3 STATES DECODER
3 态译码 IC

GENERAL DESCRIPTION 功能叙述

The M3D/F is a CMOS ASIC decoder. It will de-code the serial data from data input. The VT signal will go high and data will be copied to the output if address are checked the same. The address input are trinary i.e. LOW(0)、OPEN(X) and HIGH(1).

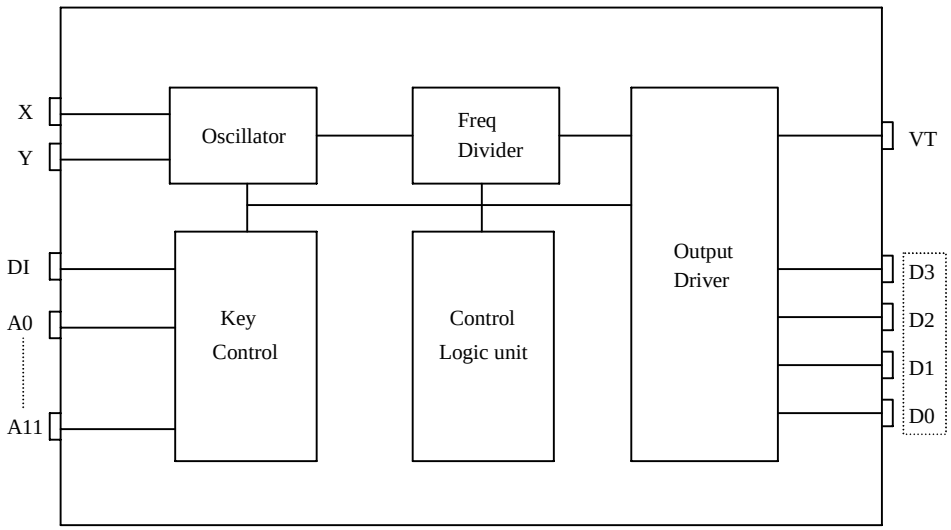
FEATURES 产品特长

- Same Rosc matched to the Encoder M3E,.
- 3^{12} =531,411 codes, “0”、”X”、”1” Tri-states.
- 3 cycles checked each time
- S.O.Package：suffix-S.
- Address / Data types：
  - — M3D-L：Latch data outputs.
  - — M3D-M：Momentary data outputs.
  - — M3F：Full address type.

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 RATING

(TA=25℃)

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	℃

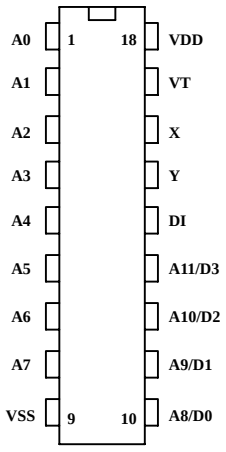
ELECTRICAL CHARACTERISTICS

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	Fosc	—	76	—	KHz	External±30%

PIN DESCRIPTION

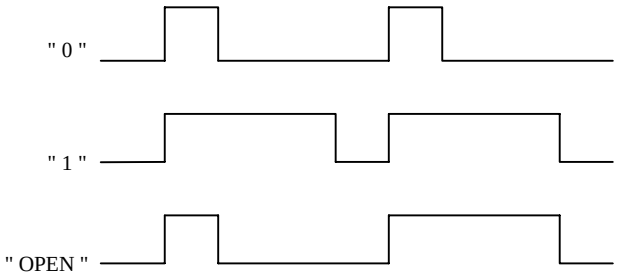
No.	M3D	M3F	Description
1~8	A0~A7	A0~A7	3 States address inputs
9	VSS	VSS	Negative power supply
10~13	D0~D3	A8~A11	Data outputs/Address inputs
14	DI	DI	Data input
15	Y	Y	Oscillator output
16	X	X	Oscillator input
17	VT	VT	Valid transmit
18	VDD	VDD	Positive power supply

