



# 北京世维通光通讯技术有限公司

Beijing SWT Optical Communication Technology Co., Ltd.

## InGaAs PIN Photodiode

Type: PDS123-CFA-B0202

### FEATURES:

- Planar semiconductor design and dielectric passivation
- 3-pin coaxial streamline packaging ,SM pigtail with FC/APC connector
- Superior noise and photoelectric performance
- Hermetical packaging and 100% purge burn-in
- Applied for optical fiber communication system, analog CATV application.

### ELECTRO-OPTICAL CHARACTERISTICS(T=25 ):

PARAMETERS	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Wavelength			1000		1650	nm
Dark Current	$I_D$	$E_e=0, V_R=5V$		0.2	0.5	nA
Responsivity	$R_e$	$V_R=5V, \lambda=1310nm$	0.85	0.90		A/W
Responsivity	$R_e$	$V_R=5V, \lambda=1550nm$	0.90	0.95		A/W
Capacitance	$C$	$f=1MHz, case grounded, V_R=5V, E_e=0$		0.45	0.65	pF
Operating voltage	$V_{opr}$			-5	-15	V
Back Reflection	RL				-40	dB
Frequency Responsibility	BW	$V_R=5V, 50 \Omega$ load with lead length=6mm, case open	2.5			GHz

### ABSOLUTE MAXIMUM RATINGS(T=25 ):

PARAMETERS	MIN	MAX	UNIT
Reverse Voltage		25	V
Input optical power		10	dBm
Reverse Current		5	mA
Forward Current		10	mA
Operating Temperature	-40	+85	
Storage Temperature	-40	+85	
Lead Solder Temperature		260	
Lead soldering duration		10	s
Fiber yield strength		1	kgf
Fiber bend radius	30		mm
Length of pigtail	1.0		m

### PRECAUTIONS:

- a ESD protection is imperative.
- b Please shorten the length of the devices leads as much as possible.

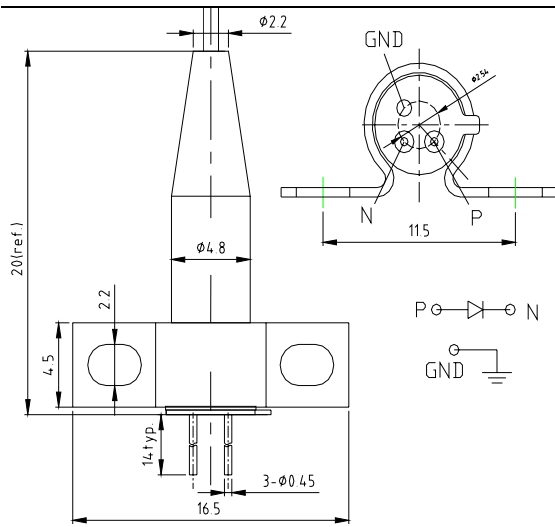
Address : 10th Floor, Tower C2, Dong ChangAn Street Dongcheng Diatric, Beijing

P.C. : 100738 Tel : 010-85180588 Fax : 010-85185617 <http://www.swt-oc.com>

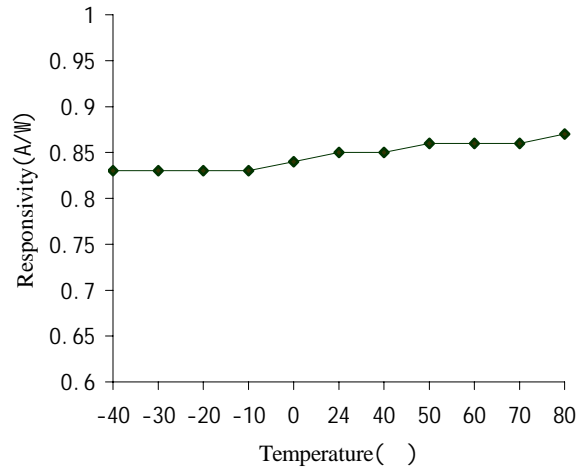


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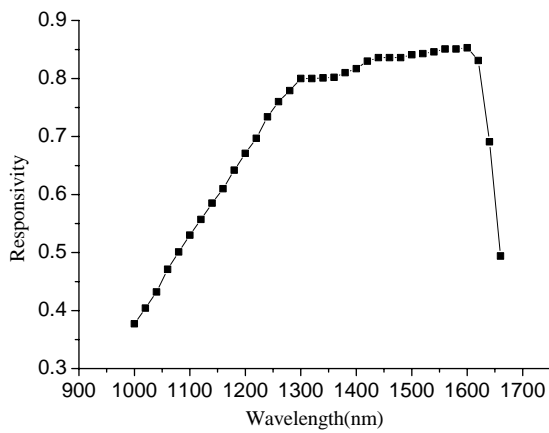
Beijing SWT Optical Communication Technology Co., Ltd.



