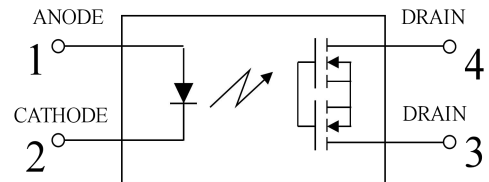




Description

The JOR212-2 PhotoRelay consist of a MOSFET、Photoelectric generator optically coupled to an infrared LED 。

Block Diagram and Package



PIN DEFINITION

- 1: Anode (LED)
- 2: Cathode (LED)
- 3, 4: Drain (MOS FET)

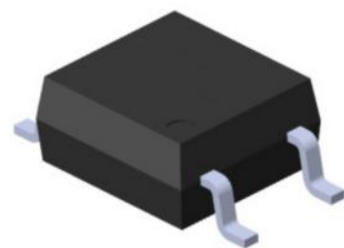
Features

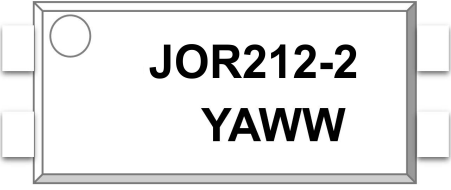

- Control 60 V AC or DC voltage
- Switch 2A load
- Control low level analog signal
- High sensitivity, low conductivity resistance
- High isolation voltage 3750V
- Pb free and RoHS compliant

Applications

- Communications products (personal computers, laptops)
- Modem/sensor
- Mobile phones/security equipment
- Measuring and testing equipment
- Plant automation equipment
- High-speed inspection machines

PACKAGE OUTLINE



ORDERING AND MARKING INFORMATION	
MARKING INFORMATION	
	<p>JOR : Company Abbr. 212-2 : Part Number YAWW : LOT NO.</p>
ORDERING INFORMATION	LABEL INFORMATION
<p>JOR212-2(Y)(Z)-G</p>	
<p>JOR – Company Abbr 212-2 – Part Number Y – Lead Form Option (M/S/SL/None) Z – Tape and Reel Option (T1/T2) G – Green</p>	

Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Rating	Unit	Parameter
Input	Input forward current	I _F	50	mA	
	Input reverse voltage	V _R	3	V	
	Input forward current (pulsed)	I _{FP}	1	A	f =100 Hz, Duty cycle= 0.1%
	Input power dissipation	P	75	mW	
Output	OFF-state output terminal voltage	V _L	60	V	
	ON-state current	I _L	2	A	
	Peak leakage current	I _{peak}	6	A	100 ms (1 shot), V _L = DC
	Output power dissipation	P _{out}	150	mW	
I/O Isolation voltage		V _{iso}	3750	VAC	
Limit temperature	Operating temperature	T _{opr}	-40°C ~ + 85°C	°C	Do not freeze at low temperatures
	Storage temperature	T _{stg}	-40°C ~ + 100°C		

Electro-optical Characteristics (Ta=25°C)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Input	Trigger LED current	I _{Fon}	I _L =2A	0.5	1.9	3	mA
	Return LED current	I _{Foff}	I _L =2A	-	1.6	3	mA
	Input Forward Voltage	V _F	I _F =5mA	1	1.3	1.4	V
Output	Output On-resistance	R _{on}	I _F =5mA, I _L =2A, Electricity less than 1 second	-	0.58	1.5	Ω
	Output Leakage Current	I _L leak	I _F =0mA, V _L =60V	-	-	1000	nA
Transfer Characteristics	Turn-on time	T _{on}	I _F =5mA, I _L =2A	0.2	4.8	5	ms
	Turn-off time	T _{off}		0.05	0.15	1	ms
	Input-Output Capacitance	C _{iso}	f=1MHz, V _B =0	-	0.8	1.5	pF
	Isolation Resistance	R _{iso}	500V DC	1,000	-	-	MΩ

