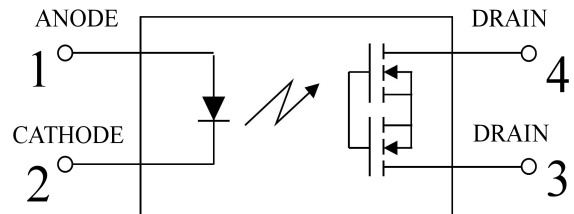




Description

The JOR213 PhotoRelay consist of a MOSFET、Photoelectric generator optically coupled to an infrared LED 。

Block Diagram and Package



Features

- Normally opened (SPST)
- Control 100V AC or DC voltage
- Switch 1.25A load
- Controls low-level analog sings
- High sensitivity, low conductivity resistance
- Low-level off state leakage current
- High isolation voltage 3750V
- Lead free, meet RoHS standards

PIN DEFINITION

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

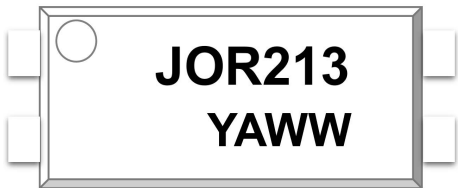

Applications

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

PACKAGE OUTLINE



SOP4

ORDERING AND MARKING INFORMATION	
MARKING INFORMATION	
 <p>JOR213 YAWW</p>	<p>JOR : Company Abbr. 213 : Part Number YAWW : LOT NO.</p>
ORDERING INFORMATION	LABEL INFORMATION
<p>JOR213(Y)(Z)-G JOR – Company Abbr 213 – Part Number Y – Lead Form Option (M/S/SL/None) Z – Tape and Reel Option (T1/T2) G – Green</p>	

Absolute Maximum Ratings (T_A=25°C)

Parameter		Symbol	Rating	Unit	Note
Input	LED Forward Current	I _F	50	mA	
	LED Reverse Voltage	V _R	5	V	
	Peak Forward Current	I _{FP}	1	A	f =100 Hz, Duty factor= 0.1%
	Power Dissipation	P	75	mW	
Output	Load Voltage(peak AC)	V _L	100	V	
	Continuous load current (peak AC)	I _L	1.25	A	
	Peak load current	I _{peak}	3.7	A	100 ms (1 shot), V _L = DC
	Power Dissipation	P _{out}	800	mW	
I/O isolation voltage		V _{iso}	3750	V _{rms}	
Temperature limits	Operating Temperature	T _{opr}	-40 ~ + 85	°C	Non-condensing at low temp
	Storage Temperature	T _{stg}	-40 ~ + 100		

Electro-optical Characteristics (Ta=25°C)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Input	LED Forward current	I_{Fon}	$I_L=1.25A$	-	0.4	3	mA
	LED turn off current	I_{Foff}	$I_L=1.25A$	-	0.2	3	mA
	LED dropout voltage	V_F	$I_F=5mA$	1	1.3	1.4	V
Output	On resistance	R_{on}	$I_F=5mA,$ $I_L=1.25A,$ Within 1 s on time	-	0.48	1.5	Ω
	Off state leakage current	I_{Leak}	$I_F=0mA, V_L=100V$	-	-	1000	nA
Transfer Characteristics	Turn on time	T_{on}	$I_F=5mA, I_L=1.25A$	-	117	1000	us
	Turn off time	T_{off}	$I_F=5mA, I_L=1.25A$	-	417	1000	us
	I/O capacitance	C_{iso}	$f=1MHz, V_B=0$	-	0.8	1.5	pF
	Initial I/O isolation resistance	R_{iso}	500V DC	1,000	-	-	M Ω