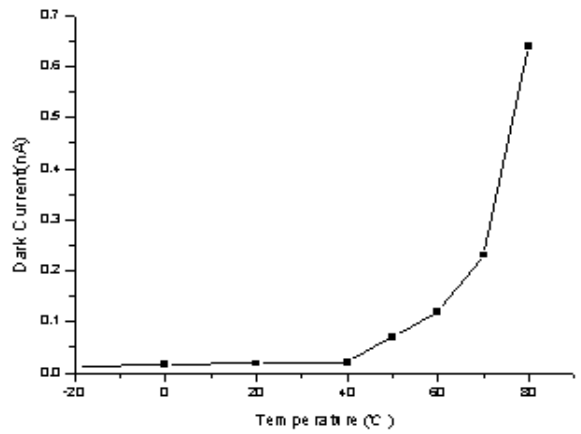
**Package Dimensions**



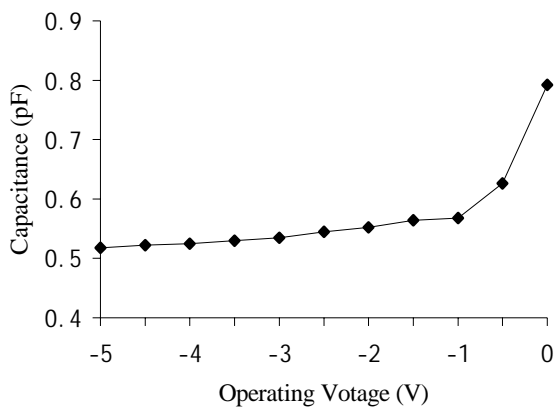
**Responsivity-Temperature Curve**



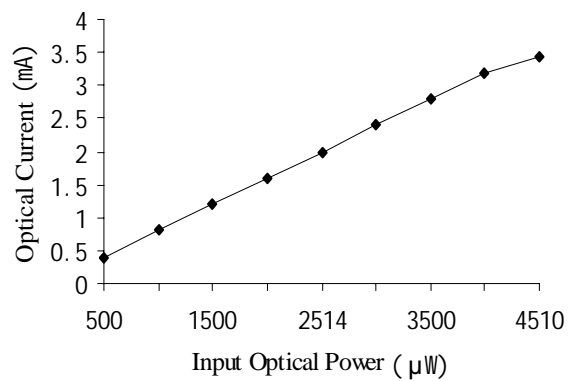
**Spectrum Curve**



**Dark Current-Temperature Curve**



**Capacitance-Voltage Curve**



**Current-Optical Power Curve**



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Responsivity	$R_e$	$V_R=5V, \lambda=1310nm$	0.85	0.90		A/W
Responsivity	$R_e$	$V_R=5V, \lambda=1550nm$	0.90	0.95		A/W
Capacitance	$C$	$f=1MHz, case grounded, V_R=5V, E_e=0$		0.45	0.65	pF
Operating voltage	$V_{opr}$			-5	-15	V
Back Reflection	RL				-40	dB
Frequency Responsibility	BW	$V_R=5V, 50 \Omega$ load with lead length=6mm, case open	2.5			GHz

### ABSOLUTE MAXIMUM RATINGS(T=25 ):

PARAMETERS	MIN	MAX	UNIT
Reverse Voltage		25	V
Input optical power		10	dBm
Reverse Current		5	mA
Forward Current		10	mA
Operating Temperature	-40	+85	
Storage Temperature	-40	+85	
Lead Solder Temperature		260	
Lead soldering duration		10	s
Fiber yield strength		1	kgf
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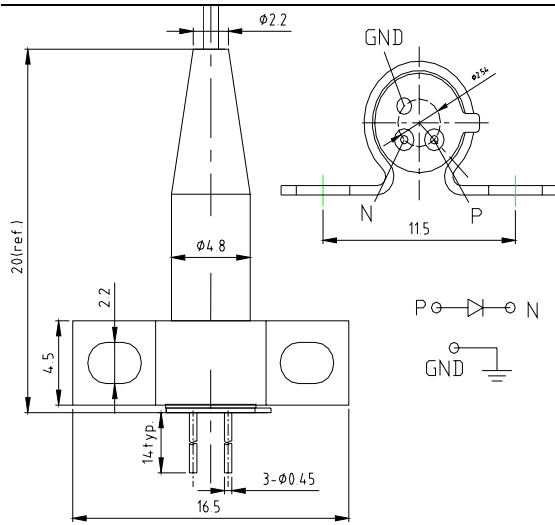
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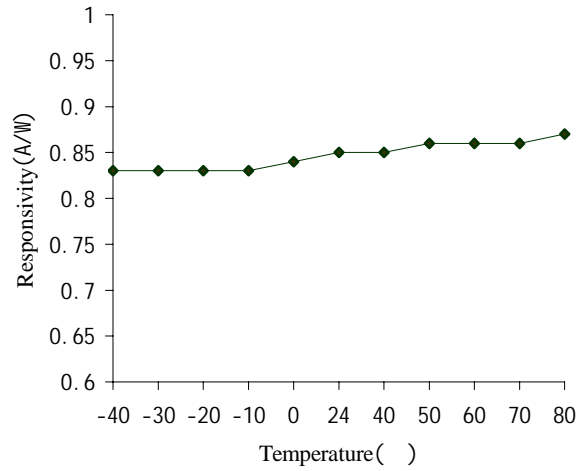


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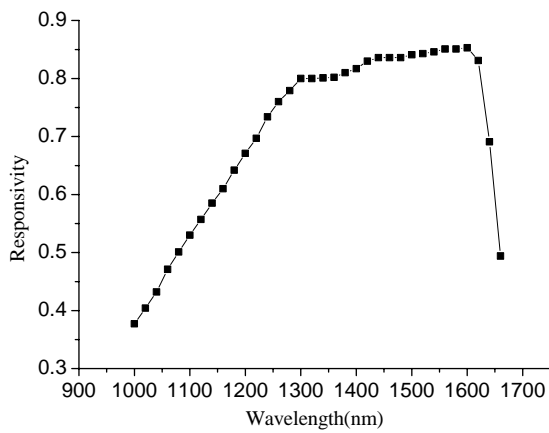
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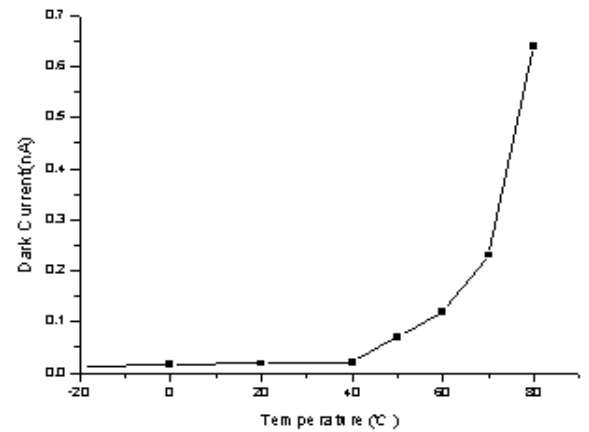
**Package Dimensions**