Note: Recommended values for LED forward current I_F=5 to 10 mA

Typical Performance Curves

Fig.1 ON-state current vs Ambient Temperature

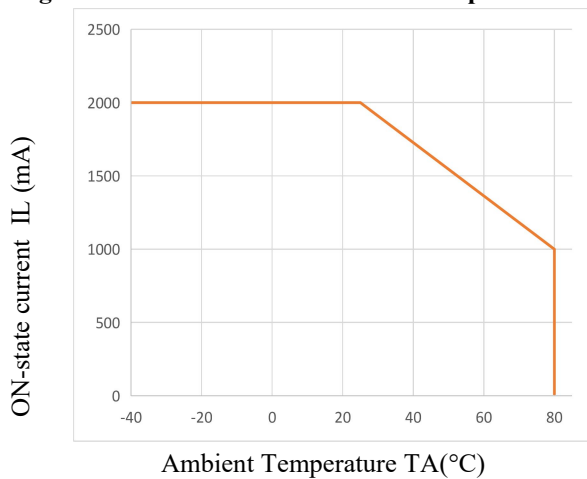


Fig.2 Output On-resistance vs. Ambient Temperature

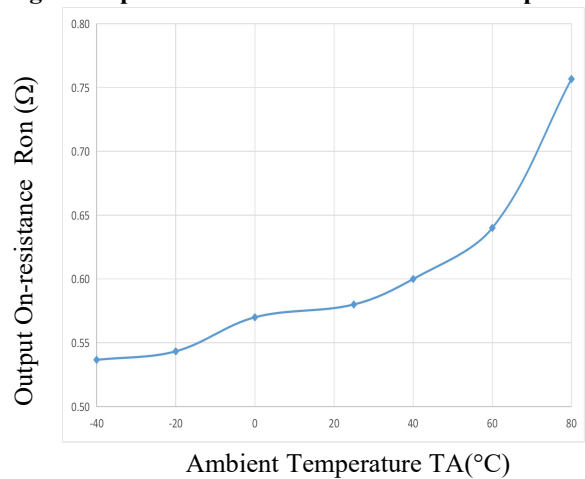
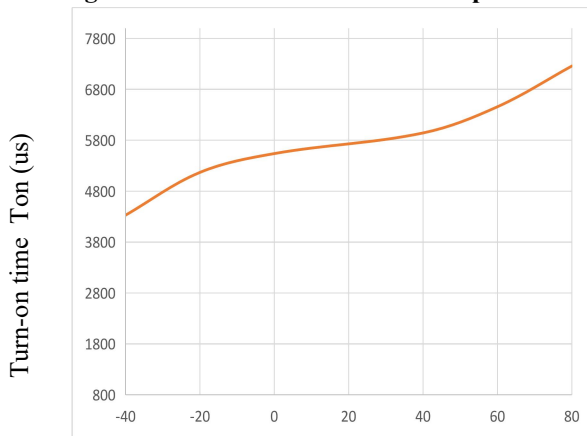
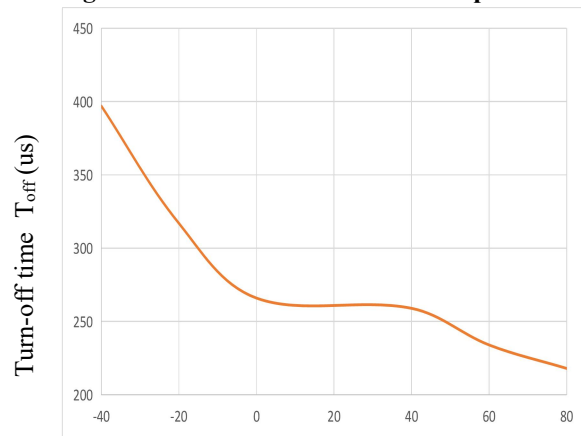


Fig.3 Turn-on time vs Ambient Temperature



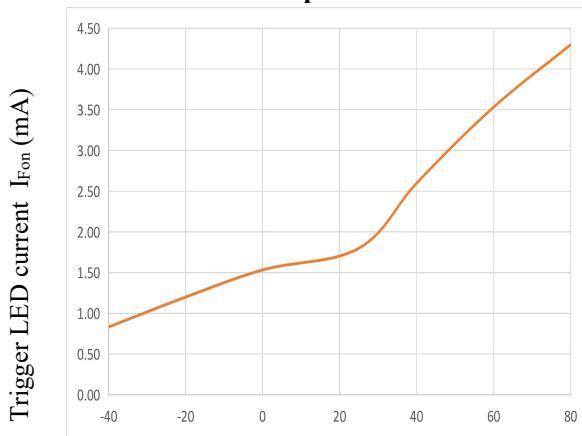
Ambient Temperature T_A (°C)

Fig.4 Turn-off time vs Ambient Temperature



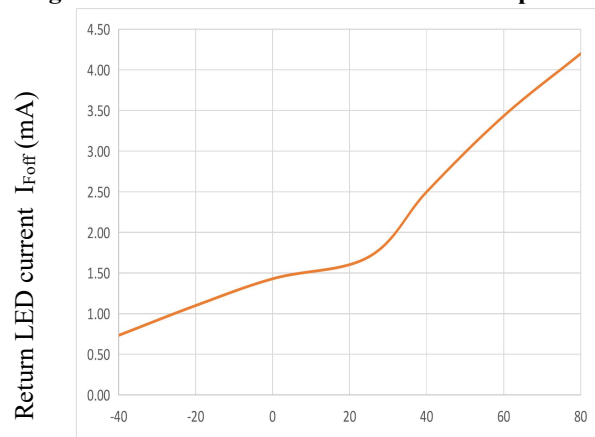
Ambient Temperature T_A (°C)