Note: LED forward current recommendation value: $I_F=5$ to 10mA

Typical Performance Curves

Fig.1 Load current vs. Ambient temperature characteristics

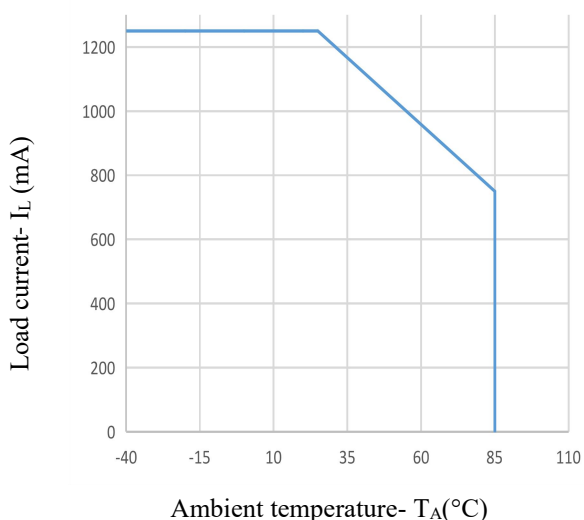


Fig.2 On resistance vs. Ambient temperature characteristics

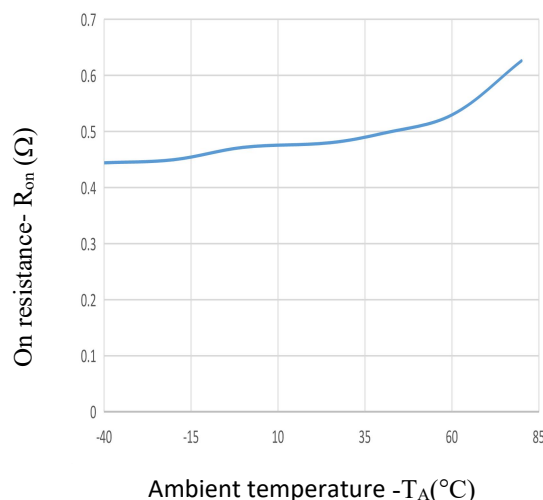


Fig.3 Turn on time vs. Ambient temperature characteristics

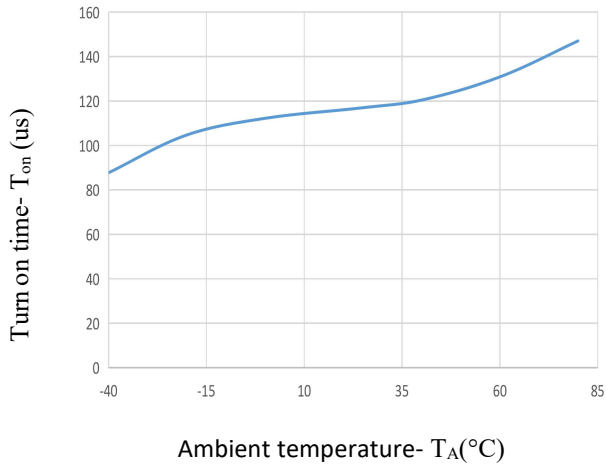


Fig.4 Turn off time vs. Ambient temperature characteristics