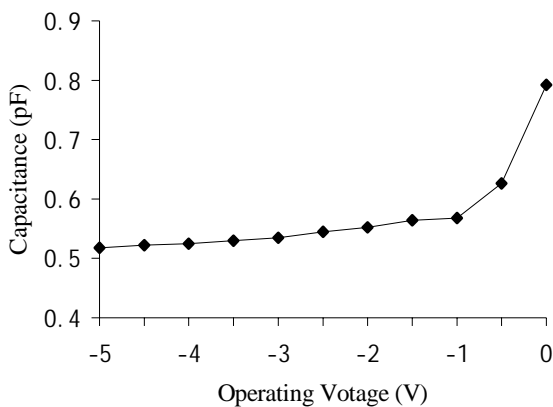
**Responsivity-Temperature Curve**



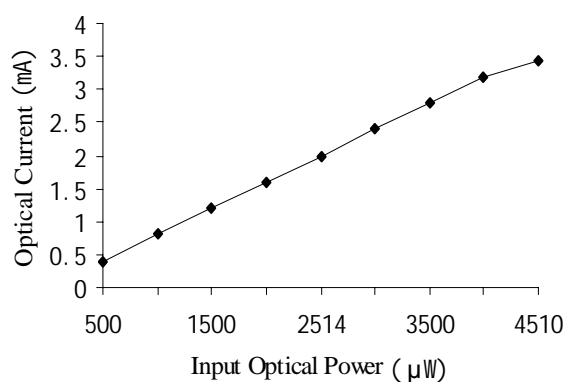
**Spectrum Curve**



**Dark Current-Temperature Curve**



**Capacitance-Voltage Curve**



**Current-Optical Power Curve**



## InGaAs PIN Photodiode

Type: PDS143-CFA-B0204

### FEATURES:

- Planar semiconductor design and dielectric passivation
- 3-pin coaxial streamline packaging ,SM pigtail withFC/APC connector
- Superior noise and photoelectric performance
- Hermetical packaging and 100% purge burn-in
- Applied for optical fiber communication system, Optical power monitor, analog CATV application.

### ELECTRO-OPTICAL CHARACTERISTICS(T=25 ):

PARAMETERS	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Wavelength			1000		1650	nm
Dark Current	$I_D$	$E_e=0, V_R=5V$		0.2	0.5	nA
Responsivity	$R_e$	$V_R=5V, \lambda=1310nm$	0.85	0.90		A/W
Responsivity	$R_e$	$V_R=5V, \lambda=1550nm$	0.90	0.95		A/W
Capacitance	$C$	$E_e=0, V_R=5V, f=1MHz,$ case grounded		0.63	0.75	pF
Operating voltage	$V_{opr}$			-5	-15	V
Back Reflection	RL				-40	dB
Frequency Responsibility	BW	$V_R=5V, 50 \Omega$ load with lead length=6mm, case open	2			GHz

### ABSOLUTE MAXIMUM RATINGS(T=25 ):

PARAMETERS	MIN	MAX	UNIT
Reverse Voltage		25	V
Input optical power		10	dBm
Reverse Current		5	mA
Forward Current		10	mA
Operating Temperature	-40	+85	
Storage Temperature	-40	+85	
Lead Solder Temperature		260	
Lead soldering duration		10	s
Fiber yield strength		1	kgf
Fiber bend radius	30		mm
Length of pigtail	1.0		m

### PRECAUTIONS:

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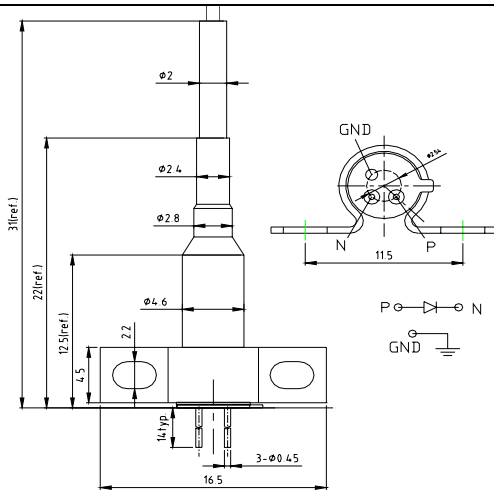
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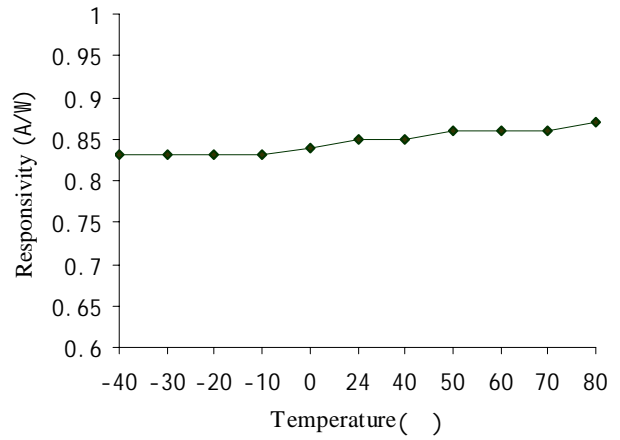


