

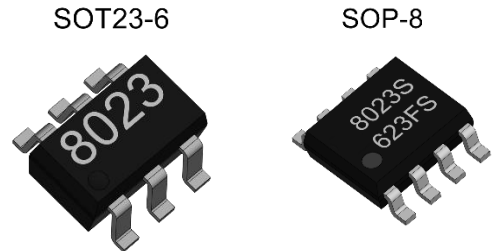
■ **Introduction**

YZ8023S, as a bi-direction relay driver circuit, is used to control magnetic latching relays. With a large output capability and ultra low power consumption, it can be widely used in intelligent electro-meter and other related field.

YZ8023S is available in SOT23-6 and SOP-8 package.

■ **Features**

- Supply Voltage Range: 5 – 36V
- Max Output Current: 450mA
- Operating Temperature Range: -40 ~ +85°C
- Compliant With All Types Of Single Chip Application
- Input Signal Anti-Noise Processing
- Inductive load current recoil protection

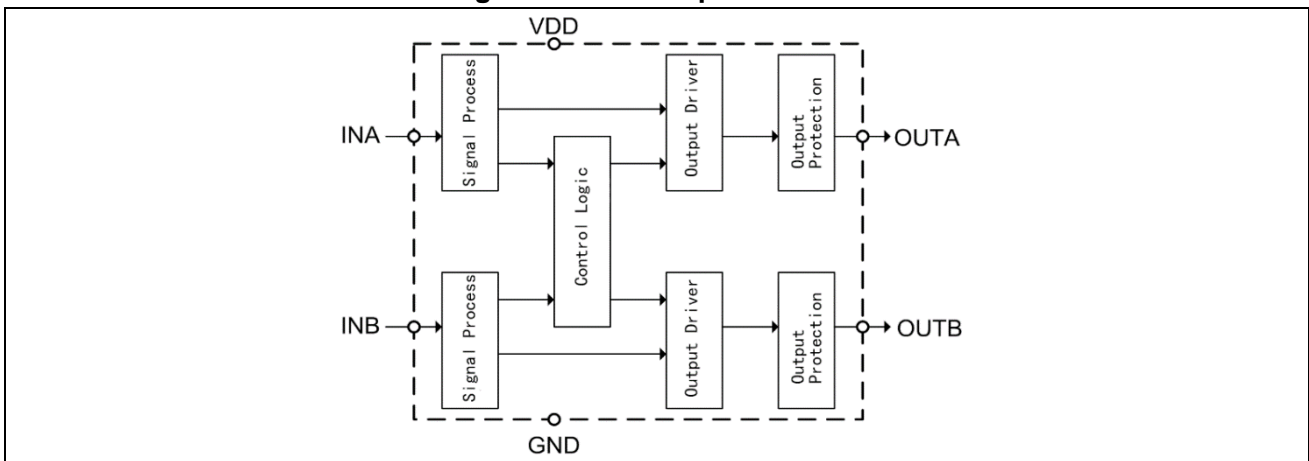


■ **Order Information**

Order Code	Package Information	Package Option	Number
YZ8023S	SOP-8	Tape & Reel	3000 EA/Reel
YZ8023B	SOT23-6	Tape & Reel	3000 EA/Reel

■ **Block Diagram**

Fig.1 YZ8023S Simplified Block



■ Pin Description

Pin No.		Symbol	Description
SOP8	SOT23-6		
1	4	OUTA	Output A
2	-	NC	NC
3	3	INA	Input A
4	2	GND	Ground
5	1	OUTB	Output B
6	-	NC	NC
7	6	INB	Input B
8	5	VDD	Power Supply

■ Absolute Maximum Ratings

SYMBOL	ITEMS	VALUE	UNIT
V_{IN}	V_{IN} Supply Voltage Range	-0.4~+40	V
V_{IO}	Other I/O Pins Voltage Range	GND - 0.3, VDD + 0.3	V
T_J	Maximum Junction Temperature	150	°C
T_{STG}	Storage Temperature Range	-65~150	°C
P_{TR}	Package Thermal Resistance (Ambient to Junction)	120	°C/W
$V_{ESD(HBM)}$	Electrostatic Discharge Voltage (HMB)	4000	V
$V_{ESD(MM)}$	Electrostatic Discharge Voltage (MM)	200	V

■ Electrical Characteristics

Test Conditions: $T_A=25^{\circ}\text{C}$, unless otherwise specified.

