

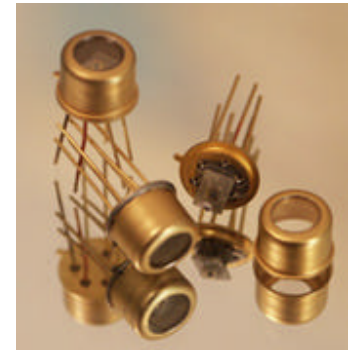
# PHOTO DIODES 3.6 $\mu\text{m}$

## Model PD36-03-TEC 3.6 mm 0.3 mm

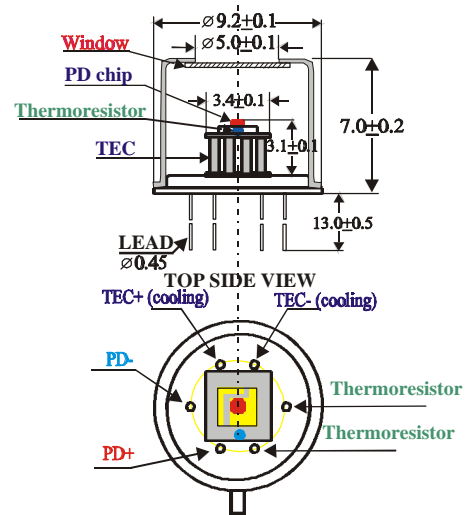
### One stage Thermoelectrically Cooled InAs/InAsSbP photodiodes

Photodiodes **PD36-03-TEC** 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 **PD36-03-TEC** are placed in standard 9 mm package TO-5. Thermocooler and thermoresistor are mounted inside package TO-5.
- Photodiodes **PD36-03-TEC** have the photosensitive area with diameter of 300  $\mu\text{m}$ . Fast response makes possible their use for the detection of high frequency modulated laser or LED emission.
- Related products: **PD36-03** can be used in optical pair with our **LED27÷LED36** and **LD300÷LD360**. We offer the preamplifier model **AM-04** suitable for **PD36-03**



Package TO-5



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, $\mu\text{A}$ ( $V = -0.2\text{V}$ )	40-90	400-500
	( $V = -0.4\text{V}$ )	90-150
Shunt resistance, Ohm	<u>minimum</u> 900	<u>minimum</u> 100
	<u>typical</u> 1100	<u>typical</u> 120
Capacitance, pF ( $V=0$ )	<u>minimum</u> 800	<u>typical</u> 1300
Rise and Fall Time, ns ( $V=0\text{V}$ )	150-200 ns	
Detectivity, $D^*$ , $\text{cm}\cdot\text{Hz}^{1/2}/\text{W}$ ( $\lambda_p, 1000, 1$ )	(0.6-1.0) $10^{10}$	(1-3) $10^9$
	300	
Sensitive area diameter, $\mu\text{m}$	300	
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