Fig.5 Trigger LED current vs Ambient Temperature



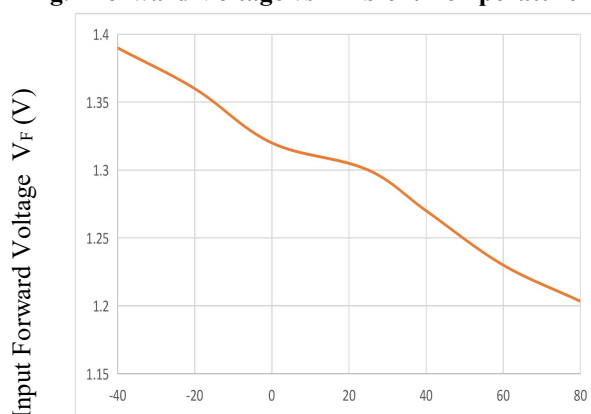
Ambient Temperature T_A (°C)

Fig.6 Return LED current vs Ambient Temperature



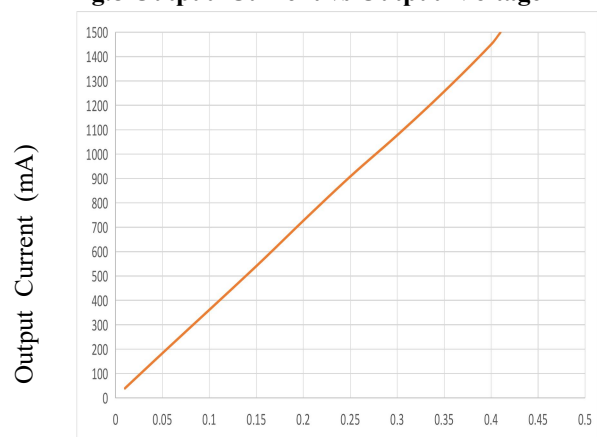
Ambient Temperature T_A (°C)

Fig.7 Forward Voltage vs Ambient Temperature



Ambient Temperature T_A (°C)

Fig.8 Output Current vs Output Voltage



Output Voltage (V)

Fig.9 Output Leakage Current vs OFF-state output terminal voltage

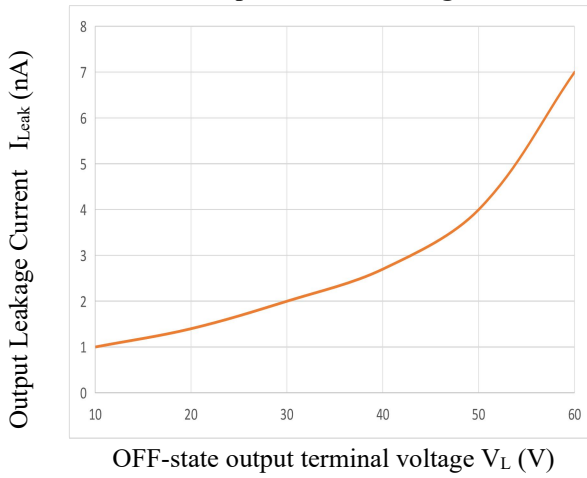


Fig.10 Turn-on time vs Input Forward Current

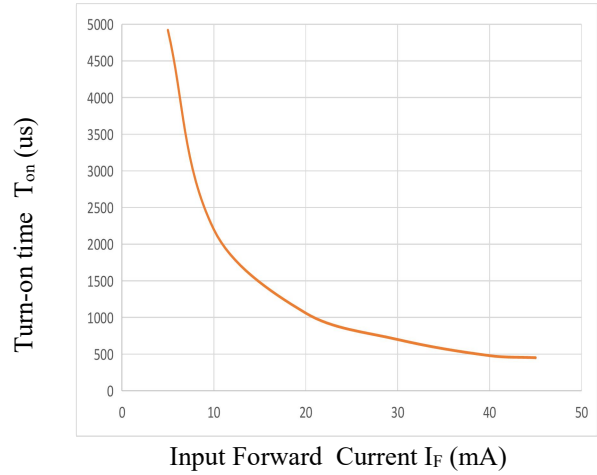
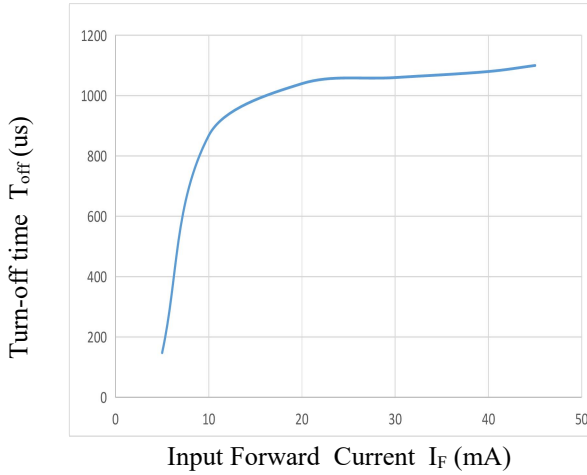
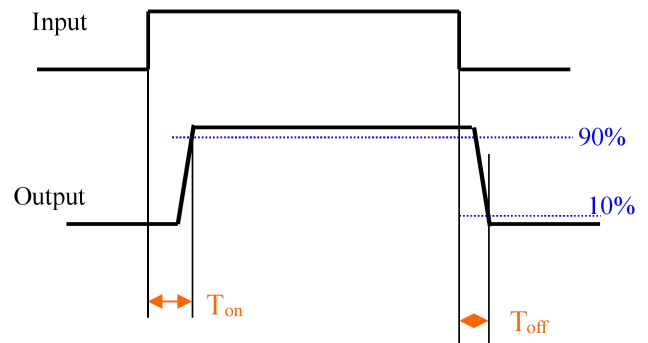