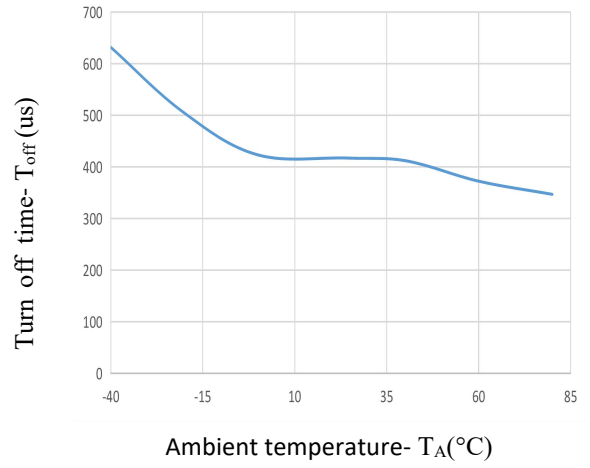


Fig.5 LED Forward current vs. Ambient temperature characteristics

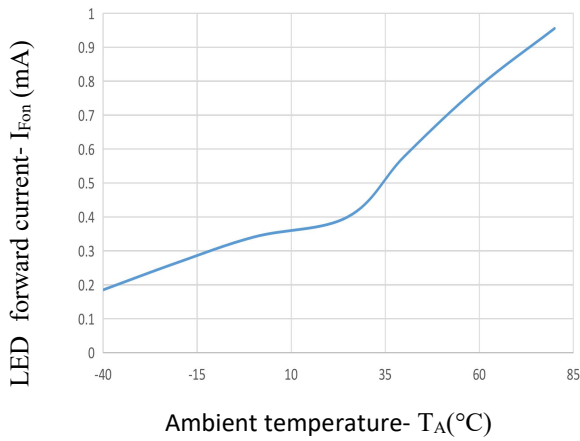


Fig.6 LED turn off current vs. Ambient temperature characteristics

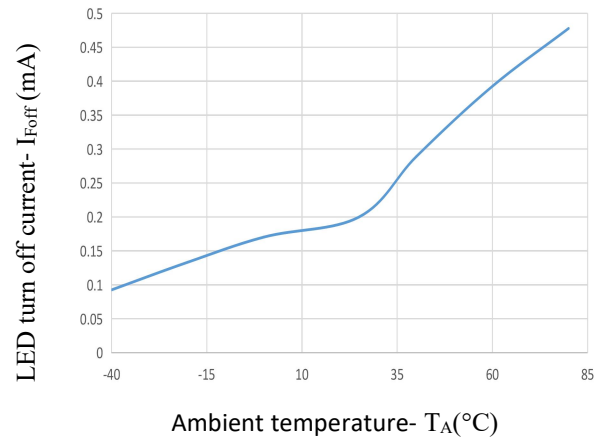


Fig.7 LED dropout voltage vs. Ambient temperature characteristics

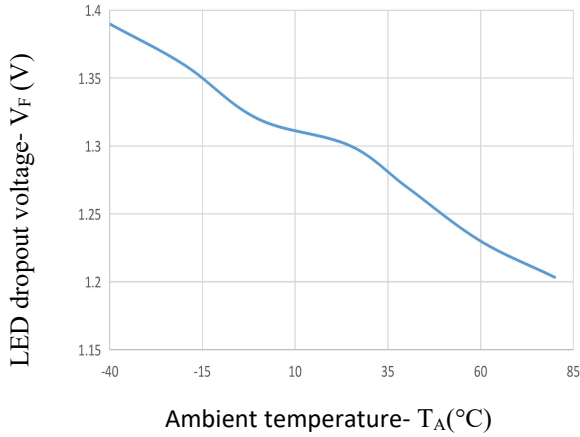


Fig.8 Output current vs Output voltage