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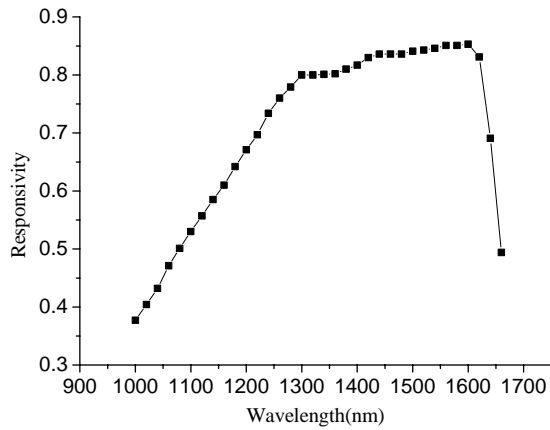
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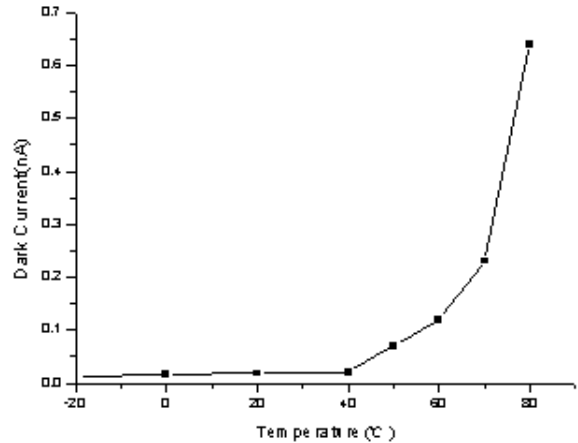
**Package Dimensions**



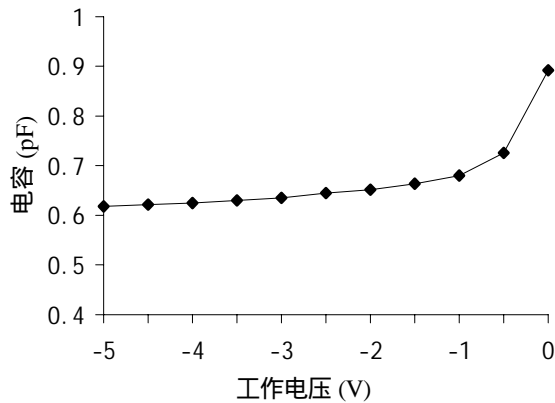
**Responsivity-Temperature Curve**



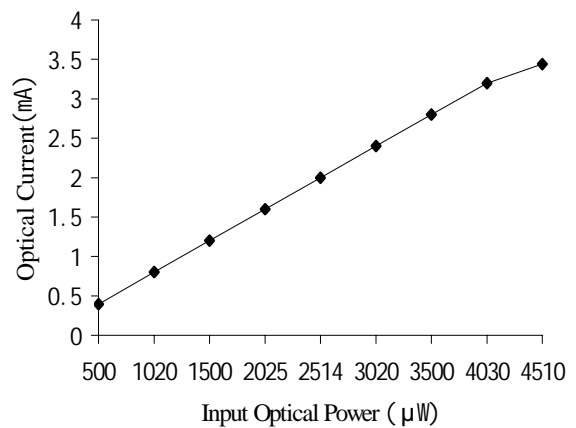
**Spectrum Curve**



**Dark Current-Temperature Curve**



**Capacitance-Voltage Curve**



**Current-Optical Power Curve**

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### ABSOLUTE MAXIMUM RATINGS(T=25 ):

PARAMETERS	MIN	MAX	UNIT
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Operating Temperature	-40	+85	
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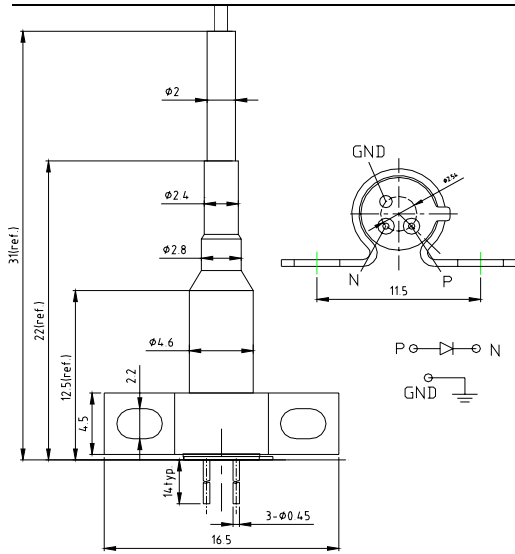
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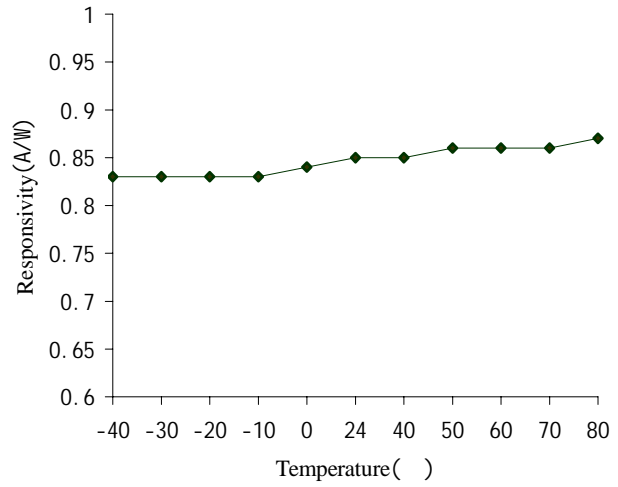


