

Description

CY21xS is a Universal economical photo MOS relay, is a small SOP-4 package, suitable for surface mount production.

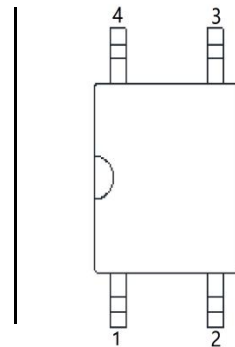
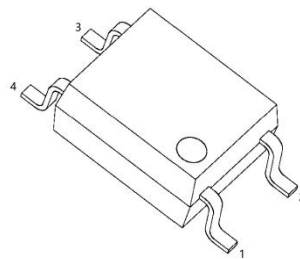
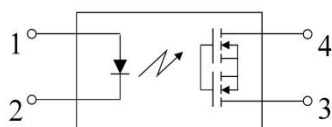
Features

- Small SMD design in SOP-4 package
- Tape packaging is convenient for placement production
- Control low level analog signal
- Very low turn-off leakage

Applications

- Communication equipment (personal computers, electronic computers)
- Measuring and testing equipment
- Factory Automation Equipment
- Security equipment
- Data communication equipment
- High-speed inspection inspection equipment

Diagram and Package



Type

Type	Load voltage	Load current	Device name
AC/DC Type	60V	500 mA	CY212S
	350V	130 mA	CY210S
	400V	120 mA	CY214S
	600V	50 mA	CY216S

Recommended Operating Conditions

Characteristics		Symbol	Min	Max	Unit
LEDcurrent		IF	5	30	mA
CY212S	Load voltage (AC Peak value)	VL	-	48	V
	Load current	IL	-	0.5	A
CY210S	Load voltage (ACPeak value)	VL	-	280	V
	Load current	IL	-	0.12	A
CY214S	Load voltage (ACPeak value)	VL	-	320	V
	Load current	IL	-	0.1	A
CY216S	Load voltage (ACPeak value)	VL	-	540	V
	Load current	IL	-	0.05	A

Maximum Rating (Ta=25°C)

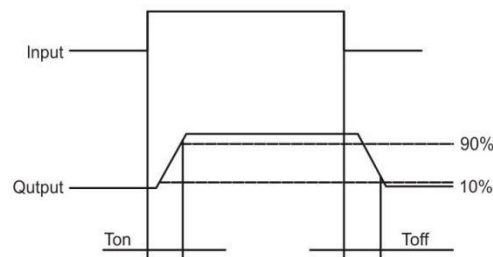
Characteristics		Symbol	CY212S	CY210S	CY214S	CY216S	Remark
Input	Forward current	I _F	50mA				
	Reverse voltage	V _R	5V				
	Peak forward current	I _{FP}	1A				F=100Hz,Duty factor=0.1%
	Power Dissipation	P _{IN}	75mW				
Output	Load voltage (AC Peak value)	VL	60V	350V	400V	600V	
	Load current	IL	0.5A	0.13A	0.12A	0.05A	AC, DC Peak value
	Peak Load current	I _{peak}	1.5A	0.3A	0.25A	0.15A	100 ms (1 shot), VL= DC
	Power Dissipation	P _{OUT}	500 mW				
Total Power Dissipation		PT	550 mW				
I/O Isolation voltage		Viso	1500V AC				
Rating Temperature	Operating Temperature	T _{opr}	-40°C~ +85°C				low temperature without freezing
	Storage Temperature	T _{stg}	-40°C~ +100°C				

Electro-optical Characteristics (Ta=25°C)

