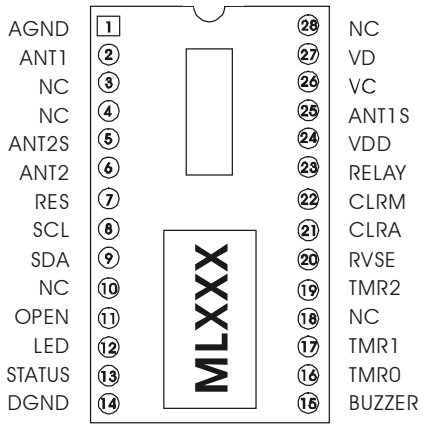
ML042 / ML204

PROXIMITY CARD ACCESS CONTROLLER

DESCRIPTION

The ML042 / ML204 is a highly integrated multi-chip module, which encapsulates all the required circuitry to perform proximity card reading and access controlling. By adding power supply, antenna and appropriate electric door driver, a complete proximity card access control unit can be built.



To defining a master card, pull CLRA or CLRM to low on power up. The 1st read card is stored as master card. CLRA and CLRM must be pulled up in normal operation. To grant/remove authorization to other proximity cards, read the master card for 5 seconds to enter programming mode (LED will be kept low) and then remove the master card. Subsequence card reading will grant / remove authorization of that card. Granting will response with a beep sound while removing will response with two beep sound. 5 seconds idle will exit the programming mode.

FEATURE

- 5V power supply
- Low power consumption
- Direct LED driving capability
- Direct BEEPER driving capability
- Bypass switch
- Relay output for authorized proximity card
- 42 proximity card capacity for ML042
- 204 proximity card capacity for ML204

APPLICATION

- Standalone door access control unit

- Embedded access control for electric lock
- Access controlling for electric appliances

PACKAGE

Standard 600mil 28-pin DIP package (0.1 inch pin spacing)

PIN DESCRIPTION

PIN#	I/O	PIN NAME	DESCRIPTION
1	-	AGND	GROUND FOR PROXIMITY READER
2	O	ANT1	ANTENNA OUTPUT
3	-	NC	RESERVED, NO CONNECTION
4	-	NC	RESERVED, NO CONNECTION
5	O	ANT2S	RESERVED
6	O	ANT2	ANTENNA OUTPUT
7	I	RES	LOW TO RESET THE UNIT
8	O	SCL	ML204 ONLY, EXTERNAL MEMORY CLOCK NC FOR ML042
9	I/O	SDA	ML204 ONLY, EXTERNAL MEMORY DATA NC FOR ML042
10	-	NC	RESERVED, NO CONNECTION
11	I	OPEN	LOW PULSE TO ENGAGE BYPASS FEATURE
12	O	LED	HEART BEAT SIGNAL
13	O	STATUS	STATUS SIGNAL
14	-	GND	LOGIC GROUND
15	O	BUZZER	BUZZER DRIVE
16	I	TMR0	SELECT RELAY ON TIME
17	I	TMR1	SELECT RELAY ON TIME
18	-	NC	RESERVED, NO CONNECTION
19	I	TMR2	SELECT RELAY ON TIME
20	I	RVSE	LOW TO REVERSE THE OPERATIONS OF RELAY
21	I	CLRA	LOW TO CLEAR ALL MEMORY ENTRIES
22	I	CLRM	LOW TO CLEAR THE MASTER CARD CODE
23	O	RELAY	LOW TO GRANT ACCESS
24	-	VDD	+5V LOGIC POWER

25	O	ANT1S	RESERVED
26	-	VC	+5V ANTENNA POWER
27	-	VD	+5V READER POWER
28	-	NC	RESERVED, NO CONNECTION

FUNCTION

PIN	FUNCTION
TMR0	To select the relay on time with authorization granted.
TMR1	
TMR2	
RVSE	Low to reverse the operation of the relay.
CLRA	Low on power up will clear all memories.
CLRM	Low on power up will clear the master card code only.

TMR2	TMR1	TMR0	FUNCTION
H	H	H	Relay on for 1 second on authorization granted.
H	H	L	Relay on for 2 seconds on authorization granted.
H	L	H	Relay on for 5 seconds on authorization granted.
H	L	L	Relay on for 10 seconds on authorization granted.
L	H	H	Relay on for 20 seconds on authorization granted.
L	H	L	Relay on for 50 seconds on authorization granted.
L	L	H	Relay on for 100 seconds on authorization granted.
L	L	L	Relay state is toggled on each authorization granted.

OPERATING CONDITION

		SYMBOL	MIN.	TYP.	MAX	UNIT
Supply Voltage		VDD, VC, VD	-	5	-	V
Input Voltage	H level	VIH	0.7 VDD	-	VDD	V
	L level	VIL	0	-	0.3 VDD	V
Output Voltage	H level	VOH @ IOH=-3mA	4	-	-	V
	L level	VOL @ IOL=20mA	-	-	0.7	V

APPLICATION CIRCUIT