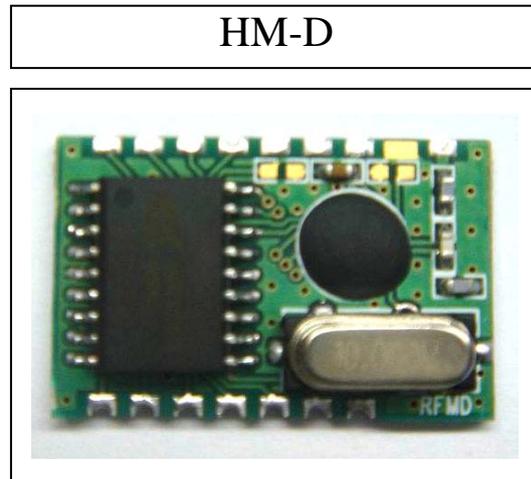


HM-D

General Introduction

HM-D is equipped with an FSK demodulator to decode the data transmitted by HM-E TX module, so it is ideal for remote controlling systems. FSK demodulator works at the frequency band of 315MHZ, 434MHZ, 869MHZ, 915MHZ. ETSI and FCC regulation can be easily met.



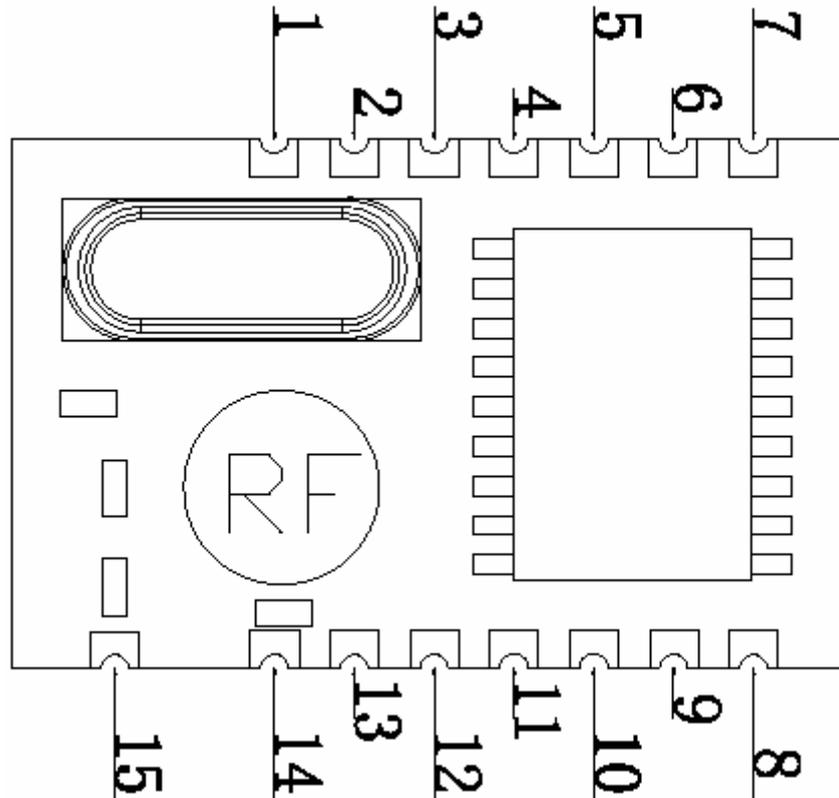
Features:

- low cost, high performance
- very few external components
- 2.2V to 5.4V power supply
- current consumption:
 - typical 9mA/3V (Enable pin high, in RX mode)
 - typical 0.3uA/3V (Enable pin low, in standby mode)
- Received code verification
- Latched Data I/O pin
- used in conjunction with Hope's HME transmission module
- 15 PIN DIP/15 PIN SOP package

Typical Application

- Automobile Door Opener
- Garage Door Opener
- Anti-theft system
- Home Security
- Electrical Home Appliance Control
- wireless Toys
- Other wireless systems

Pin Definition:



Pin	Definition	I/O	Function
1	NC		Not connected
2	A0	I	Address bit 0 with internal pull down
3	A1	I	Address bit 1 with internal pull down
4	A2	I	Address bit 2 with internal pull down
5	A3	I	Address bit 3 with internal pull down
6	A4	I	Address bit 4 with internal pull down
7	A5	I	Address bit 5 with internal pull down
8	D0	I	Data output bit 0 (power on default high)
9	D1	I	Data output bit 1 (power on default high)
10	D2	I	Data output bit 2 (power on default high)
11	D3	I	Data output bit 3 (power on default high)
12	Enable		Enable (high activated)
13	GND	I	Power Ground
14	VCC	I	VDD
15	ANT		Antenna