Characteristics			Symbol	CY212S	CY210S	CY214S	CY216S	Remark
Input	Trigger LED current	Typ.	I _{FON}	0.9 mA				IL = Max value
		Max.		3.0 mA				
	Close LED current	Typ.	I _{FOFF}	0.4 mA				IL = Max value
		Max.		1.1 mA				
	Forward voltage	Typ.	V _F	1.25V(1.14V@I _F =5mA)				IF = 50 mA
		Max.		1.5V				
Output	On-state resistance	Typ.	R _{On}	17Ω	17Ω	25Ω	52Ω	I _F =5mA, IL=Max value , Power-on time = 1 second or less
		Max.		25Ω	25Ω	25Ω	120Ω	
	Turn off leakage	Max.	I _{Leak}	1uA				IF = 0, IL = Max value
Transfer Characterist ics	Turn-on time	Typ.	T _{ON}	0.65 ms	0.23 ms	0.21 ms	0.5 ms	IF = 5mA IL = Max value
		Max.		2 ms	0.5 ms	0.5 ms	2 ms	

Characteristics			Symbol	CY212S	CY210S	CY214S	CY216S	Remark
Turn-off time	Typ.	T_{OFF}		0.08 ms	0.04 ms	0.04 ms	0.04ms	IF = 5mA IL = Max value
	Max.			0.2 ms	0.2 ms	0.2 ms	0.2 ms	
Capacitance input to output	Max.			1.5pF				f=1MHz
Isolation resistance	Min.		R_{ISO}	1,000 M Ω				500 V DC