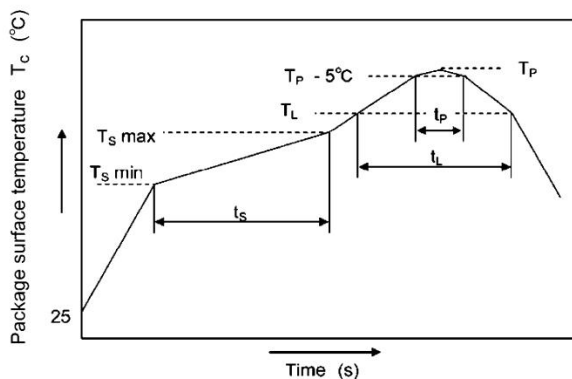
Fig.11 Turn-off time vs Input Forward Current



★ Turn-on time and Turn-off time



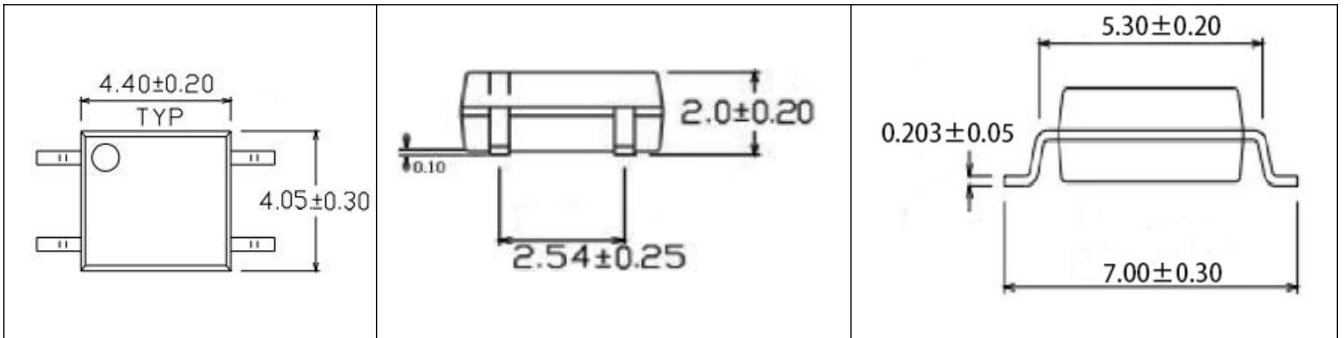
Solder Reflow Profile



	Symbol	Min	Max	Unit
Preheat temperature	T_s	150	200	°C
Preheat time	t_s	60	120	s
Ramp-up rate (T_L to T_P)			3	°C/s
Liquidus temperature	T_L	217		°C
Time above T_L	t_L	60	150	s
Peak temperature	T_P		260	°C
Time during which T_c is between ($T_P - 5$) and T_P	t_p		30	s
Ramp-down rate (T_P to T_L)			6	°C/s

Outline Dimensions

Unit: mm



4-pin SOP

Packing

■ Summary table

Package Type	Packing Form	Quantity per Reel	Quantity per Box	Quantity per Carton	Antistatic Bag Specification	Box Specification	Carton Specification	Note
SOP-4	Reel(φ330mm Blue)	3k pcs/reel	2Reels/box	10boxes/ctn	380*380mm	340*60*340mm	620*360*365mm	Guard band 200mm min.

■ SOP-4 (Reel)

- 1) Qty/reel: 3000 pcs. Qty/ctn: 60000 pcs.
- 2) Inner packing: 3000pcs/reel.
- 3) Schematic: (unit:mm)