Absolute Maximum Rating:

Power supply0.5V -- 6.0V
 Input PowerVss-0.3V -- Vdd+0.3V
 Working Temperature.....-40°C -- 85°C
 Storage Temperature.....-55°C -- 125°C

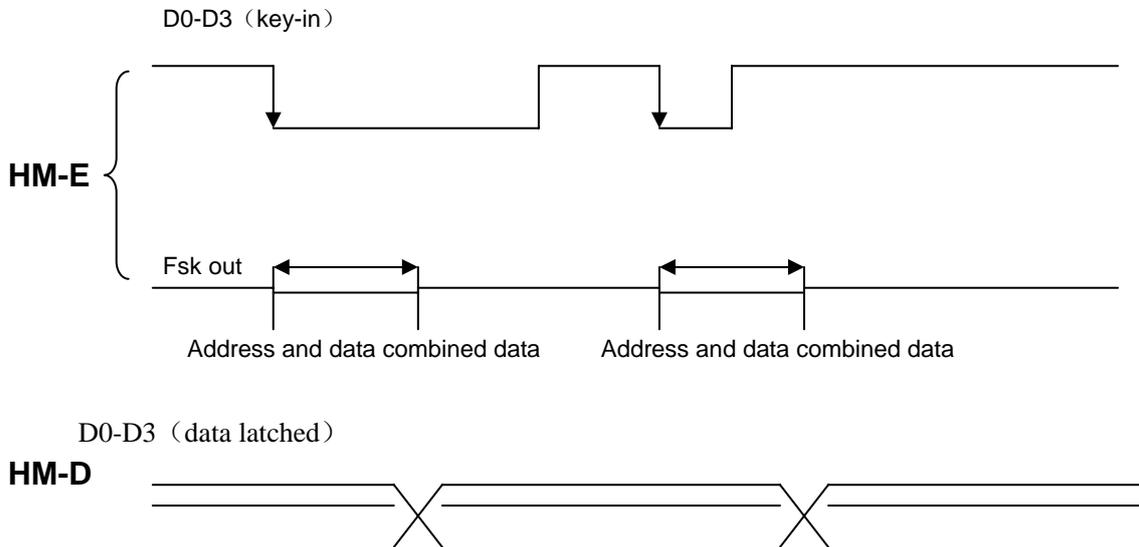
Electrical Parameters:

T = 25°C

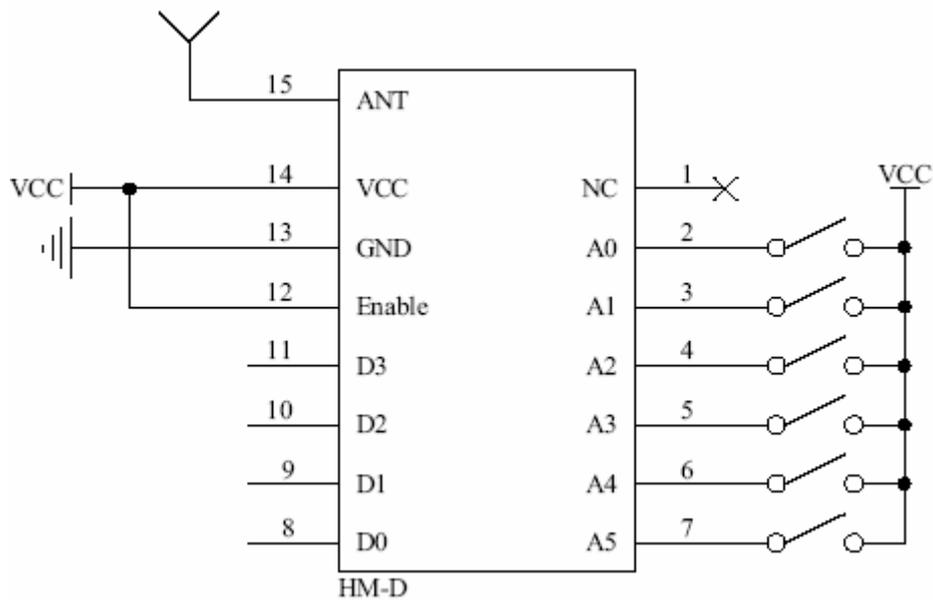
Symbol	Parameter	Minimum	Typical	Maximum	Unit
Vdd	Power supply	2.2		5.4	V
Vih	Input logic high	Vdd = 5v	2.0		V
		Vdd = 3v	1.5		
Vil	Input logic low	Vdd = 5v		1.0	V
		Vdd = 3v		0.5	
Voh	Output logic high	Vdd = 5v	3.3		V
		Vdd = 3v	1.5		
Vol	Output logic low	Vdd = 5v		0.3	V
		Vdd = 3v		0.5	
Ifsk	FSK Reception current (Vdd = 3V)	315MHZ		9	mA
		434MHZ		9	
		869MHZ		10.5	
		915MHZ		12	
Ipd	Standby (Enable low ,Vdd = 3V)		0.3		uA
Top	Working temperature range	-35		+80	°C

