



一華半導體股份有限公司
MOSDESIGN SEMICONDUCTOR CORP.

2 STATES ENCODER

2 態編碼 IC

EN/DECODER

M1EA

GENERAL DESCRIPTION 功能敘述

The M1EA is a CMOS ASIC encoder. It will en-code 12 parallel data inputs and serially transmit them to the output when transmit enable ($\overline{\text{TE}}$) depressed. These address inputs are 2 states i.e. LOW (0) or OPEN (1).

FEATURES 產品特長

Same Rosc matched to the Decoder M1DA/FA.

$2^{12} = 4,096$ codes.

4 cycles transmission each time.

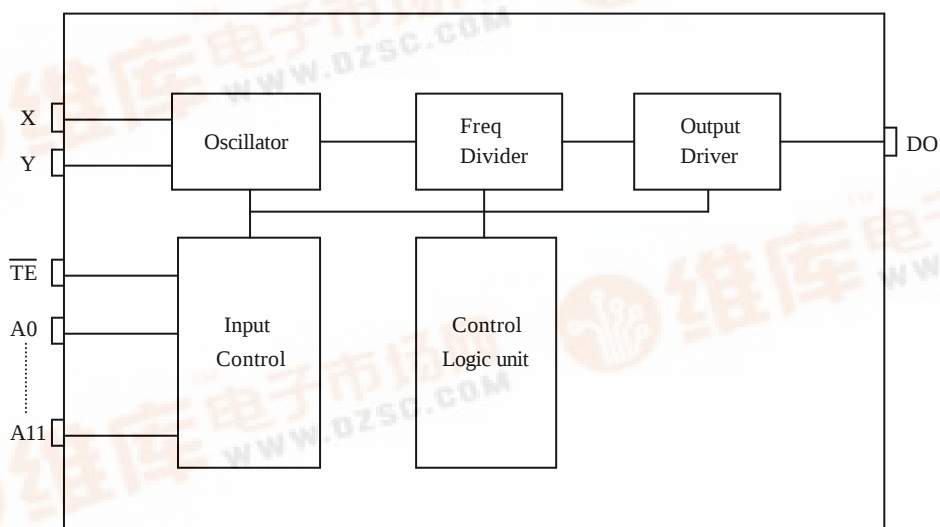
Direct data transmit type : (Eliminating $\overline{\text{TE}}$ and diodes).

—M1EA-H : switch to VDD.

APPLICATIONS 產品應用

Car/home alarm system, garage control etc..

BLOCK DIAGRAM 功能方塊圖





一華半導體股份有限公司
MOSDESIGN SEMICONDUCTOR CORP.

2 STATES ENCODER

2 態編碼 IC

EN/DECODER

M1EA

ABSOLUTE MAXIMUM RATING

(TA=25 °C)

Parameter	Rating	Unit
Supply Voltage	-0.3 to 12	V
Input Voltage	-0.2~V _{DD} +0.2	V
Operating Temperature	0 to 70	
Storage Temperature	-50 to 125	

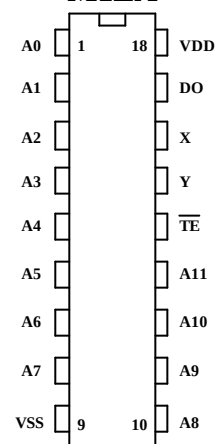
ELECTRICAL CHARACTERISTICS

Characteristics	Sym.	Min.	Typ.	Max.	Unit	Conditions
Operating Voltage	V _{DD}	2.4	—	12	V	
Operating Current	I _{OP}	—	0.1	1	mA	No load
Quiescent Current	I _{SB}	—	0.1	0.5	μA	
Output Drive Current	I _O	—	2	—	mA	@ V _{DS} =1.2V
Input Voltage	V _{IH}	V _{DD} -0.2	V _{DD}	V _{DD}	V	
	V _{IL}	V _{SS}	V _{SS}	V _{SS} +0.2		
Oscillator Frequency	F _{osc}	—	76	—	KHz	External ±30%

PIN DESCRIPTION

No.	Name	Description
1~8	A0~A7	Address inputs
9	VSS	Negative power supply
10~13	A8~A11	Address inputs
14	$\overline{\text{TE}}$	Transmit enable
15	Y	Oscillator output
16	X	Oscillator input
17	DO	Data output
18	VDD	Positive power supply