Symbol	Items	Conditions	Min.	Typ.	Max.	Unit
VDD_MAX	Supply Power Voltage		36	-	-	V
I_{VDD}	Quiescent Current	INA=INB=0V, VDD=12V	-	5	-	μA
I_B	Input Logic Bias Current	INA=INB=5V	-	-	50	μA
V_{TH_H}	Input Logic High		-	2.0	-	V
V_{TH_L}	Input Logic Low		-	1.4	-	V
$R_{DS(ON)}$	Output On-Resistance	VDD=12V, $R_{LOAD}=80\Omega$	-	10	-	Ω
$T_{DEGLITCH}$	Input Noise Blanking Time		1	-	10	μs

■ Logic Function

INA	INB	OUTA	OUTB
0	0	42k	42k
0	1	0	1
1	0	1	0
1	1	42k	42k

■ Applications

YZ8023S use pulse trigger, as long as the input pulse triggered by the menu status, the relay will have a corresponding action.

For example, in the smart meter application, according to the control requirements given the corresponding parameters of the pulse, the magnetic latching can be driven.

Fig.2 Trigger Pulse Drive Diagram

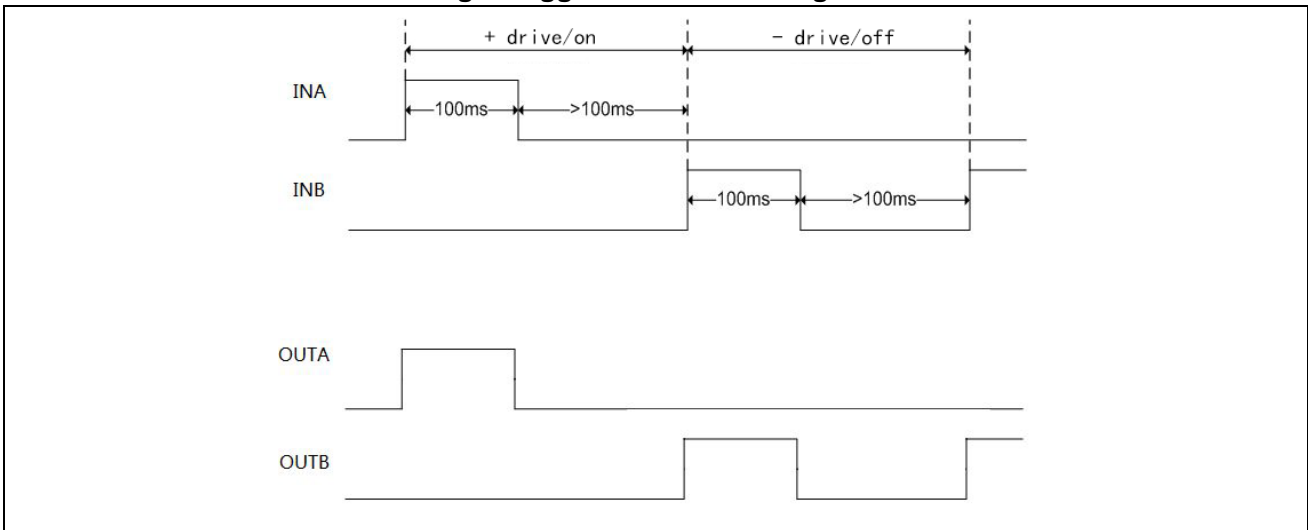
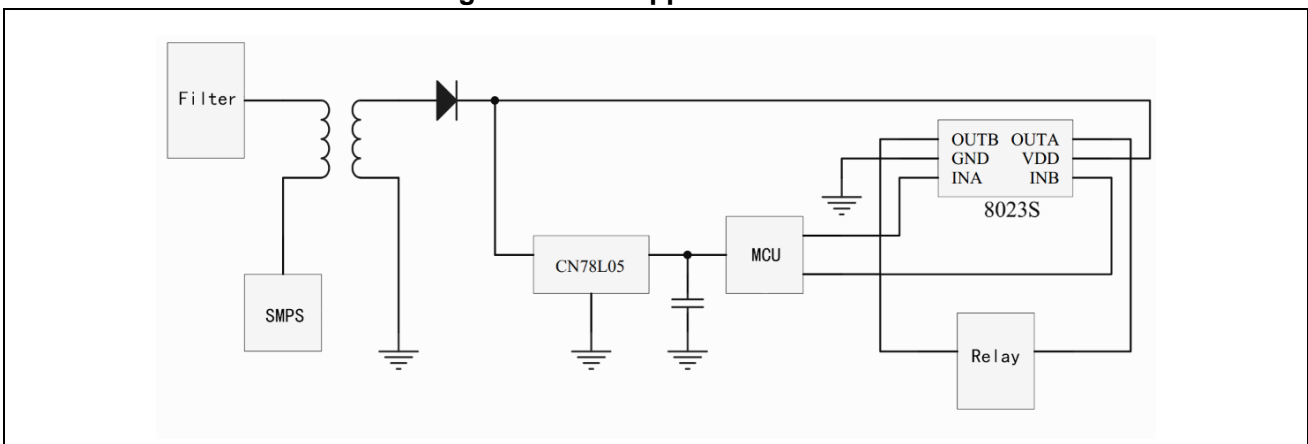
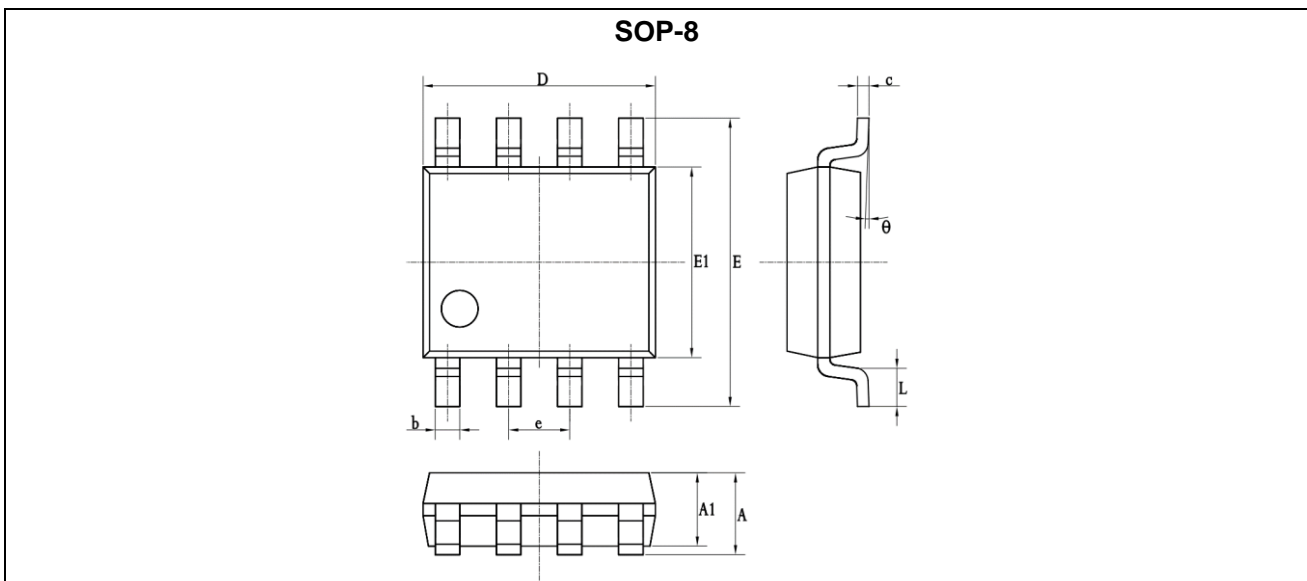