*Turn on/Turn off time



Typical Performance Curves

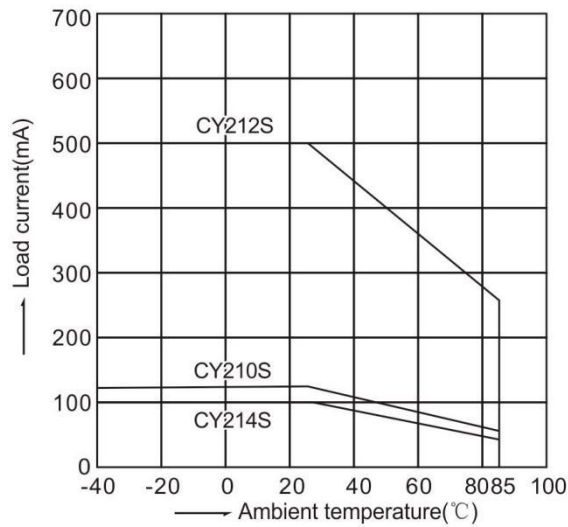


Fig1: I_L -Ta

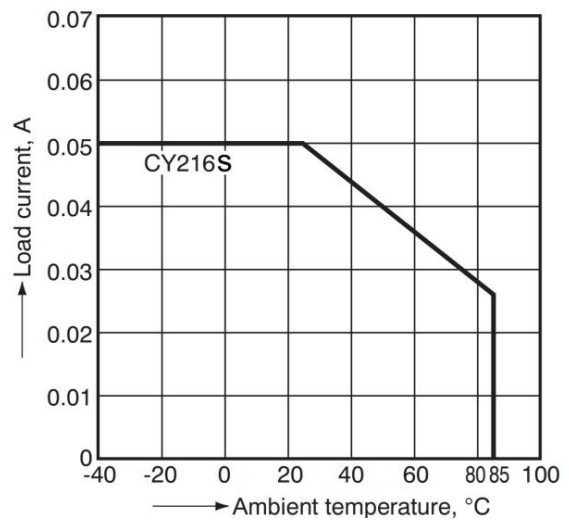


Fig2: I_L -Ta

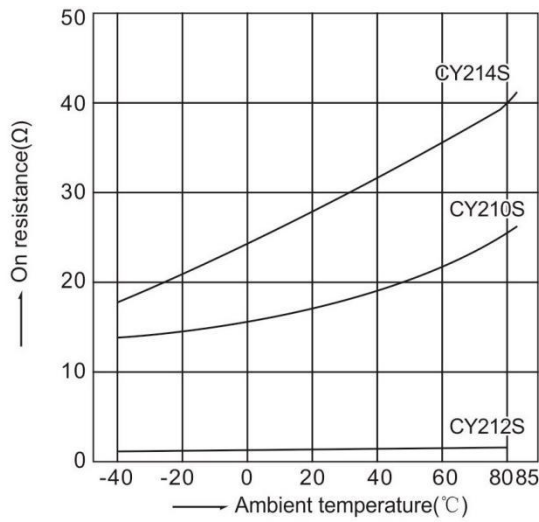


Fig3: R_{ON} -Ta

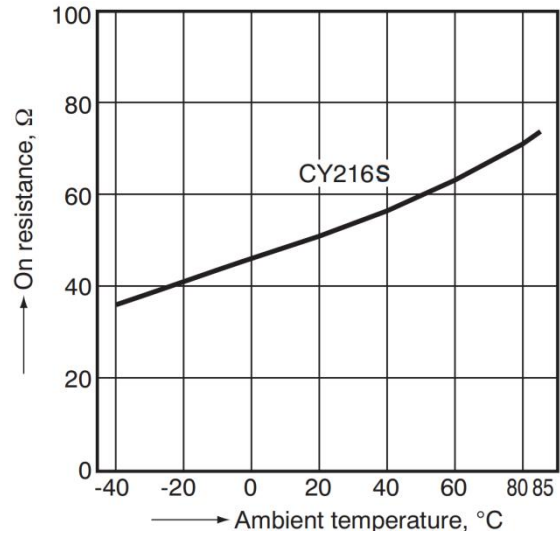


Fig4: R_{ON} -Ta

