

Dimension Position Detector IP-Si 3191Z

Characteristics:

Large Sensitive Area
 Low Dark Current
 High Responsivity
 High Reliability



Applications:

Position and Angle Measurement
 Rotating Position Measurement
 Dimensional Machine Vision ,Smoothness
 Measurement, Medical Instrument

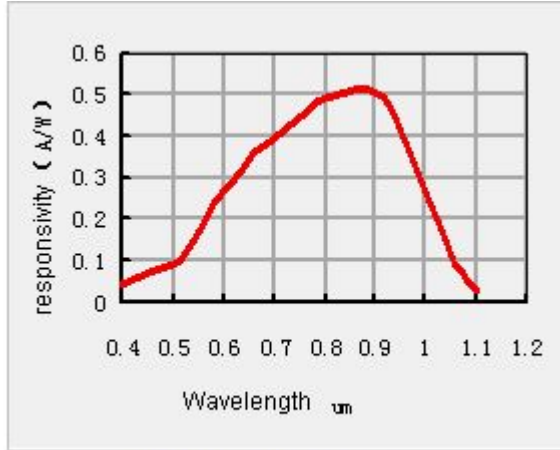
Mechanism:

The device is built with special PIN structure, based on semiconductor transveIpe effect, to be sensitive to the position of the incident light. When light strike on the sensitive area of the device, a pair of electron and hole will appear, the carrier reached P area can go through X1.X2, the output current of the device have reveIpe ratio relationship with the position of incident light, the position of the incident can be decided accurately.

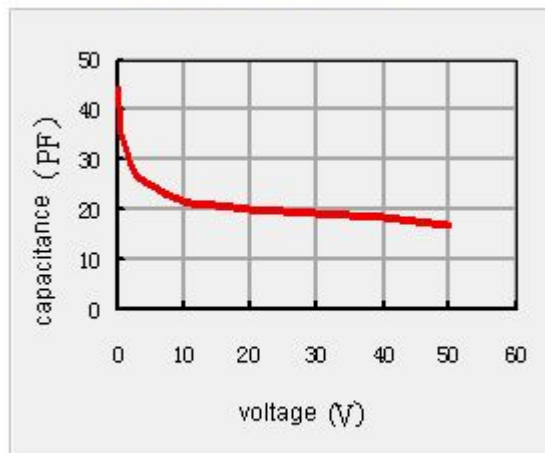
Technical Parameter

Parameter	Symbol	Test Conditions	Typical	Unit
Active Area	Φ		2×20	μm
Optical Parameter	Spectrum Response Range	λ	400~1100	nm
	Responsivity	R_e $V_R=5V$ $\lambda=900\text{nm}$	0.5	A/W
	Response Time	t_r $V_R=5V$	120	nS
Electrical Parameter	Dark Current	I_D $V_R=5V$	100	nA
	Resistivity between Polarity		30	K Ω
	Position resolution		5	μm
	Reverse Break Down Voltage	V_{BR} $I_R=10\mu A$	80	V
	Capacitance	C_j $f=1\text{MHz}$ $V_R=40V$	45	pF
Operating Voltage	V_R		5	V
Package		4 lead ceramic package		
Saturation Power $\leq 0.5\text{w/cm}^2$				

Typical Operating Characteristics:

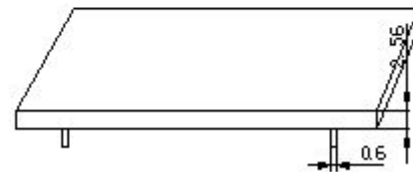
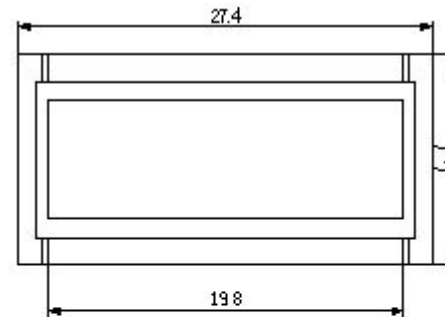


Spectrum response curve

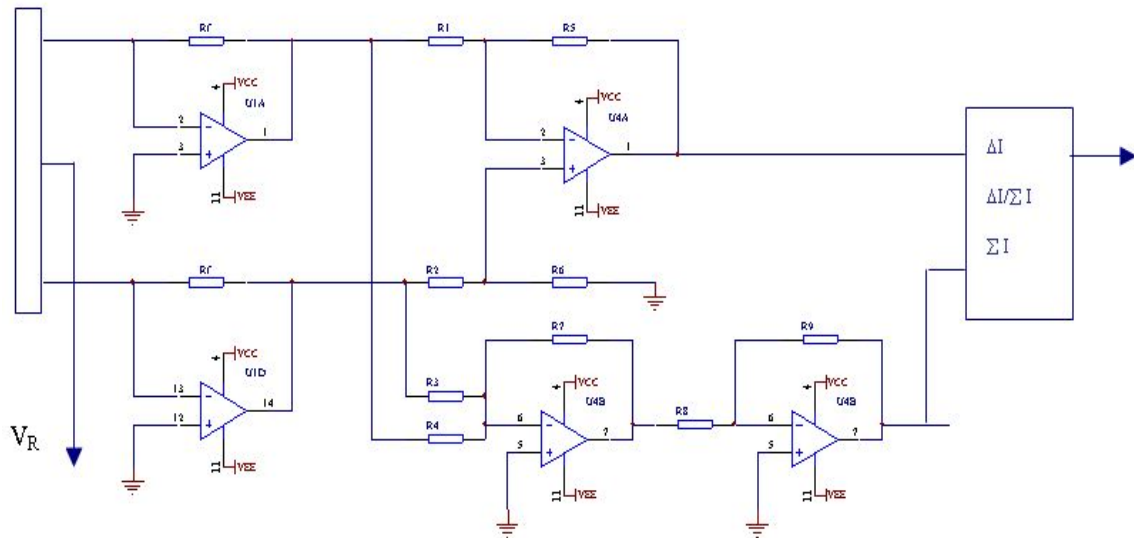


Capacitance VS. voltage

Package Information and Pin Configuration



4 lead ceramic package



Note:

ReveIpe Bias

No Vibration and shock when device operating

Static Charge Protection (Storage, Operating)