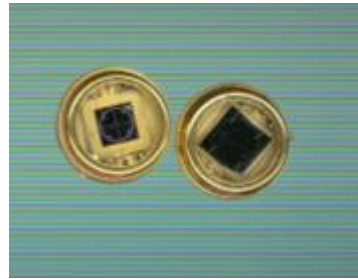


Quadrature Si PIN Photo Diode RS-Si 111、 112

1.Characteristics:

- Low dark current.
- High uniformity and symmetry.
- High reliability.
- Less blind area.



2.Applications:

- Laser aiming, tracking and searching.
- High accuracy location, displacement monitoring .

3.Mechanism:

The device works like reverse biased diode array, since the device is configured as quadrature, when the light from the tested object strike equally upon each quadrant, the light current from quadrants should be equal. When the tested object changed position, the output of each quadrant will change. So the direction of the target can determined.

4.Technical Parameter($T_A=23^{\circ}\text{C}$)

Parameter	Symbol	Test Conditions	Typical		Unit	
			GT111	GT112		
Active Area	Φ		4	6	mm	
Optical Parameter	Spectrum Response Range	λ	0.4-1.1		μm	
	Responsivity	R_e	$V_k=40\text{V}$ $\lambda=1060\text{nm}$ $V_k=40\text{V}$ $\lambda=900\text{nm}$	0.2 0.45	0.2 0.45	A/W
	Response Time	t_r	$V_k=40\text{V}$	6	8	nS
Electrical Parameter	Dark Current	I_D	$V_k=40\text{V}$	10	10	nA
	Reverse Break Down Voltage	V_{BR}	$I_k=10\mu\text{A}$	80	80	V
	Capacitance	C_i	$f=1\text{MHz}$ $V_k=40\text{V}$	5	8	pF
Operating Voltage	V_k		40		V	
Package			TO-8			

Parameter		Symbol	Test Conditions	Typical		Unit
Active Area		Φ		GT111	GT112	μm
Optical Parameter	Spectrum Response Range	λ		0.4-1.1		
	Responsivity	R_e	$V_k=40\text{V}$ $\lambda=1060\text{nm}$ $V_k=40\text{V}$ $\lambda=900\text{nm}$	0.2 0.45	0.2 0.45	A/W
	Response Time	t_r	$V_k=40\text{V}$	6	8	
Electrical Parameter	Dark Current	I_D	$V_k=40\text{V}$	10	10	
	Reverse Break Down Voltage	V_{BR}	$I_k=10\ \mu\text{A}$	80	80	
	Capacitance	C_j	$f=1\text{MHz}$ $V_k=40\text{V}$	5	8	
Operating Voltage		V_k		40		V
Package				T0-8		

5. Typical Operating Characteristics

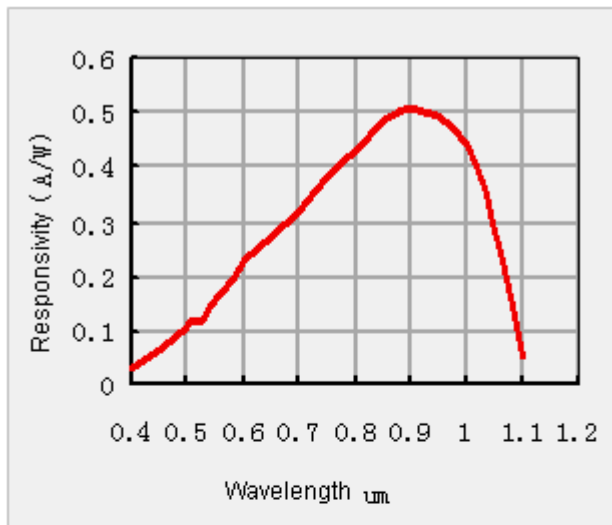


Fig. 1 Spectrum response curve

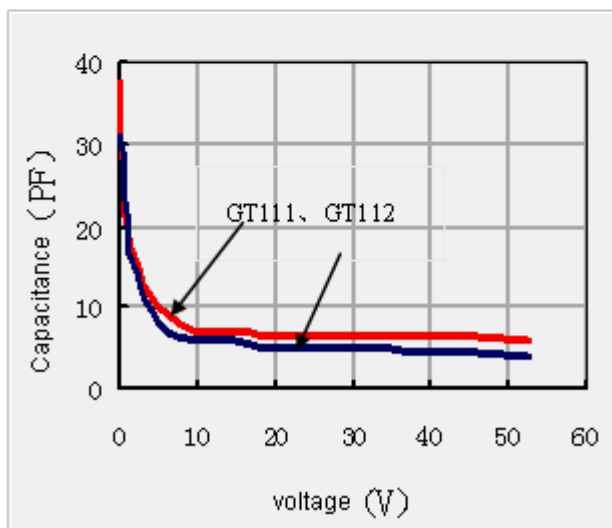
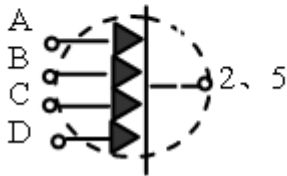
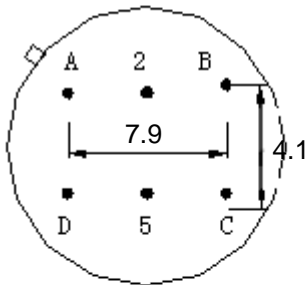
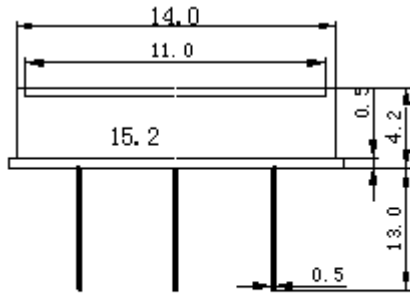


Fig. 2 Capacitance VS. voltage

6. Package Size and Application Method (Back side View)





TO-8

7.Note:

- Reverse bias
- No vibration and shock when device operating
- Static charge protection (storage, operating)