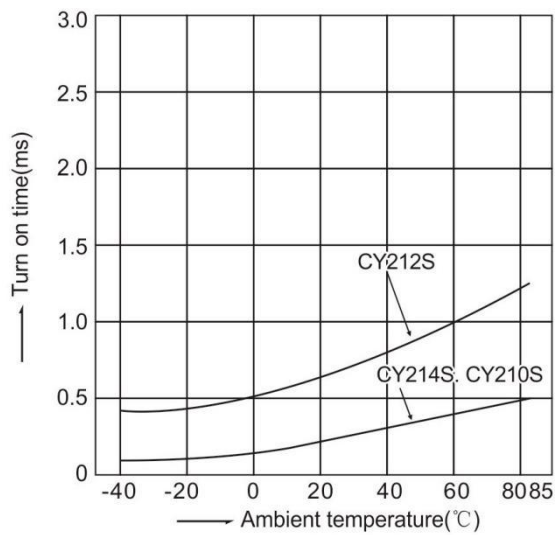


Fig5: T_{ON} -Ta

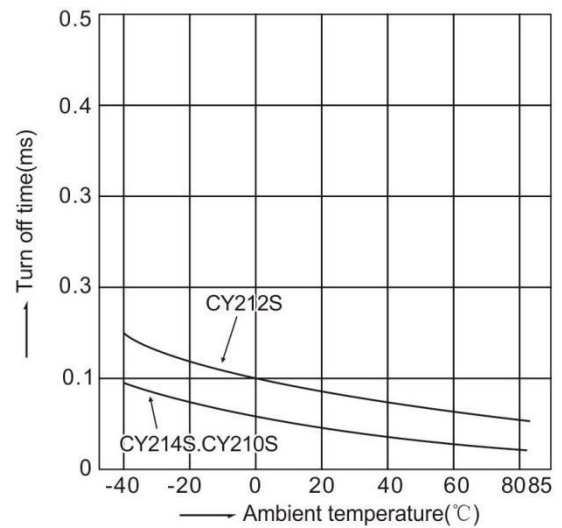


Fig6: T_{OFF} -Ta

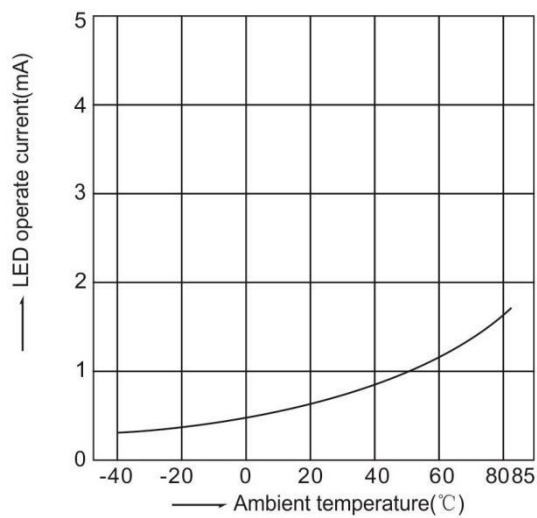


Fig7: I_{FON} -Ta

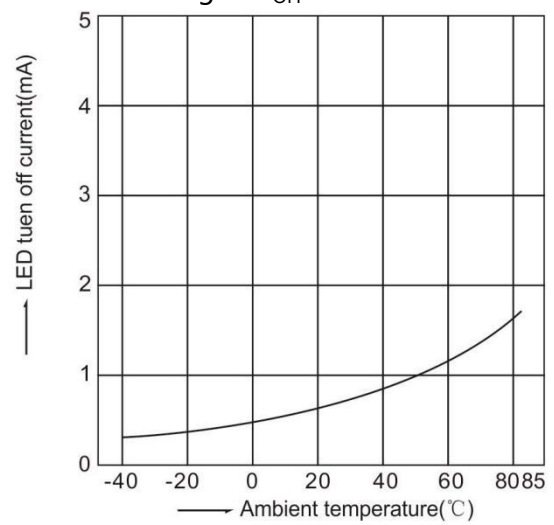


Fig8: I_{FOFF} -Ta

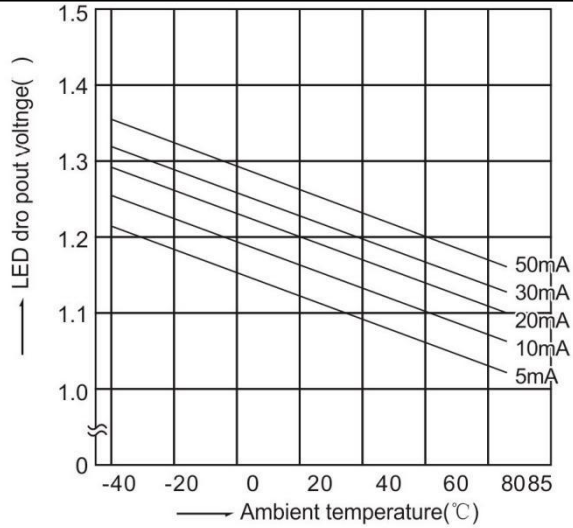