M3D/F

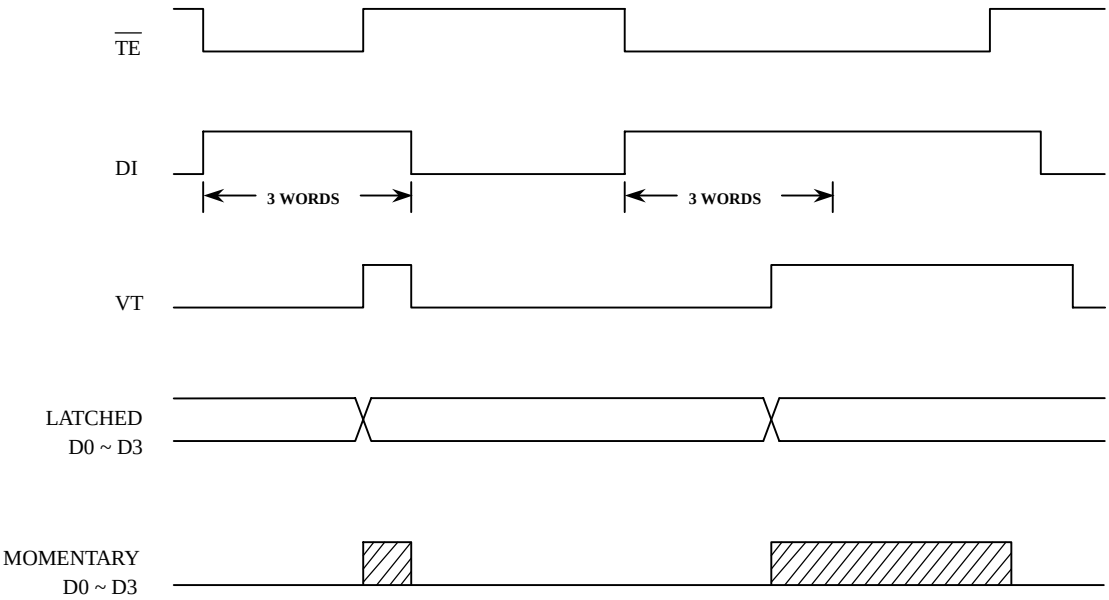


TIMING WAVEFORM

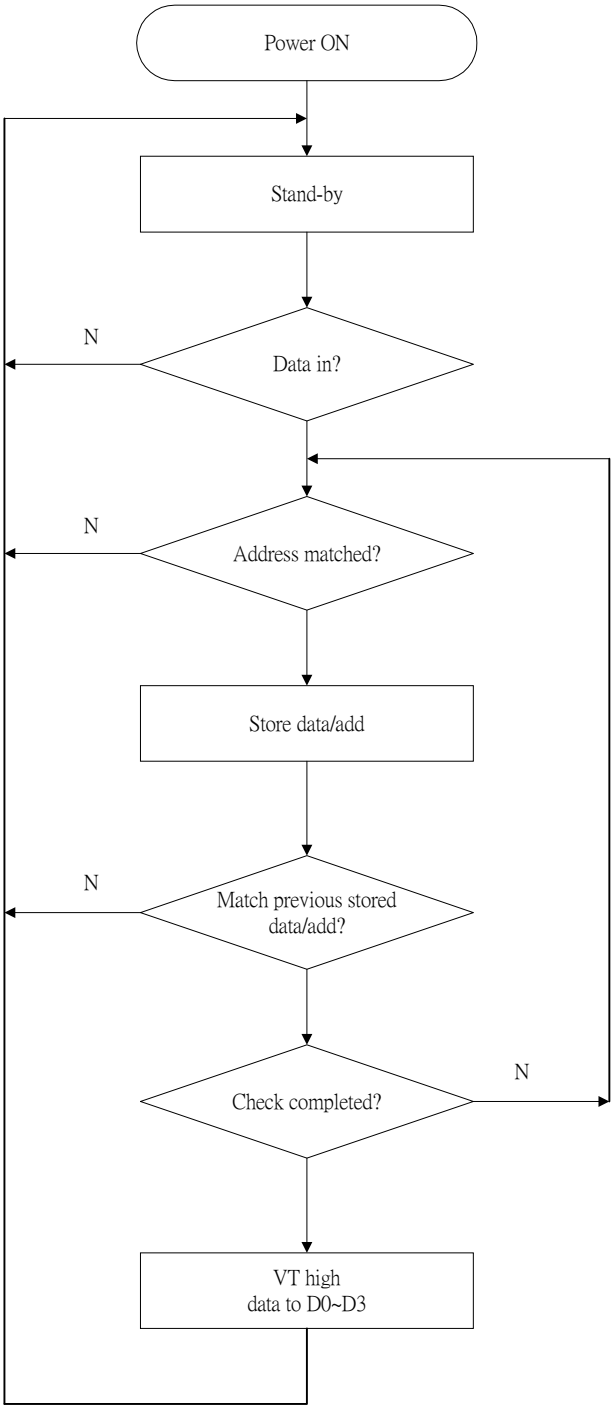
(1) Bit format



(2) TIMING DIAGRAM



OPERATING FLOWCHART

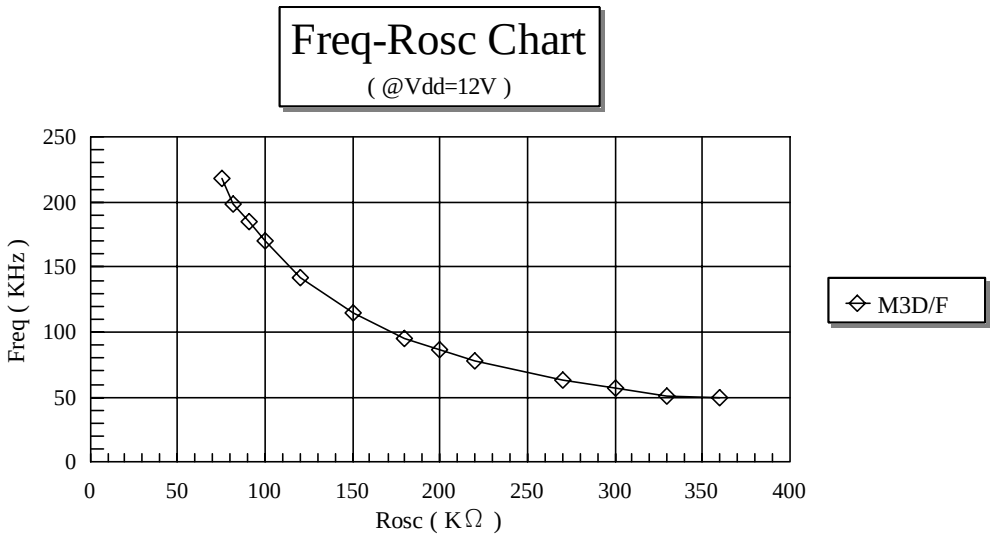


RECONNENDED OSCILLATOR PARAMETERS

Rosc (KΩ)	M3D/F (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

M3E, (D0~D3)	M3D/F (D0~D3)
0 (VSS)	0 (VSS)
X (OPEN)	1 (VDD)
1 (VDD)	1 (VDD)
POWER ON	0 (VSS)



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ADDRESS PIN INFORMATION

P/N	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11