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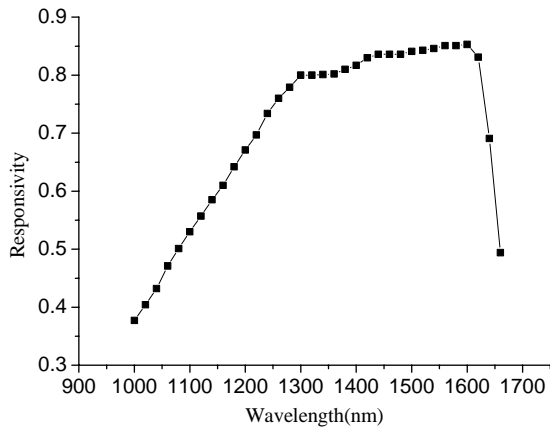
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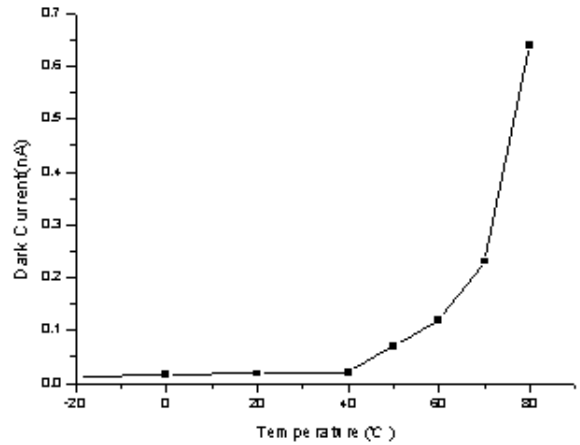
Package Dimensions



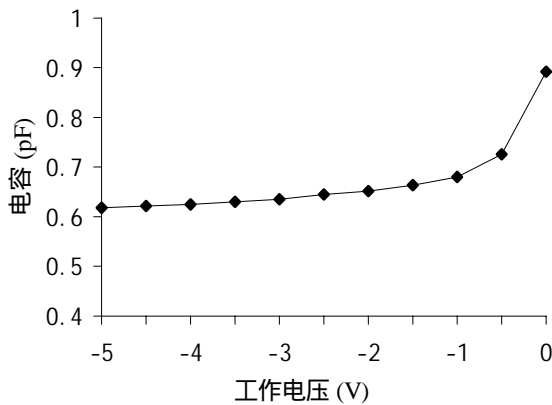
Responsivity-Temperature Curve



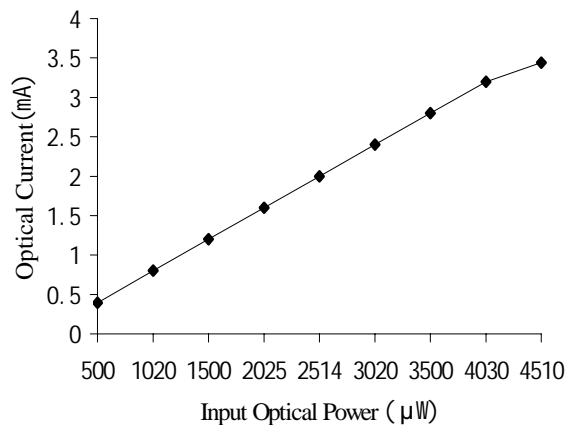
Spectrum Curve



Dark Current-Temperature Curve



Capacitance-Voltage Curve



Current-Optical Power Curve

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Capacitance	$C$	$f=1MHz, case grounded V_R=5V, E_e=0$		0.45	0.65	pF
Second order inter-modulation distortion	IMD2	$f_1=400MHz, P_1=-3dBm;$ $f_2=450.25MHz, P_2=-3dBm;$ $f_1+f_2=850.25MHz. V_R=12V$ $MI=40%. P_{avg}=0dBm. R_{load}=50$			-70	dBc
Operating voltage	$V_{opr}$			-5	-15	V
Back Reflection	RL				-40	dB
Frequency Responsibility	BW	$V_R=5V, 50 \Omega$ load with lead length=6mm, case open	2.5			GHz

### ABSOLUTE MAXIMUM RATINGS(T=25 ):

PARAMETERS	MIN	MAX	UNIT
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Input optical power		10	dBm
Reverse Current		5	mA
Forward Current		10	mA
Operating Temperature	-40	+85	
Storage Temperature	-40	+85	
Lead Solder Temperature		260	
Lead soldering duration		10	s
Fiber yield strength		1	kgf
Fiber bend radius	30		mm
Length of pigtail	1.0		m