Fig9: V_F - T_a

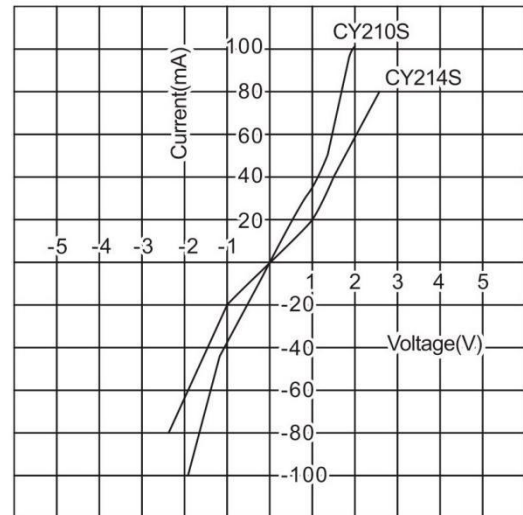


Fig10: I_L - V

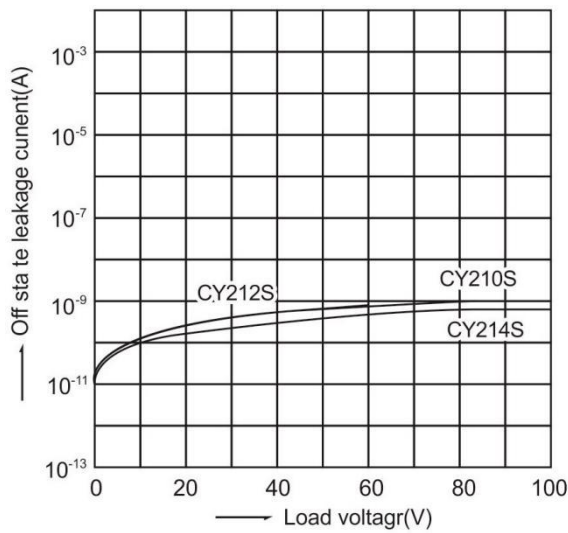


Fig11: I_{LEAK} - V_L

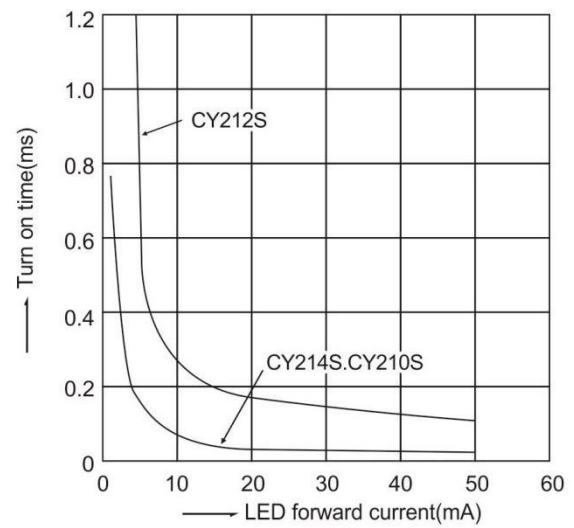


Fig12: T_{ON} - I_F

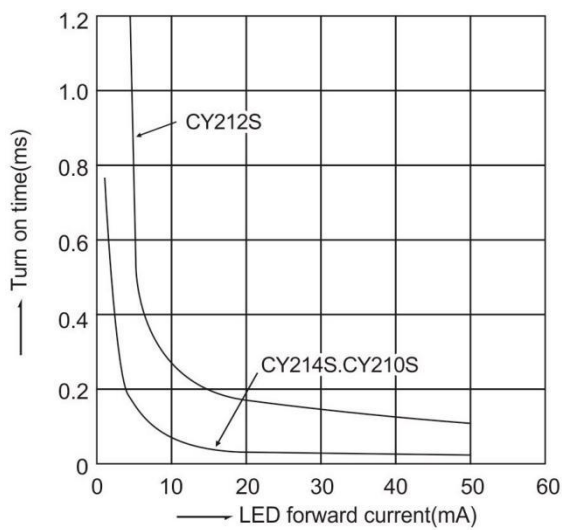


Fig13: T_{OFF} - I_F

