



DESCRIPTION

The **SD 085-23-21-021** is a red enhanced quad-cell silicon photodiode used for nulling, centering, or measuring small positional changes packaged in a hermetic TO-5 metal package.

FEATURES

- Low Noise
- Red Enhanced
- High Shunt Resistance
- High Response

RELIABILITY

Contact Luna for recommendations on specific test conditions and procedures.

APPLICATIONS

- Emitter Alignment
- Position Sensing
- Medical and Industrial



ABSOLUTE MAXIMUM RATINGS

SYMBOL	MIN	MAX	UNITS	
Reverse Voltage	-	50	V	$T_a = 23^\circ\text{C}$ UNLESS OTHERWISE NOTED
Storage Temperature	-55	150	$^\circ\text{C}$	-
Operating Temperature	-40	+125	$^\circ\text{C}$	-
Soldering Temperature*	-	+240	$^\circ\text{C}$	-

* 1/16 inch from case for 3 seconds max.

OPTO-ELECTRICAL PARAMETERS

T_a = 23°C UNLESS NOTED OTHERWISE

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Dark Current	V _R = 5 V	-	0.6	3.5	nA
Shunt Resistance	V _R = 10 mV	350	-	-	MΩ
Junction Capacitance	V _R = 0V; f = 1 MHz	-	45	-	pF
	V _R = 5V; f = 1 MHz	-	9	-	
Spectral Application Range	Spot Scan	350	-	1100	nm
Reponsivity	λ = 633nm, V _R = 0 V	.32	.36	-	A/W
	λ = 900nm, V _R = 0 V	.50	.55	-	
Breakdown Voltage	I = 10 μA	-	50	-	V
Noise Equivalent Power	V _R = 0V @ I = 950nm	-	2.5x10 ⁻¹⁴	-	W/√Hz
Response Time**	RL = 50 Ω, V _R = 0 V	-	190	-	nS
	RL = 50 Ω, V _R = 10 V	-	13	-	

**Response time of 10% to 90% is specified at 660nm wavelength light.

TYPICAL PERFORMANCE

SPECTRAL RESPONSE