M3D	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11
M3D-L1	A0	A1	A2	A3	A4	A5	A6	A7	D0	A8	A9	A10
M3D-L2	A0	A1	A2	A3	A4	A5	D0	D1	A6	A7	A8	A9
M3D-L3	A0	A1	A2	A3	A4	A5	A6	A7	A8	D0	D1	D2
M3D-L4	A0	A1	A2	A3	A4	A5	A6	A7	D0	D1	D2	D3
M3D-L5	A0	A1	A2	A3	A4	A5	D0	D1	A6	D2	D3	D4
M3D-L6	A0	A1	A2	A3	A4	A5	D0	D1	D2	D3	D4	D5
M3D-M1	A0	A1	A2	A3	A4	A5	A6	A7	D0	A8	A9	A10
M3D-M2	A0	A1	A2	A3	A4	A5	D0	D1	A6	A7	A8	A9
M3D-M3	A0	A1	A2	A3	A4	A5	A6	A7	A8	D0	D1	D2
M3D-M4	A0	A1	A2	A3	A4	A5	A6	A7	D0	D1	D2	D3
M3D-M5	A0	A1	A2	A3	A4	A5	D0	D1	A6	D2	D3	D4
M3D-M6	A0	A1	A2	A3	A4	A5	D0	D1	D2	D3	D4	D5