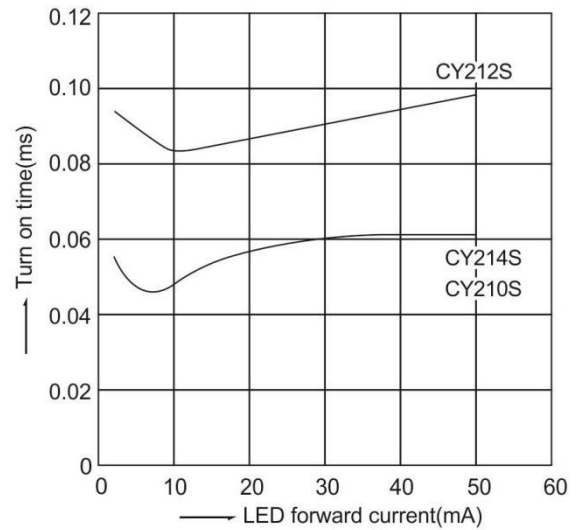
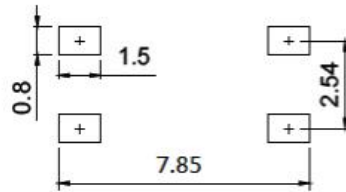
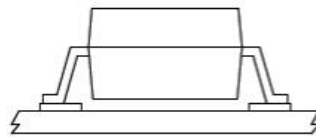
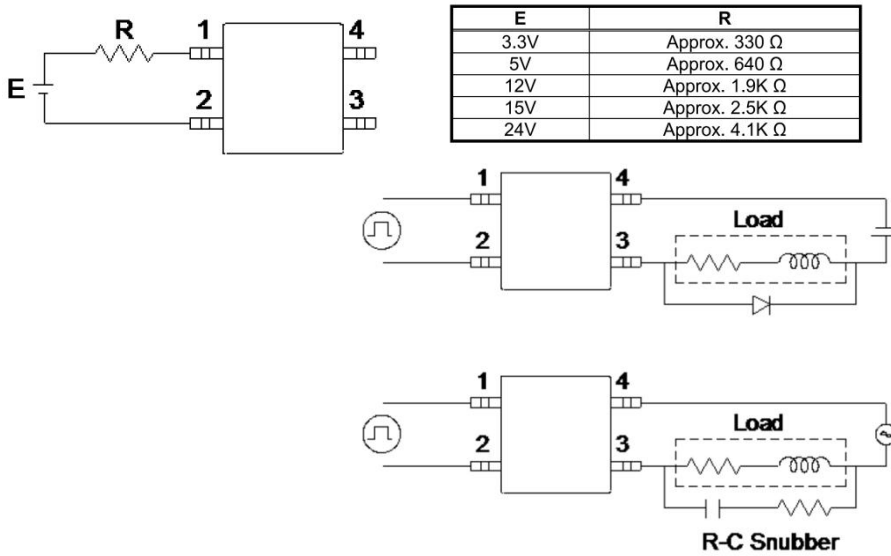


Fig14: C_S - V_F

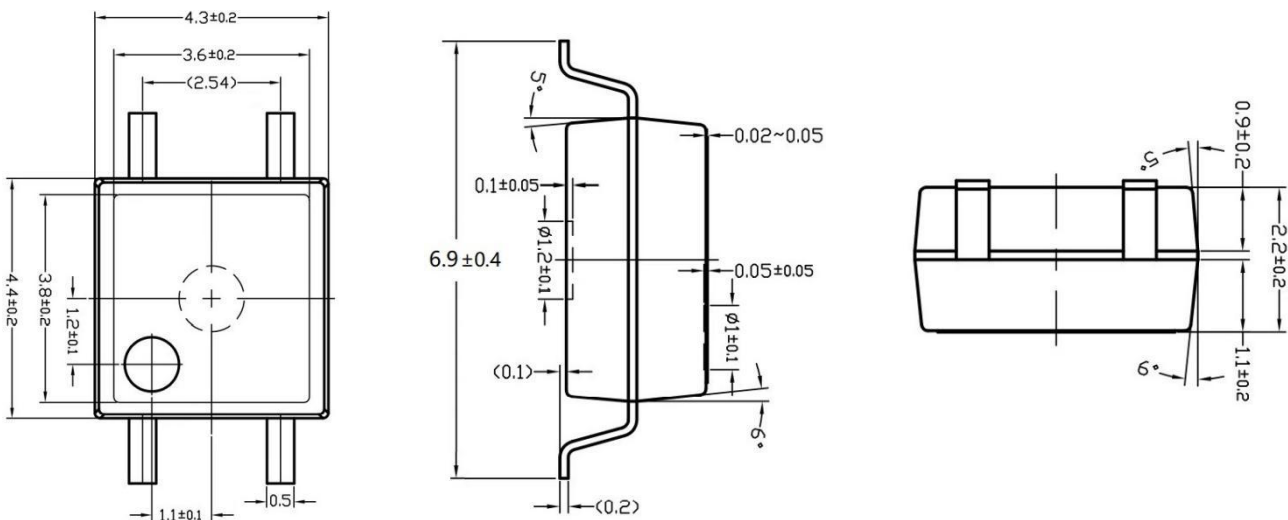
Example of resistance value for forward current of LED

