

# PHOTO DIODES 3.6 μm

## Model PD36-02-TEC-PR 3.6 mm 0.2 mm

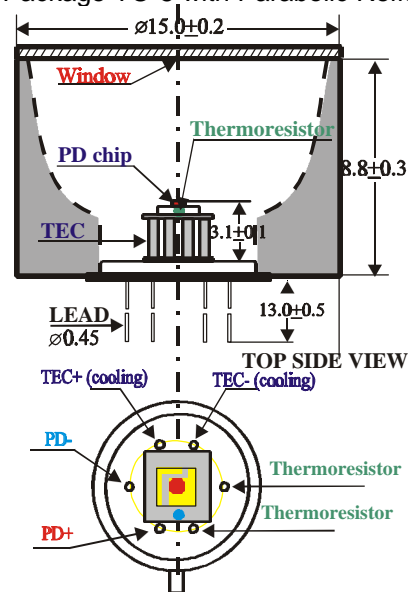
### One stage Thermoelectrically Cooled InAs/InAsSbP photodiodes

Photodiodes **PD36-02-TEC-PR** are designed for detecting the radiation in the Middle Infrared spectral range from 1000 to 3600 nm. Heterostructures with the InAsSbP "window" are grown on InAs substrates.

- Photodiodes **PD36-02-TEC-PR** are placed in standard 9 mm package TO-5. Thermocooler and thermoresistor are mounted inside package TO-5.
- Photodiodes **PD36-02-TEC-PR** have the photosensitive area with diameter of 200 μm. Fast response makes possible their use for the detection of high frequency modulated laser or LED emission.
- Related products: **PD36-02** can be used in optical pair with our **LED27÷LED36** and **LD300÷LD360**. We offer the preamplifier model **AM-04** suitable for **PD36-02**.



Package TO-5 with Parabolic Reflector



Parameters	$t = -20^\circ\text{C}$	$t = 22^\circ\text{C}$
Cut-off wavelength, $\mu\text{m}$ (at 10%)	3.70	3.80
Responsivity, A/W ( $\lambda = 3.4 \div 3.6 \mu\text{m}$ )	1.0 – 1.2	
Peak wavelength > 90%	2.5-3.3	2.6-3.4
Dark Current, $\mu\text{A}$ ( $V = -0.2\text{V}$ )	20-50	200-300
( $V = -0.4\text{V}$ )	70-100	400-500
Shunt resistance, kOhm	minimum 1.0	minimum 0.12
	typical 1.3	typical 0.14
Capacitance, pF ( $V=0$ )	minimum 600 pF	typical 1100 pF
Rise and Fall Time, ns	$(V=0\text{V})$ 120-150 ns	
	$(V=-0,5\text{V})$ 20-50 ns	
Detectivity, $D^*$ , $\text{cm.Hz}^{1/2}/\text{W}$ ( $\lambda_p, 1000, 1$ )	$(0.6-1.0) \cdot 10^{10}$	
	$(1-3) \cdot 10^9$	
Sensitive area diameter, $\mu\text{m}$	200	
Package	TO-5 with thermocooler and thermistor	

Main thermocooler parameters (without load)

$I_{\text{max}}$ (Amps)	$Q_{\text{max}}$ (Watts)	$U_{\text{max}}$ (Volts)	$\Delta T_{\text{max}}$ $^\circ\text{C}$
0.7	0.4	1.0	67