### PRECAUTIONS:

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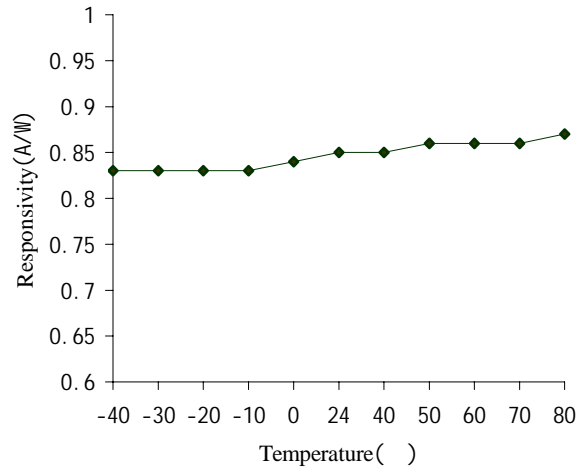
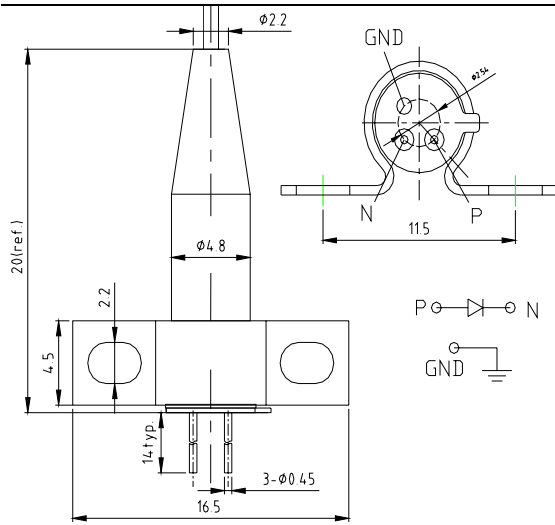
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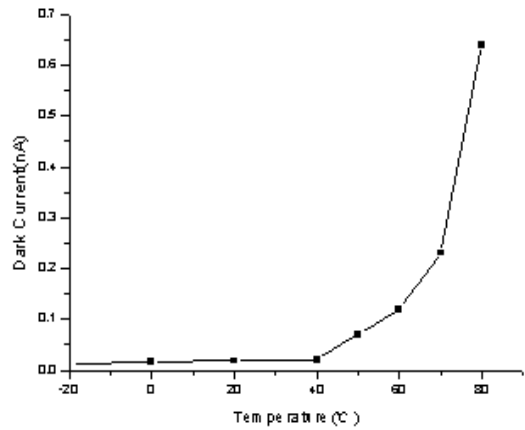
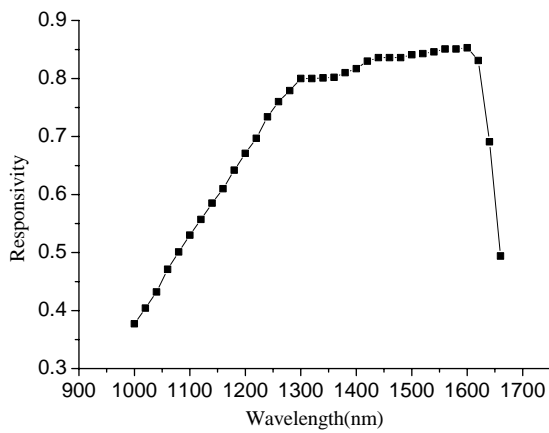
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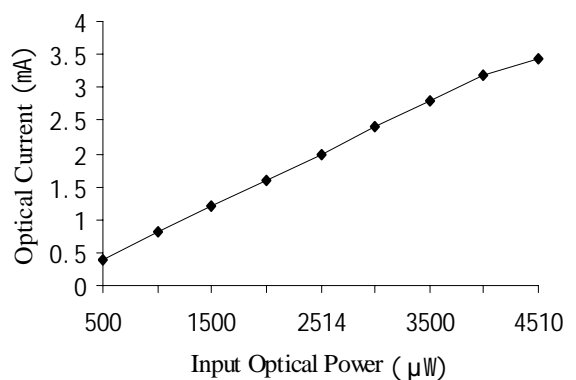
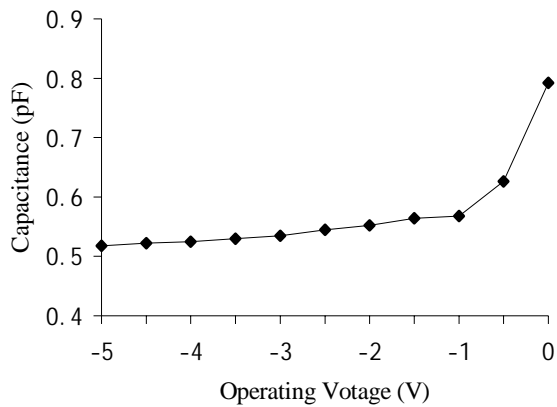
**Package Dimensions**

**Responsivity-Temperature Curve**



**Spectrum Curve**

**Dark Current-Temperature Curve**



**Capacitance-Voltage Curve**

**Current-Optical Power Curve**



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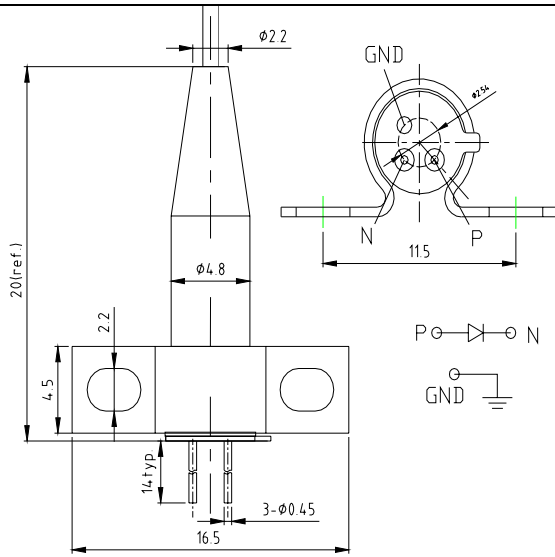
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Capacitance	$C$	$f=1MHz, case grounded V_R=5V E_e=0$		0.45	0.65	pF
Second order inter-modulation distortion	IMD2	$f_1=400MHz, P_1=-3dBm; f_2=450.25MHz, P_2=-3dBm; f_1+f_2=850.25 MHz. V_R=12V MI=40%. P_{avg}=0dBm. R_{load}=50 \Omega$			-70	dBc
Operating voltage	$V_{opr}$			-5	-15	V
Back Reflection	RL				-40	dB
Frequency Responsibility	BW	$V_R=5V, 50 \Omega$ load with lead length=6mm, case open	2.5			GHz

### ABSOLUTE MAXIMUM RATINGS(T=25°C):

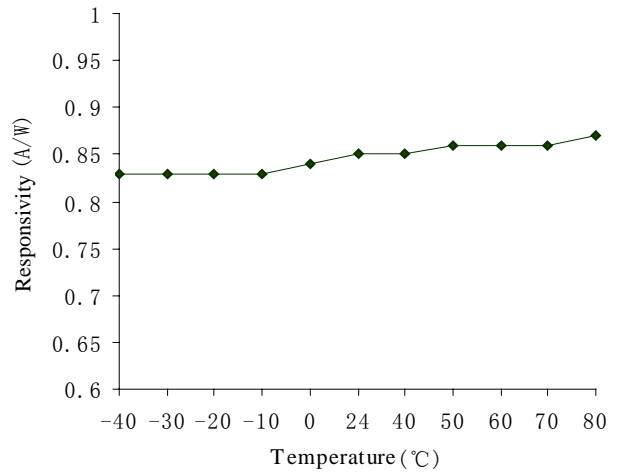
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Fiber bend radius	30		mm
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### PRECAUTIONS:

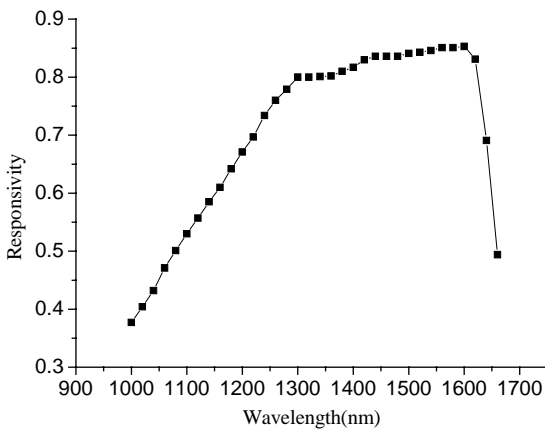
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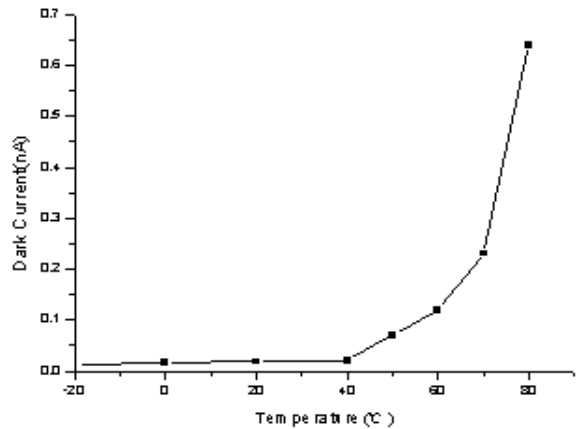
**Package Dimensions**



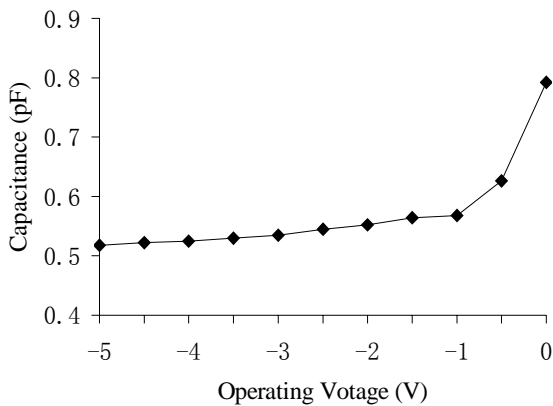
**Responsivity-Temperature Curve**



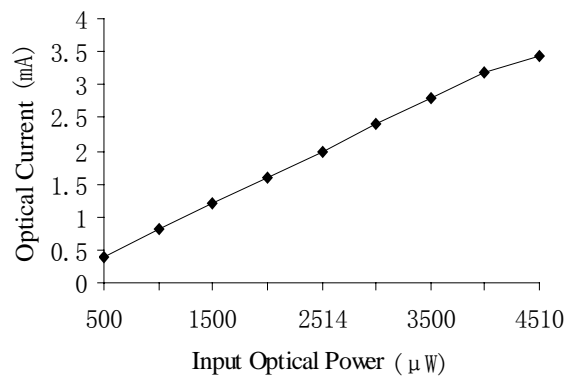
**Spectrum Curve**



**Dark Current-Temperature Curve**



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**Current-Optical Power Curve**



## InGaAs PIN Photodiode

Type: PDS143-CFA-C0202

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Capacitance	$C$	$E_e=0, V_R=5V, f=1MHz, case grounded$		0.63	0.75	pF
Second order inter-modulation distortion	IMD2	$f_1=400MHz, P_1=-3dBm; f_2=450.25MHz, P_2=-3dBm; MI=40%. P_{avg}=0dBm. R_{load}=50 \Omega$ IMD2: $f_1+f_2=850.25MHz. V_R=12V$			-70	dBc
Operating voltage	$V_{opr}$			-5	-15	V
Back Reflection	RL				-40	dB
Frequency Responsibility	BW	$V_R=5V, 50 \Omega$ load with lead length=6mm, case open	2			GHz

### ABSOLUTE MAXIMUM RATINGS(T=25 ):

PARAMETERS	MIN	MAX	UNIT
Reverse Voltage		25	V
Input optical power		10	dBm
Reverse Current		5	mA
Forward Current		10	mA
Operating Temperature	-40	+85	
Storage Temperature	-40	+85	
Lead Solder Temperature		260	
Lead soldering duration		10	s
Fiber yield strength		1	kgf
Fiber bend radius	30		mm
Length of pigtail	1.0		m

**PRECAUTIONS:**a ESD protection is imperative.

b Please shorten the length of the devices leads as much as possible.

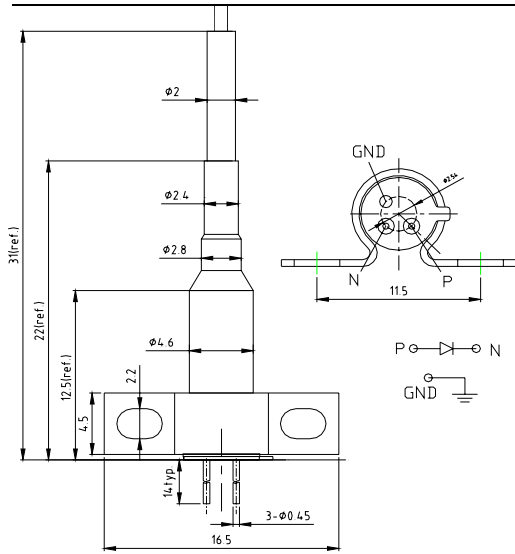
Address : 10th Floor, Tower C2, Dong ChangAn Street Dongcheng Diatric, Beijing