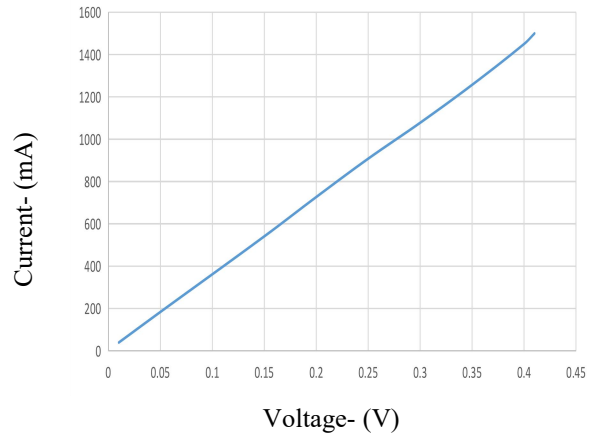


Fig.9 Off state leakage current vs Load voltage characteristics

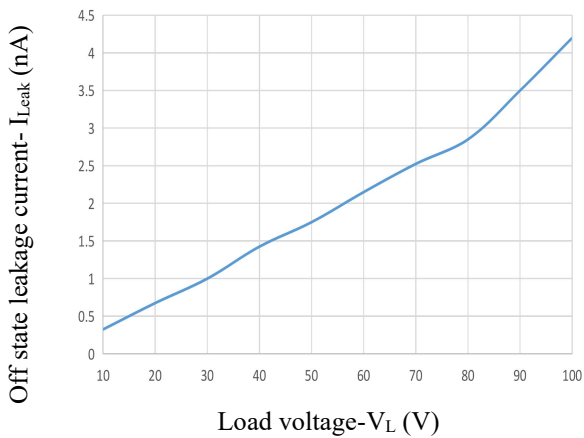


Fig.10 LED turn on time vs Forward current characteristics

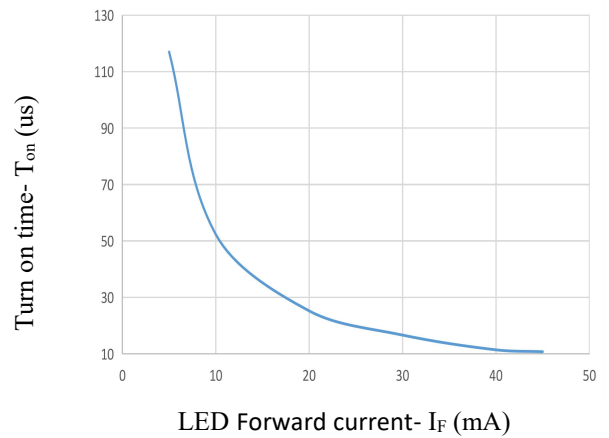
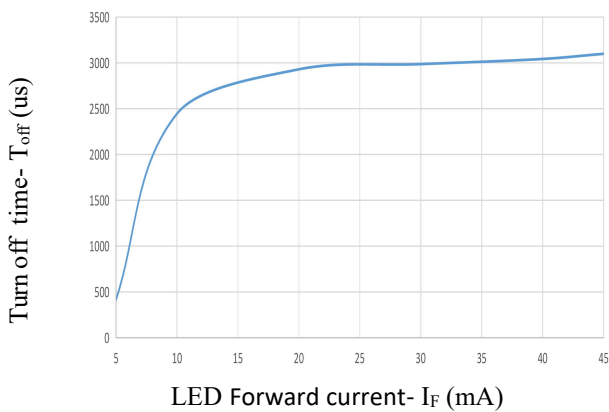
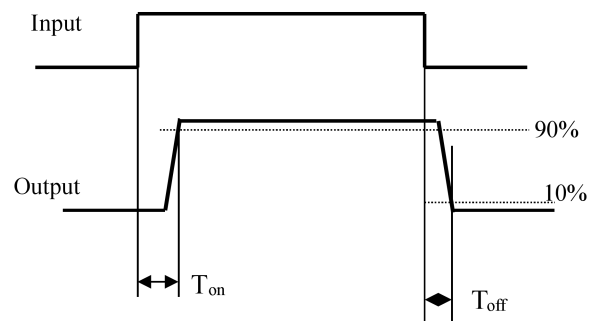


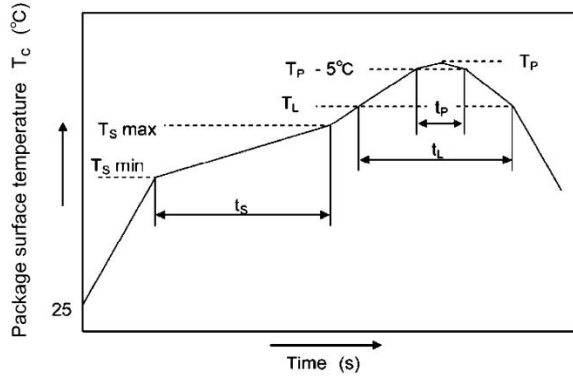
Fig.11 LED turn off time vs Forward current characteristics



