

### FEATURES

- Low noise
- Red enhanced
- Custom feedback
- High speed

### DESCRIPTION

The **SD 100-42-21-231** is a red enhanced detector/amplifier that combines a silicon photodiode with an opamp without a feedback network, Packaged in a hermetic TO-5 metal can package.

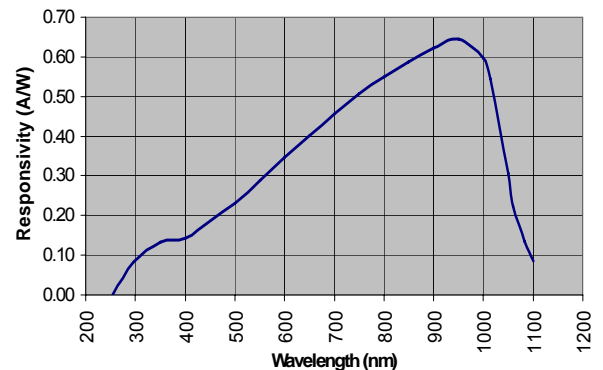
### APPLICATIONS

- Instrumentation
- Industrial
- Medical

### AMPLIFIER SPECIFICATIONS (TA)= 23°C UNLESS OTHERWISE NOTED

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS
V <sub>s</sub>	Voltage Supplies	± 5	± 15	± 18	V
V <sub>io</sub>	Input Offset Voltage		1	2	mV
V <sub>n</sub>	Input Voltage Noise @ f = 10KHz		12		nV/√Hz
I <sub>ib</sub>	Input Bias Current		15	40	pA
I <sub>n</sub>	Input Current Noise @ f = 10KHz		20	30	fA/√Hz
GBP	Gain Bandwidth Product		18		MHz
I <sub>s</sub>	Supply Current		6.5	7	mA
T <sub>STG</sub>	Storage Temperature	-65		+125	°C
T <sub>O</sub>	Operating Temperature	-40		+85	°C

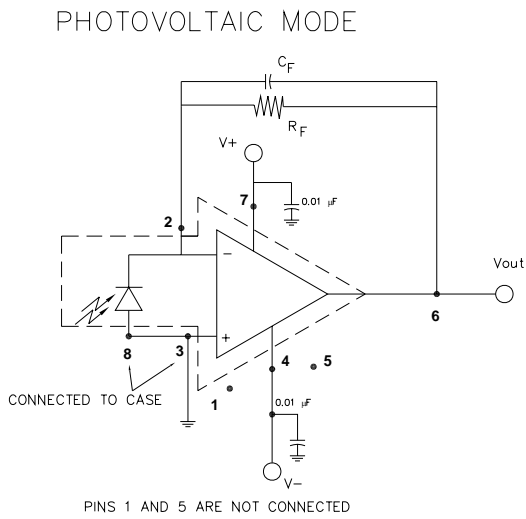
### DETECTOR SPECTRAL RESPONSE



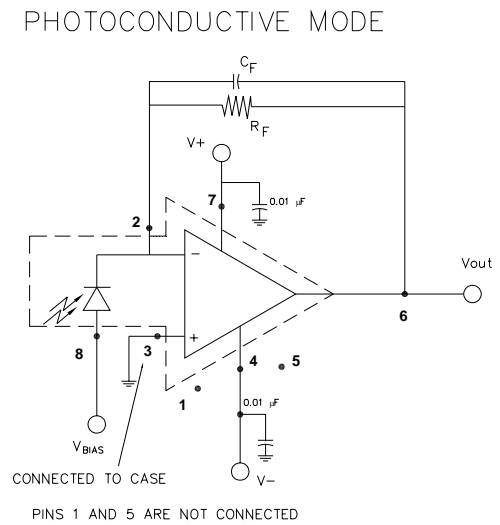
### DETECTOR SPECIFICATIONS (TA)= 23°C UNLESS OTHERWISE NOTED

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I <sub>D</sub>	Dark Current	V <sub>R</sub> = 10 V			10	nA
R <sub>SH</sub>	Shunt Resistance	V <sub>R</sub> = 0 V	300			MΩ
C <sub>J</sub>	Junction Capacitance	V <sub>R</sub> = 0 V, f = 1 MHz		87		pF
		V <sub>R</sub> = 10 V, f = 1 MHz		18		
λ range	Spectral Application Range	Spot Scan	250		1100	nm
R	Responsivity	λ = 950 nm, V <sub>R</sub> = 0 V		0.64		A/W

**SCHEMATIC AND CONNECTION DIAGRAM**



**Note: Components shown outside the dashed area are external to the device, and must be supplied by the user.**



**Note: Components shown outside the dashed area are external to the device, and must be supplied by the user.**