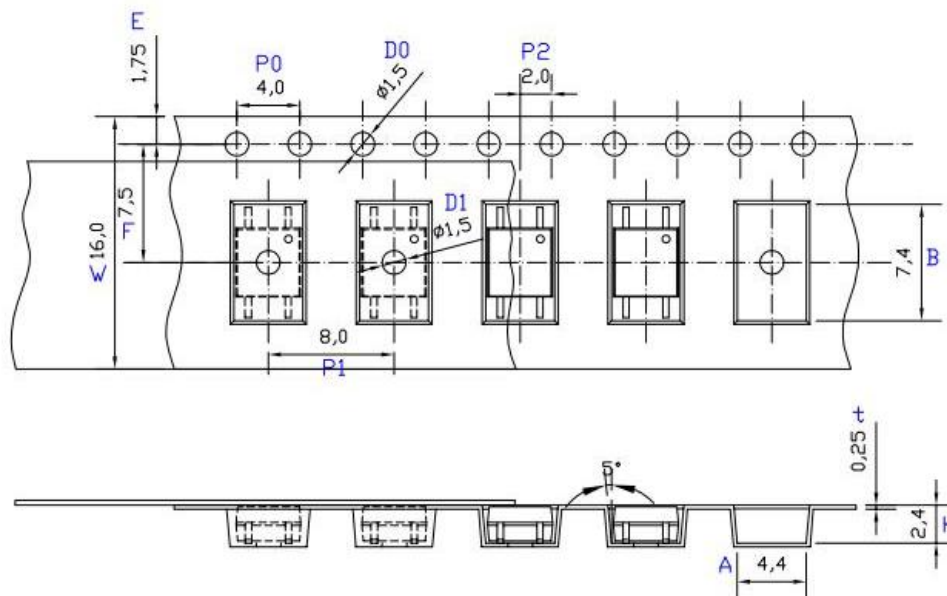


Outline Dimensions:

Unit:mm

Packaging Form 1

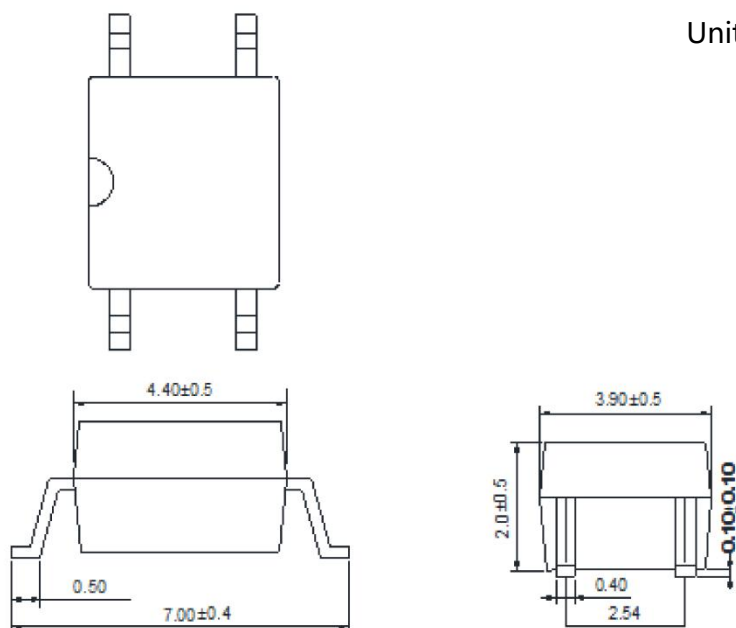




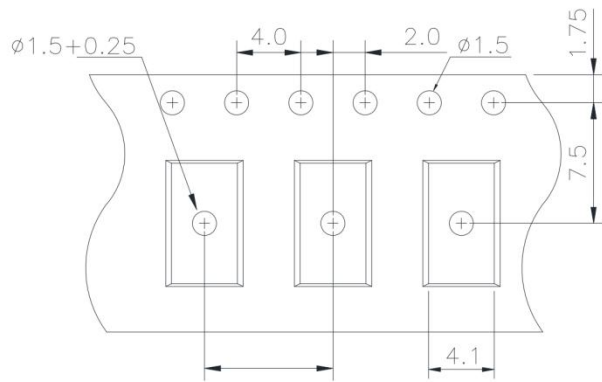
A	B	D0	D1	E	F
4.4±0.1	7.4±0.1	1.5+0.1/-0	1.5±0.1	1.75±0.1	7.5±0.05
P0	P1	P2	t	W	K
4.0±0.15	8.0±0.1	2.0±0.1	0.25±0.03	16.0±0.2	2.4±0.1

