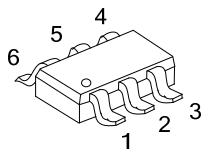
300mA BI-DIRECTION RELAY DRIVER



SOT-26

■ DESCRIPTION

URYD21 is a bi-direction relay driver circuit, used to control the magnetic latching relay, with large output capability, ultra-low power consumption. It can be widely used in smart meters and other pulses, level control applications.

URYD21 can provide 300mA typical driving current, which will different according to the relay coil resistance. The input High Level Threshold of **URYD21** is 3V; it can compatible with most single chip microcontroller.

■ FEATURES

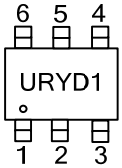
* Supports USB DCP Shorting D+ Line to5 to 36V input voltage range
* Low Power Consumption (IQ<1uA)
* Input High Level Threshold: 3V, compatible with
* most single chip microcontroller
* Typical Driving Current: 300mA
* Rds(on)=15ohm(Vin=12V, PMOSFET+NMOSFET)
* Rds(on)=10ohm(Vin=20V, PMOSFET+NMOSFET)
* Peak Driving Current: 500mA@Vin=24V
* Environment Temperature: -40°C~85°C

■ ORDERING INFORMATION

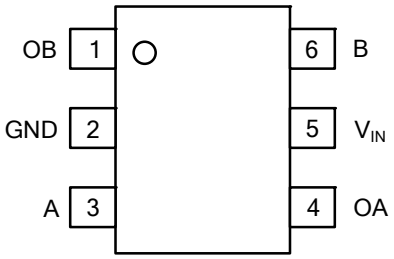
Ordering Number	Package	Packing
URYD21G-AG6-R	SOT-26	Tape Reel

URYD21G-AG6-R (1)Packing Type (2)Package Type (3)Green Package	 (1) R: Tape Reel (2) AG6: SOT-26 (3) G: Halogen Free and Lead Free

■ MARKING



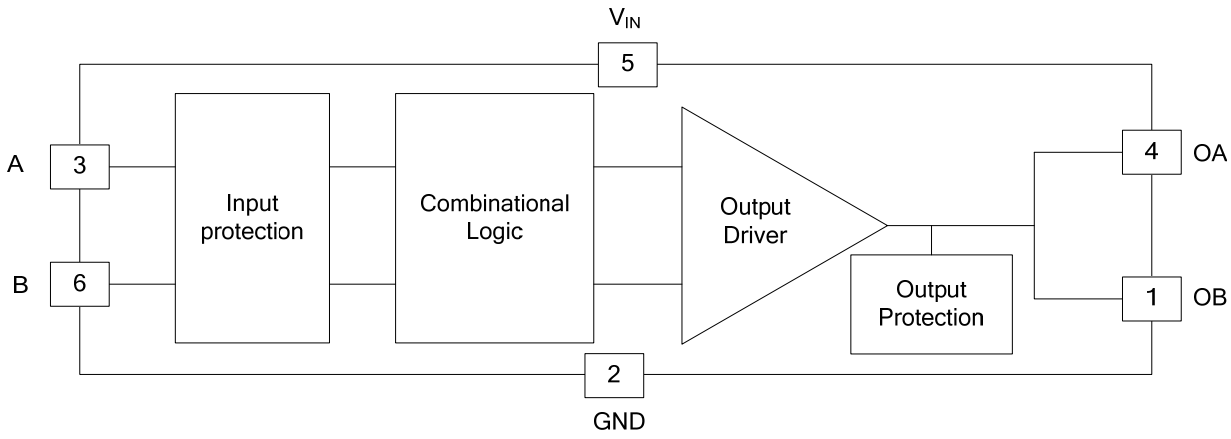
■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	OB	Output B
2	GND	Ground
3	A	Input A
4	OA	Output A
5	VIN	Supply
6	B	Input B

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V_{IN}	40	V
Ambient Temperature	T_A	-40 ~ +125	°C
Operating Junction Temperature Range	T_J	+150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (V_{DD}=5V, T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage Range	V_{IN}		5		36	V
Quiescent Current	I_Q				1	μA
Switch $R_{DS(ON)}$	$R_{DS(ON)}$	V_{IN}=12V, R_L=75 Ω		12	18	Ω
		V_{IN}=30V, R_L=75 Ω		10	16	Ω
		V_{IN}=12V, R_L=40 Ω		12	18	Ω
		V_{IN}=30V, R_L=40 Ω		10	16	Ω
ON Input High Voltage	V_{TH}	V_{IN}=12V		3		V
Equivalent Input Resistor	R_{IN}			500		K Ω
Fly-Wheel Diode Forward Voltage	V_{SD}	I_S=1.0A		0.8		V
Rise Time	t_R	V_{IN}=12V, R_L=75Ω		40		ns
Turn ON Delay Time	$t_{D(ON)}$			60		ns
Fall Time	t_F			30		ns
Turn OFF Delay Time	$t_{D(OFF)}$			110		ns

■ DETAILED DESCRIPTION

Pulse Triggering

If input is driven by square pulse, connect the inputs to the pulse source directly.

The recommended pulse width=100ms. The length of the intervals should be longer than 100ms. These intervals include: intervals between forward drive pulse and next backward drive pulse, intervals between forward drive pulse and next forward drive pulse, intervals between backward drive pulse and next forward drive pulse, intervals between backward drive pulse and next backward drive pulse.