Fig.3 YZ8023S Application Circuit

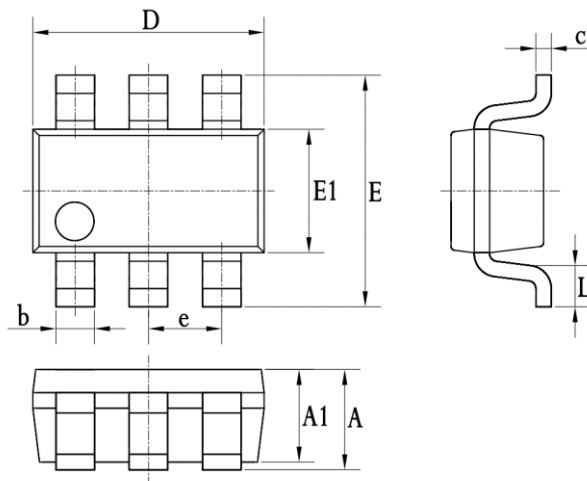


■ Package Outline



Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	-	1.75	-	-	-
A1	1.25	-	1.55	-	-	-
b	0.33	-	0.51	-	-	-
c	0.17	-	0.26	-	-	-
D	4.70	-	5.10	-	-	-
E	5.80	-	6.20	-	-	-
E1	3.70	-	4.10	-	-	-
e	-	1.27	-	-	-	-
L	0.50	-	0.80	-	-	-
theta	0	-	8°	-	-	-

SOT23-6



Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.90	1.10	1.40	-	-	-
A1	0.90	1.10	1.30	-	-	-
b	0.30	0.40	0.50	-	-	-
c	0.10	0.15	0.25	-	-	-
D	2.70	2.90	3.10	-	-	-
E	2.50	2.80	3.10	-	-	-
E1	1.50	1.60	1.80	-	-	-
e	-	0.95	-	-	-	-
L	0.20	-	-	-	-	-