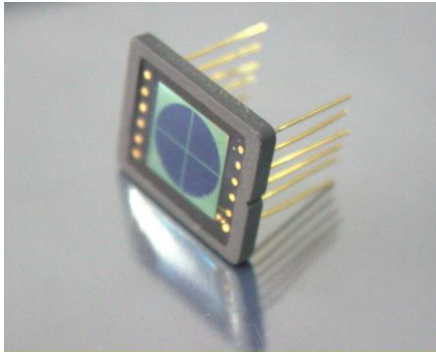


SILICON QUADRANT PHOTODIODE



Description

Φ10 mm active area , low Dark Current Quadrant Photodiode with P on N construction and 200um gaps. Packaged in a ceramic stem package with resin coating.

Features

- * Φ10 mm active area
- * Small gap (200um)
- * Low dark current
- * Operating temperature is from -40 to +80°C
- * Storage temperature is from -40 to +100°C
- * soldering temperature is 260°C @Max.5 seconds at the position of 2mm from the PIN legs.

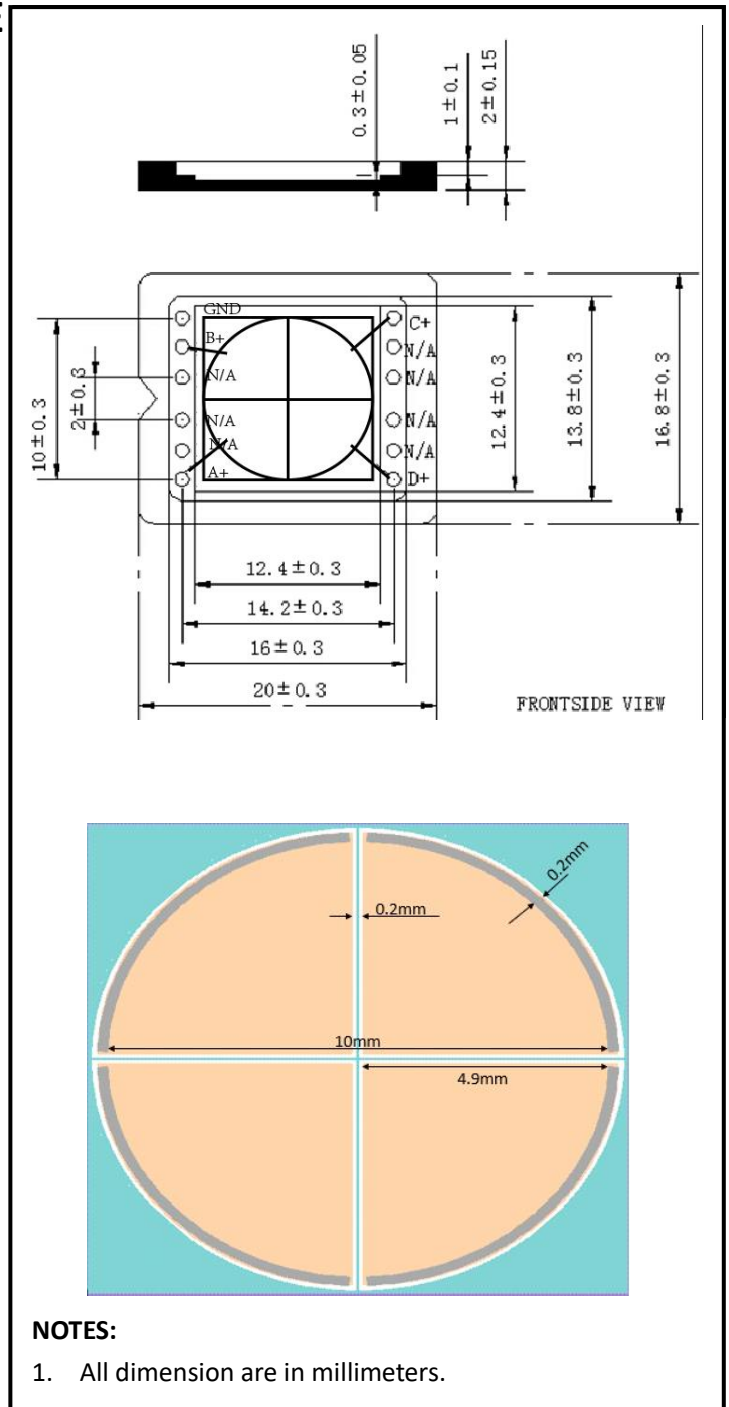
General Ratings

- * Type Silicon quadrant photodiode

Applications

- | | |
|------------------------------|-----------------------------|
| * Laser beam position sensor | * Autocollimators |
| * Optical tweezers | * Ellipsometers |
| * Solar tracking system | * Laser beam axis alignment |

Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject change without notice





OSQ10-IC



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Recommended Spot Size	Dia		Φ0.1		Φ5	mm
Damage Threshold cw				300		mw/cm ²
Damage 10ns Pulse				1500		mj/cm ²
Short circuit Current	I _{sc}	Ev=100lx fc=2856k*		90		μA
Isc Temperature Coefficient	TC I _{sc}	2856k		1.1		%/°C
Open Circuit Voitage	V _{oc}	Ev=100lx fc=2856k*		349		mV
Voc Temperature Coefficient	TC Voc	2856k		-2.2		mV/°C
Dark current	I _d	V _R =10mV		36		pA
		V _R =10V		470		
Rise time	t _r	V _R =15V; λ =850nm;R _L =50Ω		120		ns
Tempcoeffi-cient of I _d	T _{CI_D}			0.18		times/°C
Reverse breakdown voltage	V _{(BR)R}	I _R =100μA Ev=0lx	30			V
Junction Capacitance	C _J	V _R =0V f=1MHz		978		pF
		V _R =10V f=1MHz		237		
Cut-off frequency	f _{-3dB}	V _R =0V, R _L =50Ω		10		MHz
		V _R =10V, R _L =50Ω		4		
CrossTalk Channel-to-Channel		400-850nm, Adjacent Channel		0.1	0.5	%
		850-1100nm, Adjacent Channels		1	5	
Uniformity of each Element	%		0.8		2	%
Photo sensitivity	S _R	840nm		0.57		A/W
		940nm		0.64		
Spectral Application Range	λ _{range}		400		1100	nm
Spectral Response-Peak	λ _p			940		nm
Shunt resistance	R _{sh}	V _R =10mV		0.5		GΩ
Rsh Temperature Coefficient	TC R _{sh}			0.18		%/°C
Angular Resp 50% Resp Pt	θ _{1/2}			±60		Degrees
Noise Equivalent Power	NEP	V _R =10V λ =940nm		1.75×10 ⁻¹⁴		W/Hz ^{1/2}
Specific Detectivity	D*	V _R =10V λ =940nm		3.43×10 ¹³		cm(Hz/W) ^{1/2}

* Ev: Illuminance by CIE standard light source A (tungsten lamp)

Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject change without notice

OTRON ELECTRONIC TECHNOLOGY CO., LTD

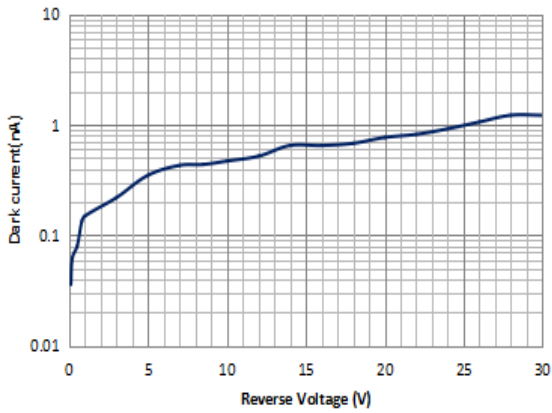
TEL:+86-21-54971821

FAX:+86-21-54971823

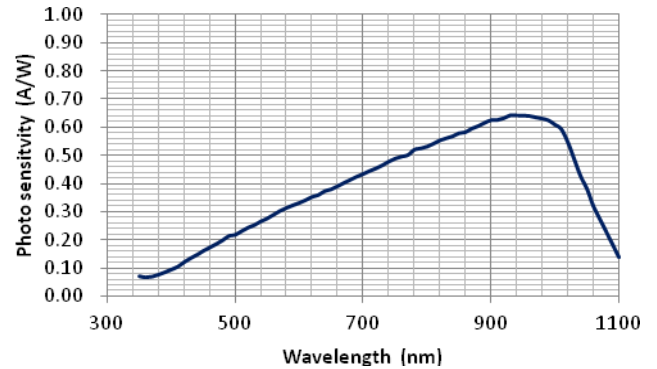
EMAL:frank.shuai@e-otron.com

<http://www.e-otron.com>

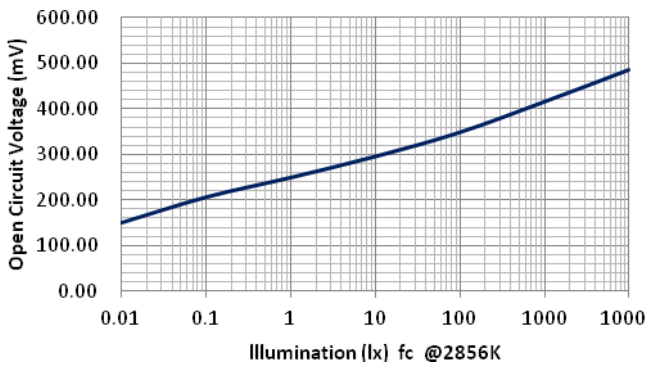
■ Dark current vs. reverse voltage



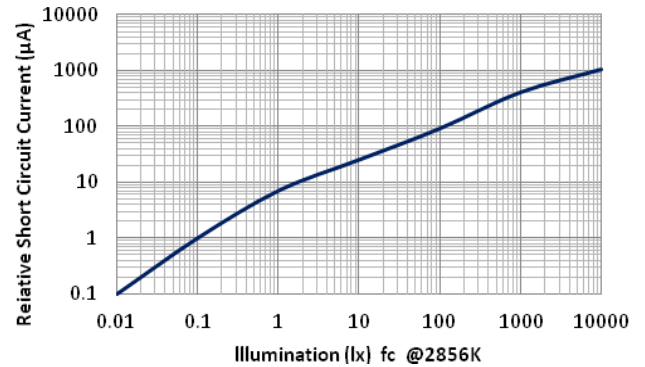
■ Spectral response



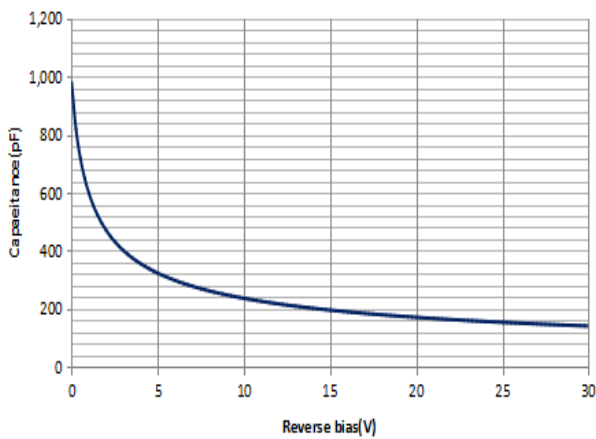
■ Open circuit Voltage vs Illumination



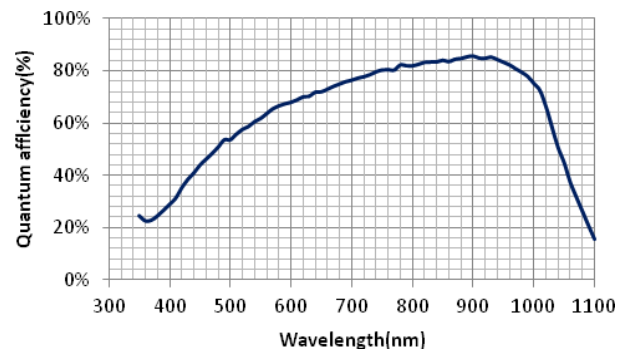
■ Relative Short Circuit Current vs. Illumination



