



2 STATES ENCODER
2 态编码 IC

EN/DECODER
M1EN

GENERAL DESCRIPTION 功能叙述

The M1EN is a CMOS ASIC encoder. It will en-code 12 parallel inputs and serially transmit them to the output when transmits enable $\overline{TE}$ depressed. These address inputs are 2 states i.e. LOW (0) or OPEN (1).

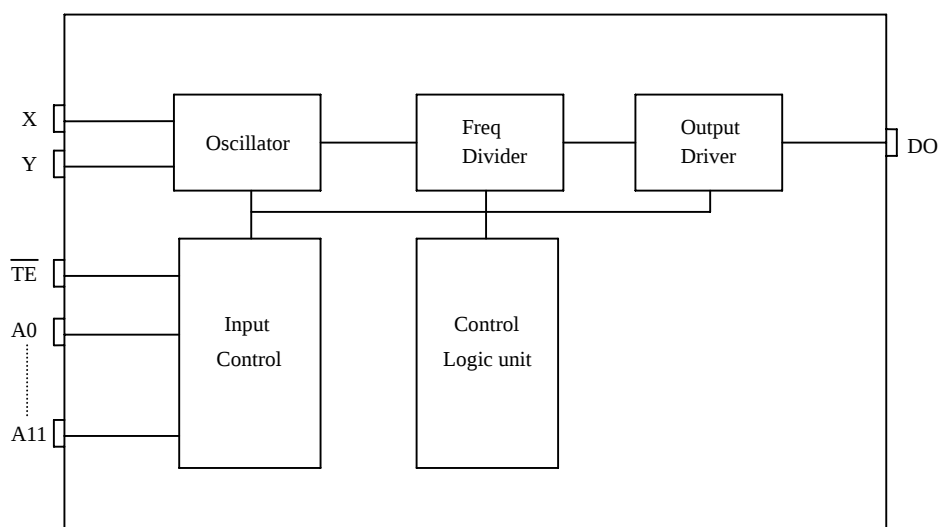
FEATURES 产品特长

- Same Rosc matched to the Decoder M1DA/FA.
- $2^{12} = 4,096$ codes.
- 4 cycles transmission each time.
- Direct data transmit type: (Eliminating $\overline{TE}$ and diodes).
- M1EN-H: Switch to VDD.

APPLICATIONS 产品应用

- Car/home alarm system, garage control etc..

BLOCK DIAGRAM 功能方块图



*All specs and applications shown above subject to change without prior notice.
(以上电路及规格仅供参考,本公司得径行修正)



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ABSOLUTE MAXIMUM RATINGS

(TA=25℃)

Parameter	Rating	Unit
Supply Voltage	-0.3 to 12	V
Input Voltage	-0.2~V _{DD} +0.2	V
Operating Temperature	-20 to 70	℃
Storage Temperature	-50 to 125	℃

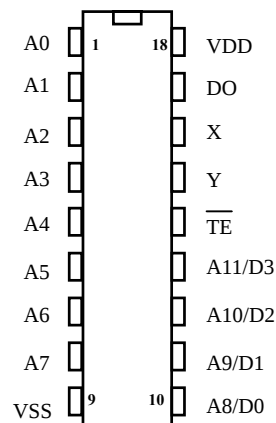
ELECTRICAL CHARACTERISTICS

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	μ A	
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	Fosc	—	76	—	KHz	External ± 30%, Rosc=220K Ω

PIN DESCRIPTION

No.	Name	Description
1~8	A0~A7	Address inputs
9	VSS	Negative power supply
10~13	A8~A11 / D0~D3	Address inputs / Data input
14	$\overline{\text{TE}}$	Transmit enable
15	Y	Oscillator output
16	X	Oscillator input
17	DO	Data output
18	VDD	Positive power supply

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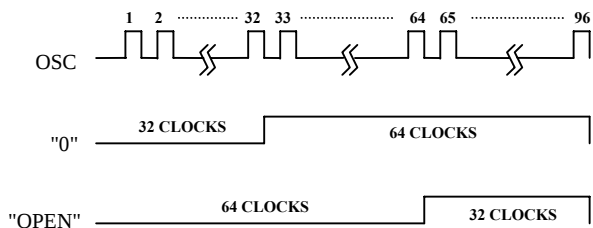
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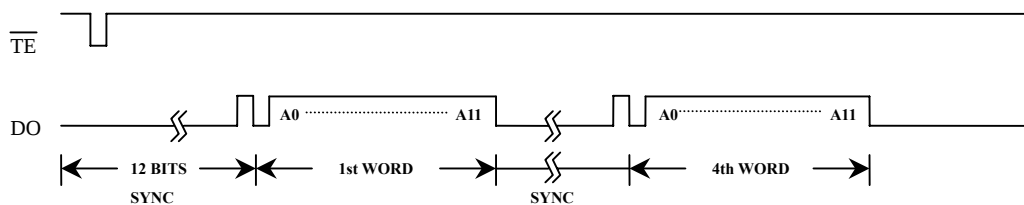
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TIMING WAVEFORM