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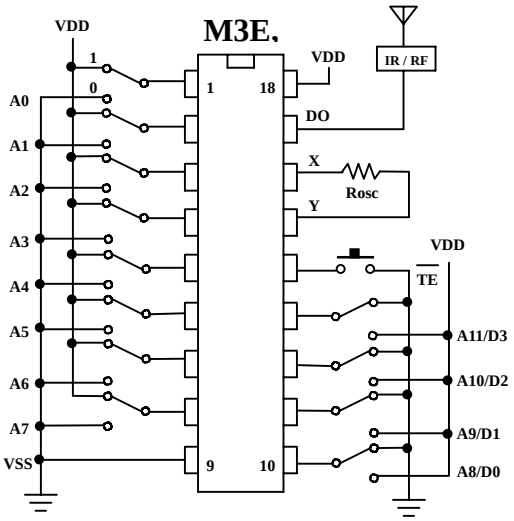
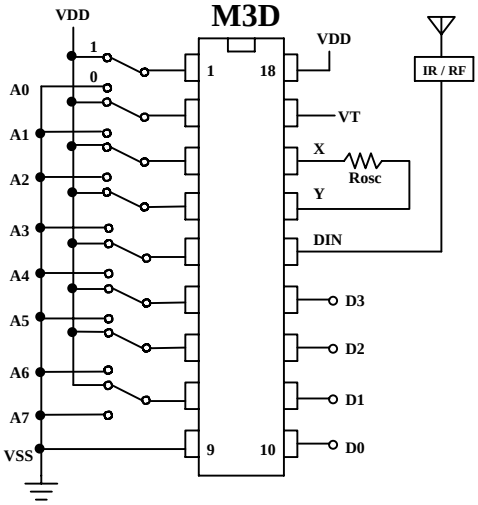
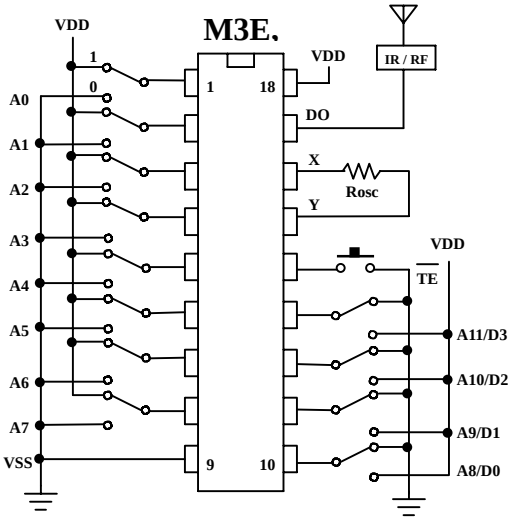
APPLICATION DIAGRAM 参考电路图