■ Relative Junction Capacitance VS. Voltage



■ Quantum efficiency



Inform

Specifications are subject change without notice

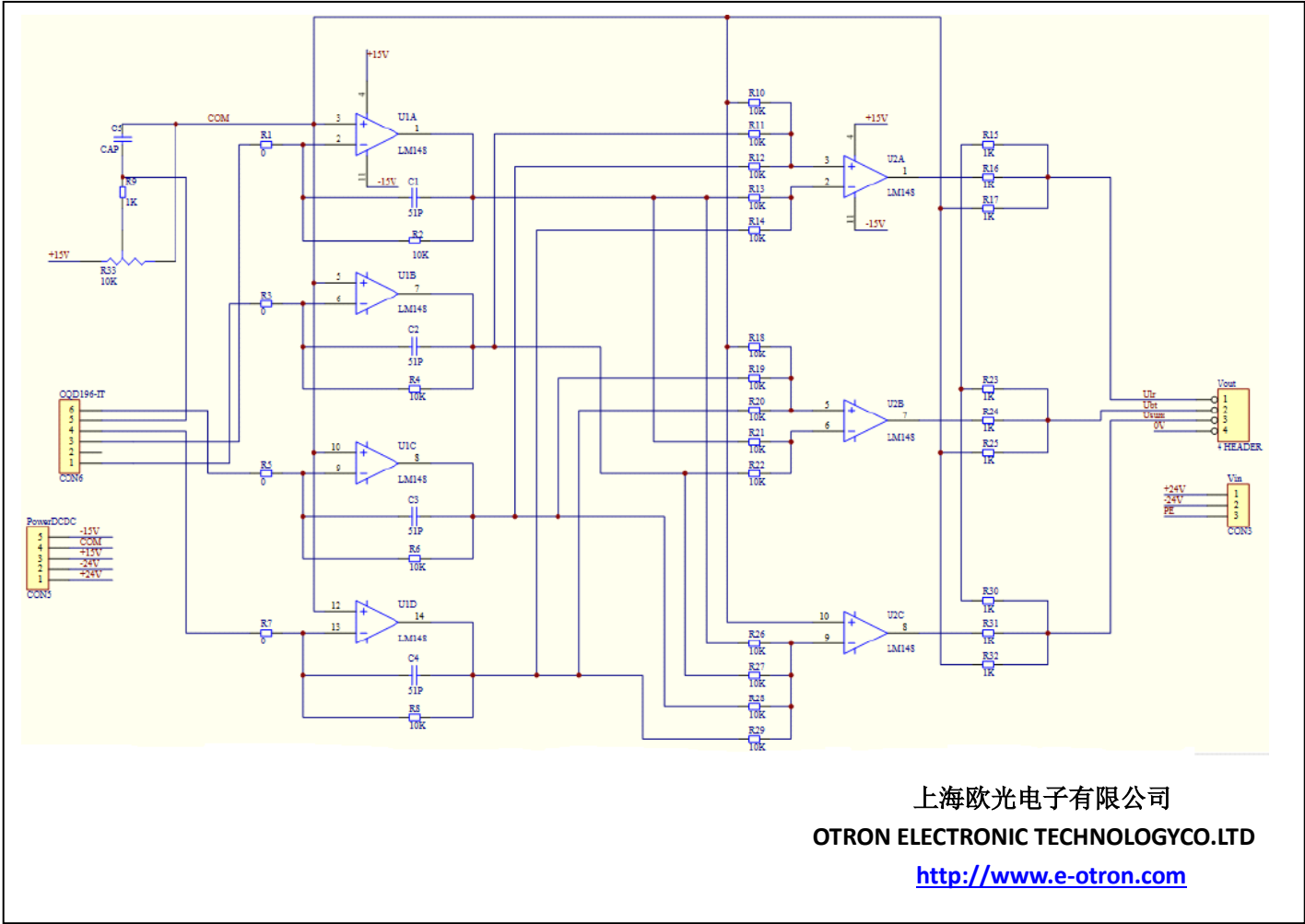
OTRON ELECTRONIC TECHNOLOGY CO., LTD

TEL:+86-21-54971821

FAX:+86-21-54971823

e. However, no responsibility is assumed for possible inaccuracies or omission.

APPLICATION CIRCUIT



Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject change without notice

OTRON ELECTRONIC TECHNOLOGY CO., LTD

TEL:+86-21-54971821
 FAX:+86-21-54971823

EMAL:frank.shuai@e-otron.com
<http://www.e-otron.com>