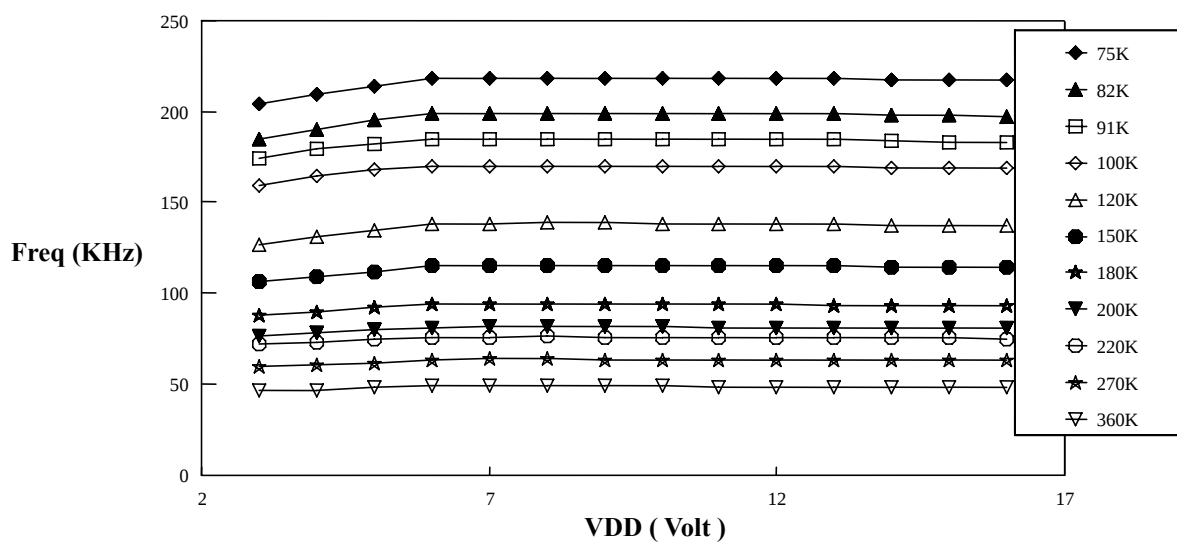
(1) BIT FORMAT



(2) TIMING DIAGRAM



M1EN F-V curve

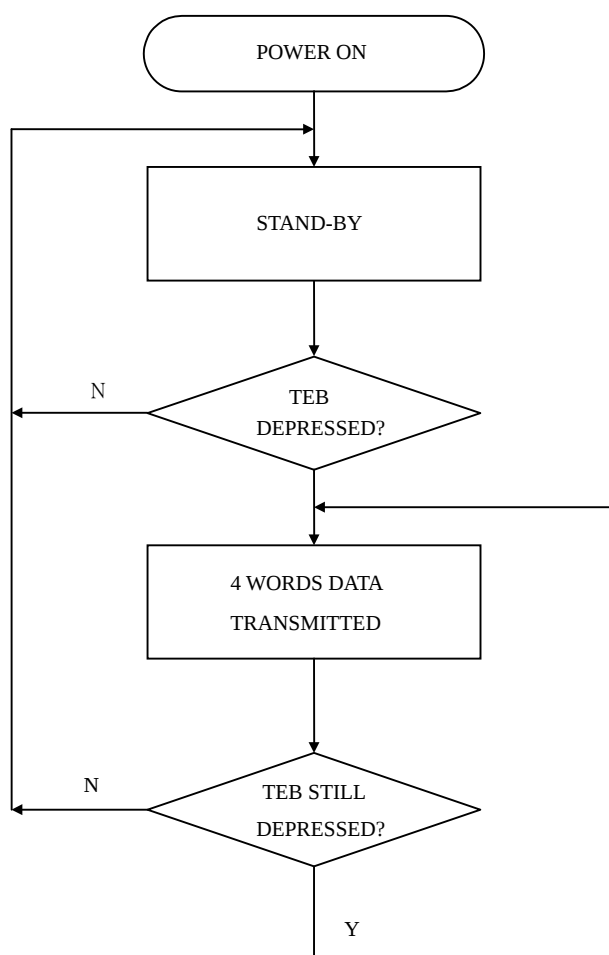




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OPERATING FLOWCHART





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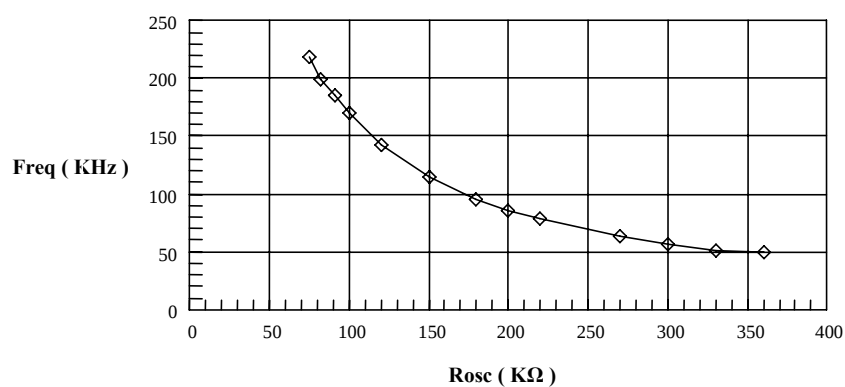
RECONNENDED OSCILLATOR PARAMETERS

Rosc (K Ω)	M1EN (KHz)
75	218
82	199
91	185
100	170
120	142
150	115
180	95
200	86
220	78
270	63
300	57
330	51
360	49

DATA OUTPUT

M1EN (D0~D3)	M1DA/FA (D0~D3)
0 (VSS)	1 (VDD)
1 (OPEN)	0 (VSS)

Freq-Rosc chart
(@VDD=12V)





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APPLICATION DIAGRAM 参考电路图

* DATA TYPE