Turn on/off time



Solder Reflow Profile

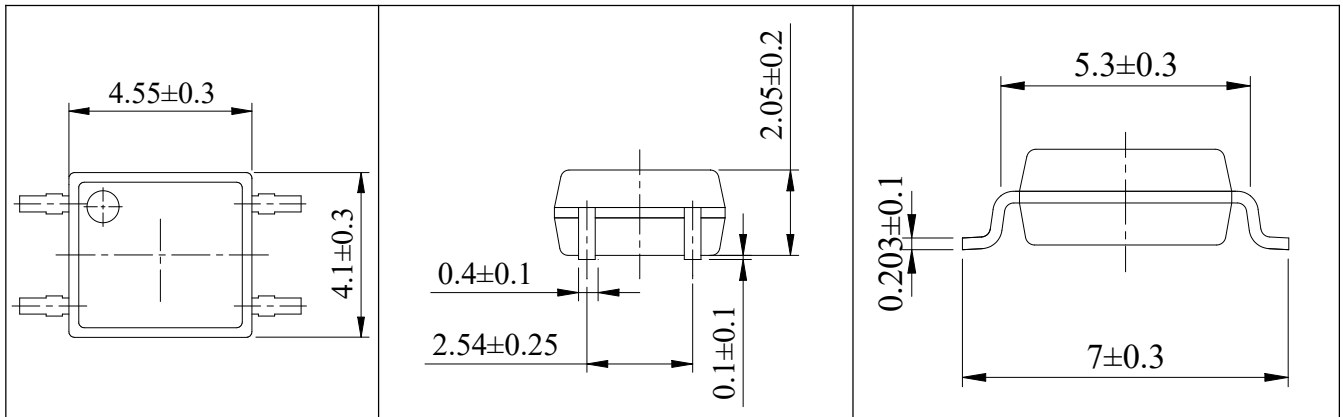


	Symbol	Min	Max	Unit
Preheat temperature	T_s	150	200	°C
Preheat time	t_s	60	120	s
Ramp-up rate (T_L to T_P)			3	°C/s
Liquidus temperature	T_L	217		°C
Time above T_L	t_l	60	150	s
Peak temperature	T_P		260	°C
Time during which T_c is between ($T_P - 5$) and T_P	t_p		30	s
Ramp-down rate (T_P to T_L)			6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

Note: The picture above is the front view of the product. (Unit: mm)

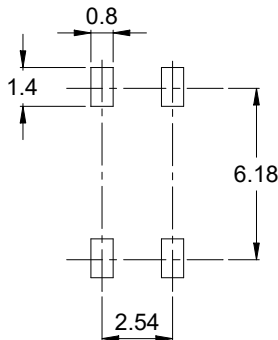
Outline Dimensions

Unit: mm



SOP4

Land Pattern Dimensions (for reference only)



Note: The picture above is the front view of the product. (Unit: mm)

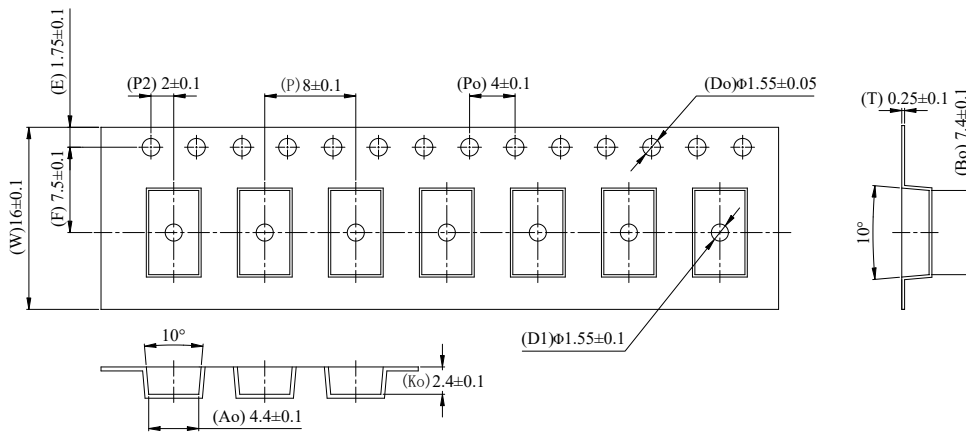
Packing

■ Summary table

Package Type	Packing Form	Quantity per Reel	Quantity per Box	Quantity per Carton	Antistatic Bag Specification	Box Specification	Carton Specification	Note
SOP4	Reel(ϕ 330mm Blue)	3k pcs/reel	2 reels /box	10 boxes /ctn	380*380mm	340*60*340mm	620*360*365mm	Guard band 200mm min.

■ SOP4 (Reel)

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



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