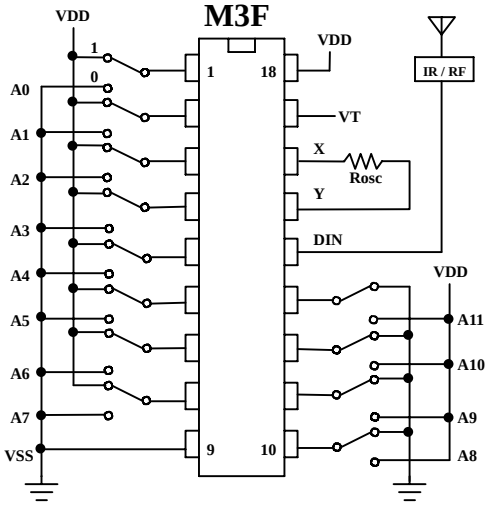
(1) 4 DATA TYPE





(2) FULL ADDRESS TYPE

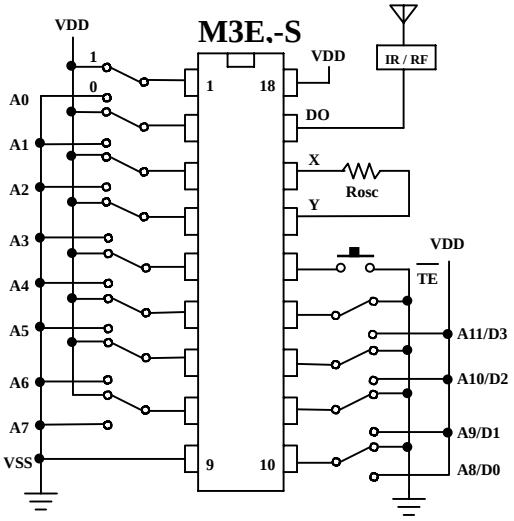


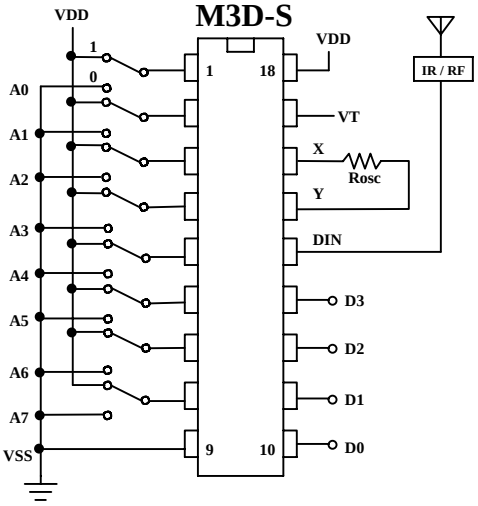


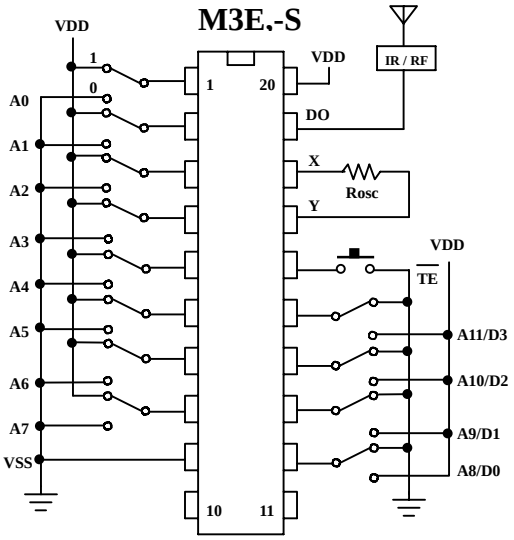
3 STATES DECODER
3 态译码 IC

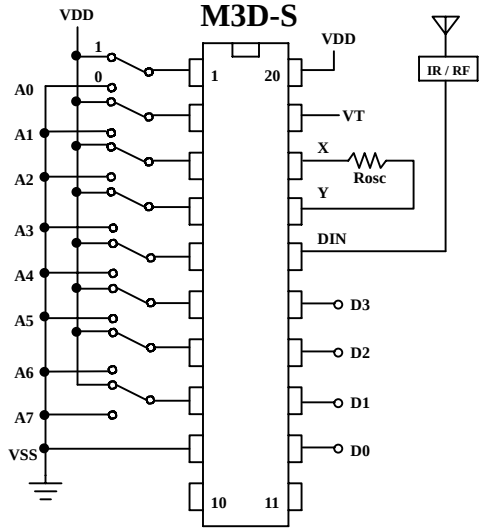
APPLICATION DIAGRAM 参考电路图 (SOP PACKAGE)

(3) 4 DATA TYPE









APPLICATION DIAGRAM 参考电路图 (SOP PACKAGE)

(4) FULL ADDRESS TYPE