AFONICS

# RX-0007

- Low cost Si PIN Diode
- 150MHz bandwidth

## Performance Highlights

- Responsivity typically 0.62A/W
- High open-circuit voltage when operated in photovoltaic mode

| LIMITING VALUES | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| Continuous reverse voltage | $V_R$ | 50 | V |
| Total power dissipation | $P_D$ | 100 | mW |
| Operating temperature | $T_{amb}$ | -40 to +100 | °C |
| Storage temperature | $T_{stg}$ | -45 to +100 | °C |
| Soldering temperature 2mm from case for 13 | $T_{sld}$ | 300 | °C |

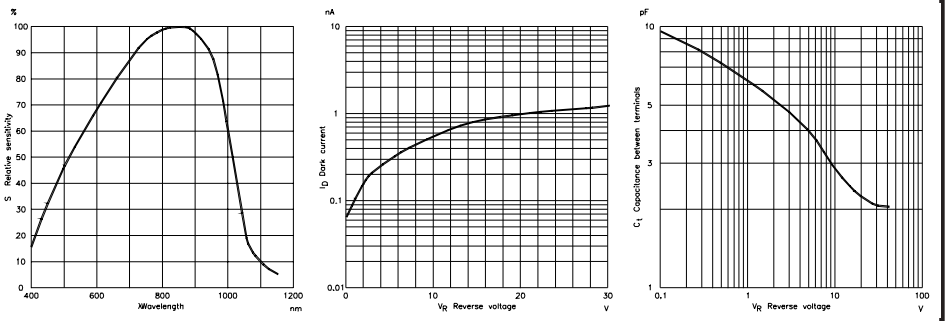
| OPTICAL/ELECTRICAL CHARACTERISTICS | SYMBOL | MIN | TYP | MAX | UNITS | TEST CONDITION |
|---|---|---|---|---|---|---|
| Responsivity | R | 0.55 | 0.62 | | A/W | $\lambda$ = 850nm, $V_R$ = 5V |
| Rise and fall time | $t_r$, $t_f$ | | 2 | 3 | ns | $V_R$ = 5V, $R_L$=50Ω, $\lambda$=880nm, $I_P$=14μA |
| Bandwidth | $f_c$ | | 150 | | MHz | $V_R$ = 5V |
| Operating voltage | $V_F$ | | 1.3 | | V | $I_F$ = 80mA |
| Capacitance | $C_T$ | | 11 | | pF | $V_R$ = 0V, f =1MHz |
| Noise equivalent power | NEP | | $2.0 \times 10^{-14}$ | | $W/Hz^{1/2}$ | $V_R$ = 20V, $\lambda$ = 850nm |
| Dark current | $I_D$ | | 1 | 10 | nA | $V_R$ = 20V |

All values apply at a temperature of 25°C



## GRAPHS SHOWING TYPICAL CHARACTERISTICS




Relative sensitivity vs wavelength

Dark current vs ambient or case temperature

Package capacitance vs reverse bias voltage

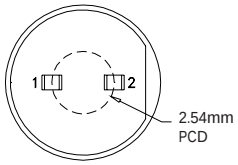
## PINOUT DETAILS

1 = Anode

2 = Cathode

Pin 1 length > 25mm

Pin 2 length is 1.2mm to 1.8mm shorter than Pin 1




REAR VIEW

## INTERNAL CIRCUIT


**NOTES:**

**1)** The device is very susceptible to damage by electrostatic discharge.

