crystal oscillator for timing applications such as wall clocks, table clocks, automobile blocks, and digital timing references in any circuit requiring accurately timed outputs.

Driving miniature synchronous motors, stepping motors, or external bipolar transistors in push-pull fashion.

