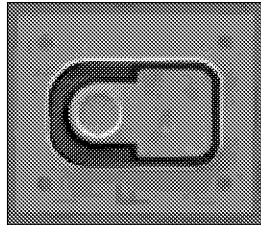


# PRODUCT INFORMATION

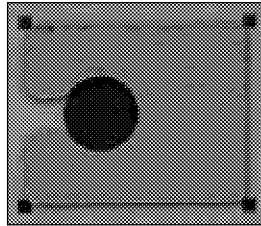
1550nm **1A465**  
High-Performance PIN

WDM Telecom

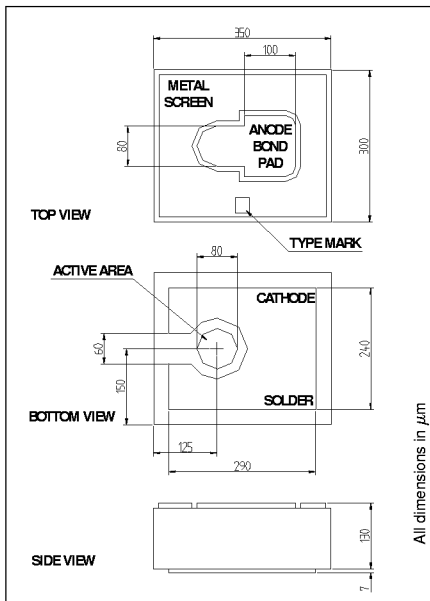
This unique PIN Photodiode chip is designed for waveguide-based OEIC (OptoElectronic IC) transceivers. It has a built-in filter, designed by bandgap engineering, which suppresses 1300nm wavelength. It is complemented by the 1A463 and 1A464 wavelength-selective PIN Photodiode chips for 1300/1550nm WDM applications such as SDH/SONET up to 2.4 Gbps.



Top View



Bottom View



PIN Photodiode Chip

Optical and Electrical Characteristics (25°C Case Temperature)						
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Responsivity	$R$	0.95	0.002 1.1	0.004	A/W	$\lambda=1300\text{nm}$ $\lambda=1550\text{nm}$ , $f>40\text{MHz}$
Bandwidth	$f_c$	2.5			GHz	$R_L=50\Omega$
Capacitance	$C$		0.4	0.6	pF	$f=1\text{MHz}$
Dark Current	$I_d$			3	nA	

Operating Conditions:  $V_R=5\text{V}$ . Optical power coupled from waveguide.

Absolute Maximum Ratings		
PARAMETER	SYMBOL	LIMIT
Storage Temperature	$T_{\text{stg}}$	-55 to +125°C
Operating Temperature	$T_{\text{op}}$	-55 to +125°C
Reverse Voltage	$V_R$	20V

Thermal Characteristics					
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Temperature Coefficient - Dark Current	$dI_d/dT_j$		5		%/°C

Assembly, Testing and Packaging	
Soldering	The chip is prepared for eutectic soldering at 280°C
Bonding	Gold bond wire with 1.25 mil diameter or less
Testing Alternative 1 "Full"	100% Wafer probe for $I_d$ before scribe and cleave 100% Visual inspection Wafer qualification for $R$ , $I_d$ and $C$ Yield > 90% after chip soldering and bonding
Testing Alternative 2 "Reduced"	Sample wafer probe for $I_d$ before scribe and cleave* Sample visual inspection - Estimated yield provided No wafer qualification Yield (visually accepted chips) > 85% after chip soldering and bonding  *100% probe if sample indicates <98% yield
Packaging	The chips are delivered on sticky tape or in waffle pack

13623.11 1999-01-13



Europe: Tel (46) 8 58 02 45 00 Fax (46) 8 58 02 01 10  
Tel (44) 1291 436180 Fax (44) 1291 436771

America: Tel 1-800-96MITEL Fax (613) 592-6909  
Asia: Tel (65) 293 5312 Fax (65) 293 8527