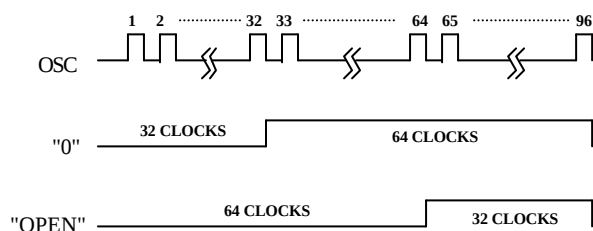
M1EA



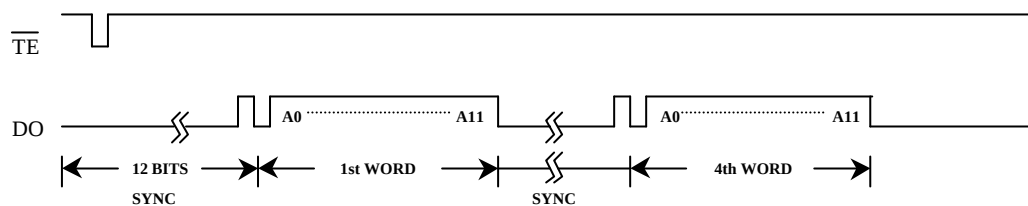


TIMING WAVEFORM

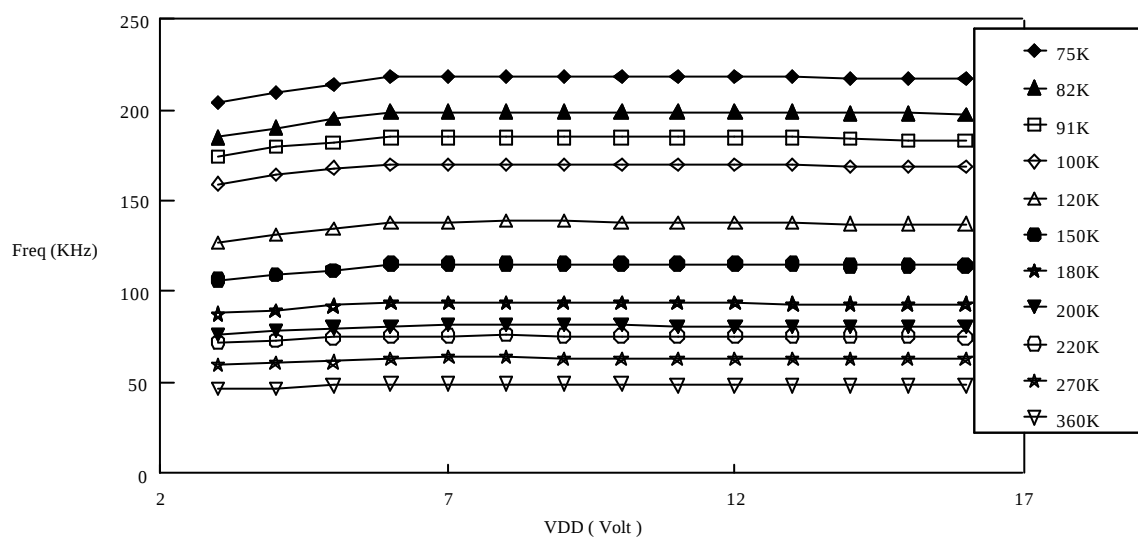
(1) BIT FORMAT



(2) TIMING DIAGRAM

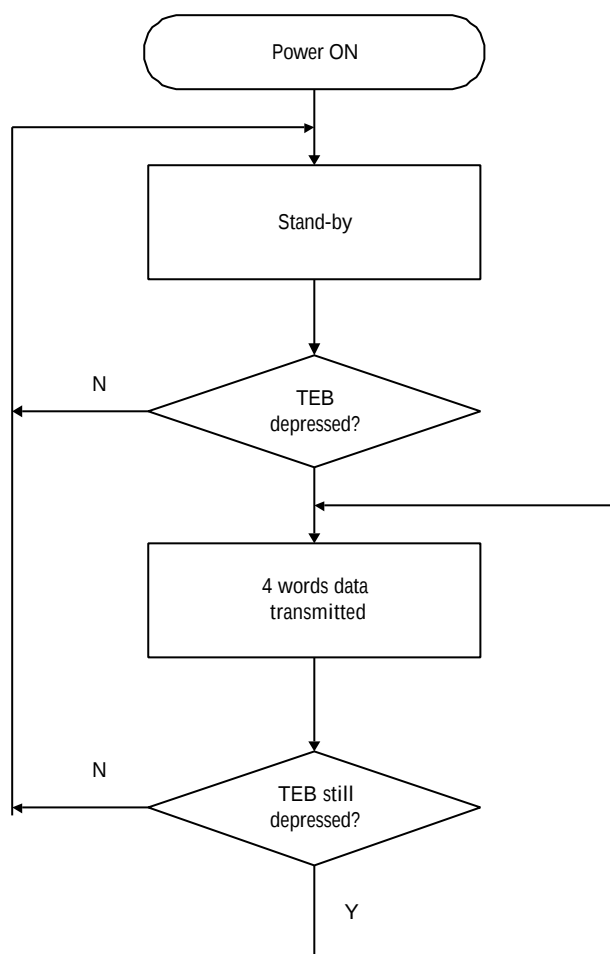


M1EA F-V curve





OPERATING FLOWCHART





2 STATES ENCODER
2 態編碼 IC

EN/DECODER
M1EA

RECONNENDED OSCILLATOR PARAMETERS

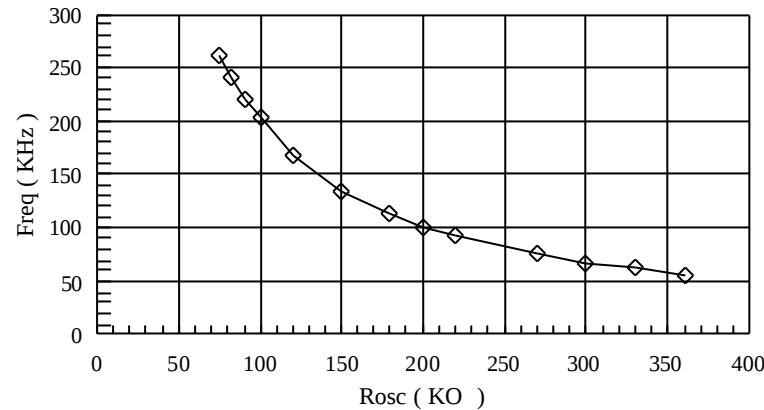
Rosc (K Ω)	M1EA/DA/FA (KHz)
75	261
82	241
91	220
100	203
120	168
150	133
180	113
200	101
220	94
270	75
300	67
330	63
360	56

DATA OUTPUT

M1EA (D0~D3)	M1DA/FA (D0~D3)
0 (VSS)	1 (VDD)
1 (OPEN)	0 (VSS)

Freq-Rosc Chart

(@Vdd=12V)



◇ M1EA/DA/FA



APPLICATION DIAGRAM 參考電路圖