Function Description:

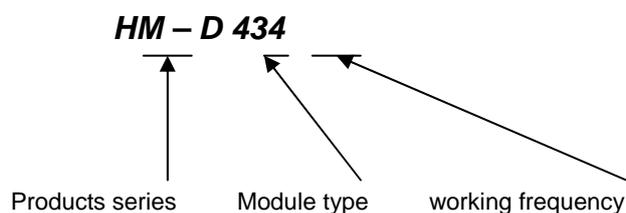
When HM-D receives the data transmitted by HM-E, data and address information was verified and compared to its hardware mapped address. If matching, the data is output on D0-D3:



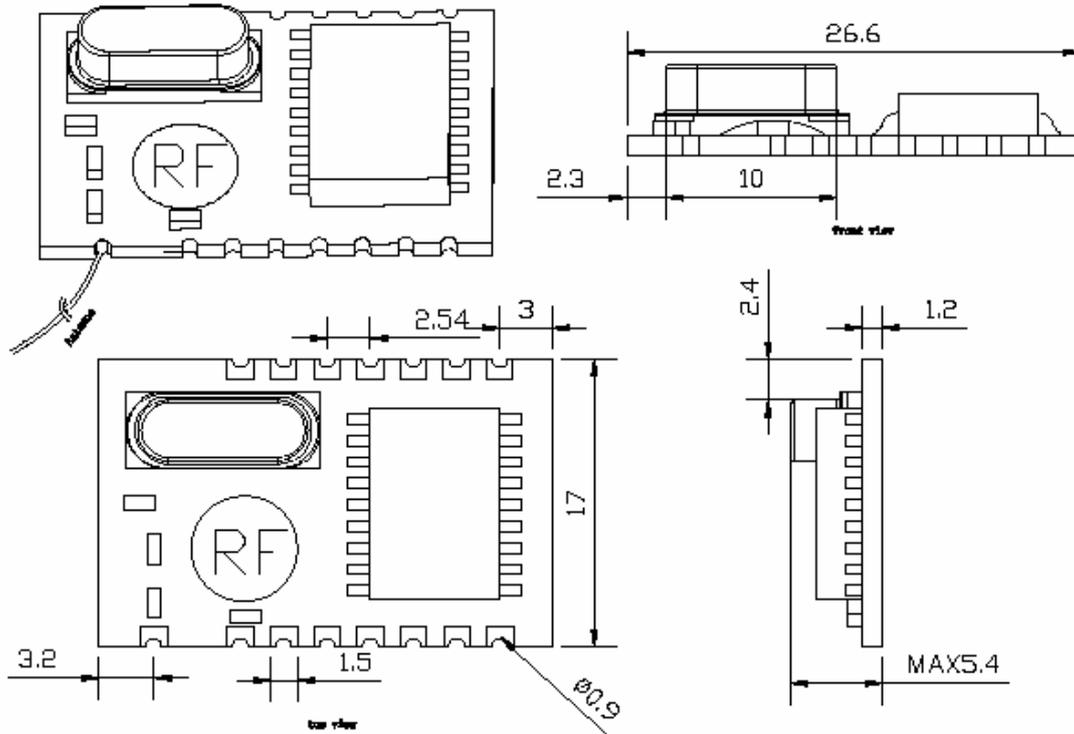
Typical Application Circuit:



Model Definition:



Mechanical Dimension:



Range Testing:

Module type	Testing Condition	Distance
HM-D315 315MHz	Using HM-E315 as encoder in free open field	>200m
HM-D434 434MHz	Using HM-E434 as encoder in free open field	>400m
HM-D434 434MHz	Using HM-EP434 as encoder in free open field	>600m
HM-D869 869MHz	Using HM-E869 as encoder in free open field	>300m
HM-D869 869MHz	Using HM-EP869 as encoder in free open field	>800m
HM-D915 915MHz	Using HM-E915 as encoder in free open field	>250m

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