4-pin SOP Packaging Form 2

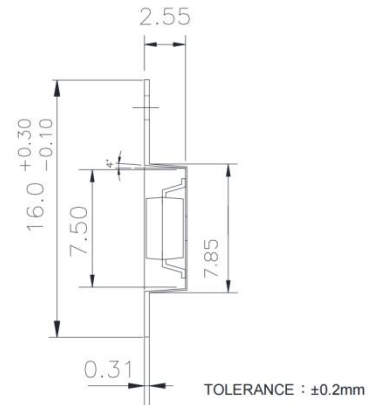
Unit:mm



Unit: mm

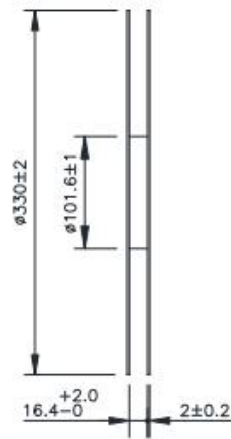
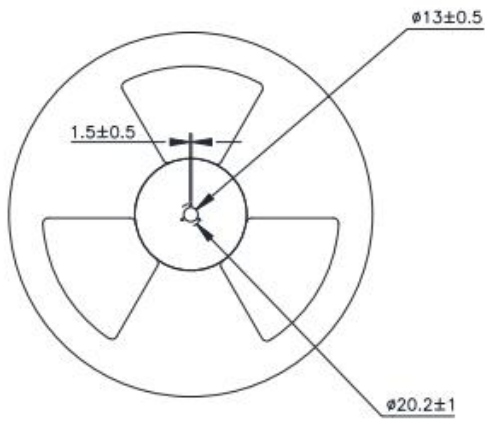
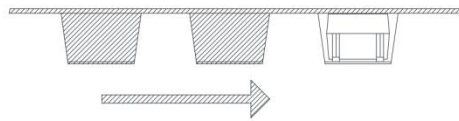
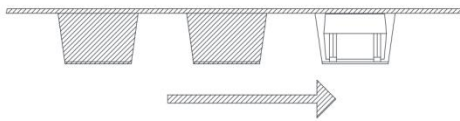
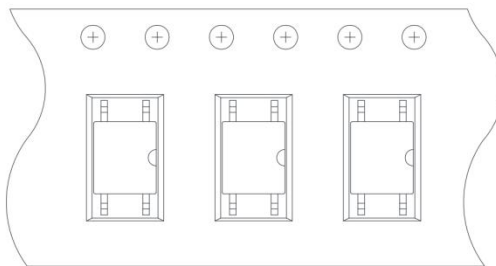
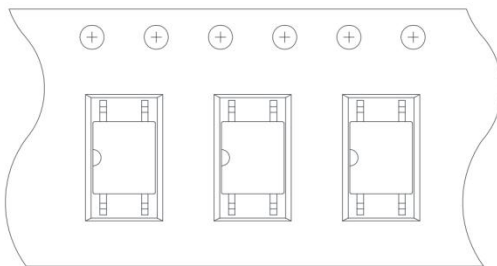


TLD



TRU

TOLERANCE : $\pm 0.2\text{mm}$



Packing:

Packaging form	Packaging color	Packing Form	Quantity per Reel
SOP-4(一)	White	Reel	2500 3000 pcs/reel
SOP-4(二)	Black	Reel	3000 3000 pcs/reel

Attention:

- CHEUK YUI will continue to improve the quality, reliability, function or design and provide better products ,We reserve the right to modify this specification at any time without prior notice.
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