P.C. : 100738 Tel : 010-85180588 Fax : 010-85185617 <http://www.swt-oc.com>

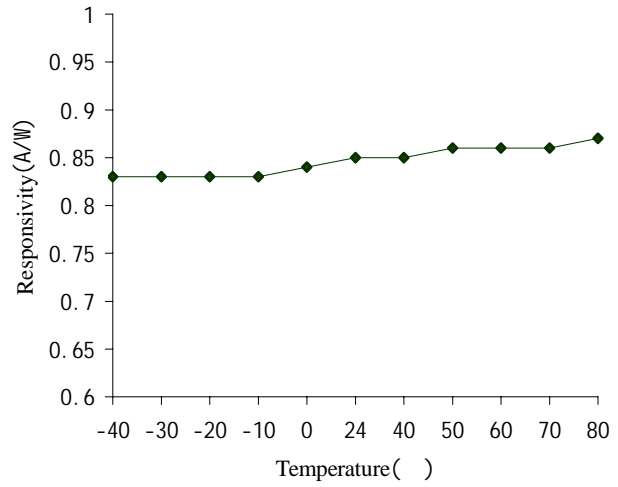


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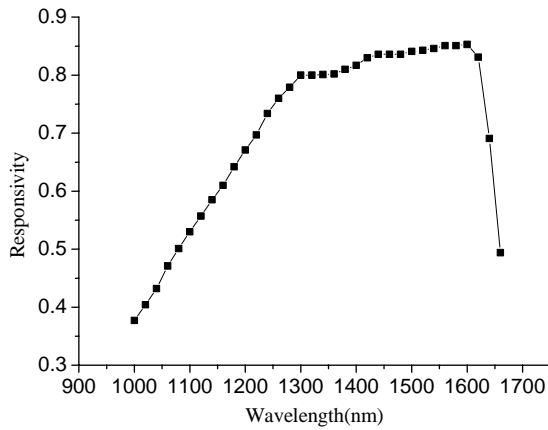
Beijing SWT Optical Communication Technology Co., Ltd.



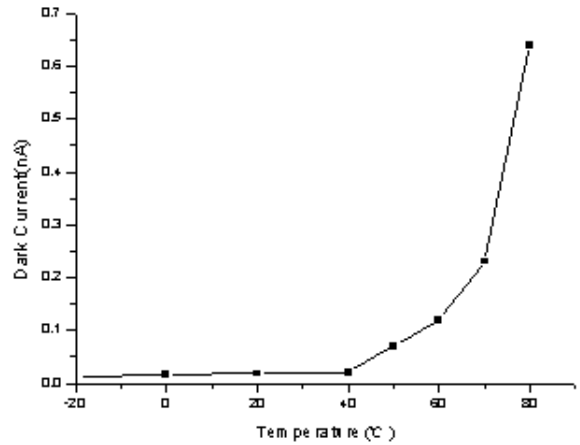
Package Dimensions



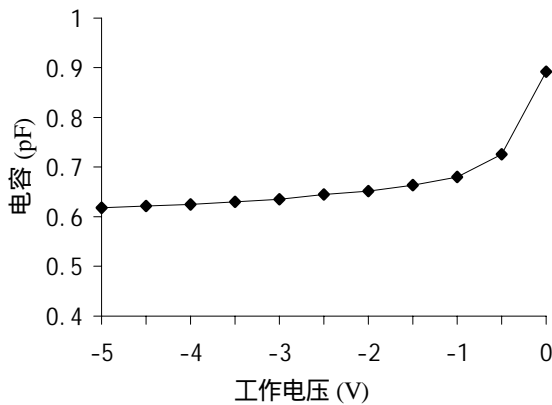
Responsivity-Temperature Curve



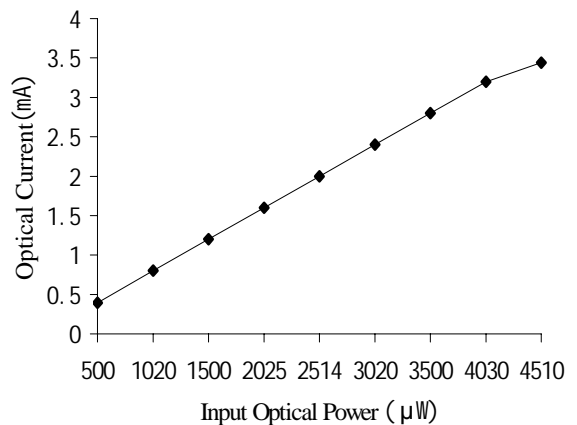
Spectrum Curve



Dark Current-Temperature Curve



Capacitance-Voltage Curve



Current-Optical Power Curve

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## InGaAs PIN Photodiode

Type: PDS143-CSA-C0204

### FEATURES:

- Planar semiconductor design and dielectric passivation
- 3-pin coaxial streamline packaging ,SM pigtail withSC/APC connector
- Superior noise and photoelectric performance
- Hermetical packaging and 100% purge burn-in
- Applied for optical fiber communication system, Optical power monitor, analog CATV application.

### ELECTRO-OPTICAL CHARACTERISTICS(T=25 ):

PARAMETERS	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Wavelength			1000		1650	nm
Dark Current	$I_D$	$E_e=0, V_R=5V$		0.2	0.5	nA
Responsivity	$R_e$	$V_R=5V, \lambda=1310nm$	0.85	0.90		A/W
Responsivity	$R_e$	$V_R=5V, \lambda=1550nm$	0.90	0.95		A/W
Capacitance	$C$	$E_e=0, V_R=5V, f=1MHz, case grounded$		0.63	0.75	pF
Second order inter-modulation distortion	IMD2	$f_1=400MHz, P_1=-3dBm; f_2=450.25MHz, P_2=-3dBm; MI=40%. P_{avg}=0dBm. R_{load}=50 \Omega$ IMD2: $f_1+f_2=850.25MHz. V_R=12V$			-70	dBc
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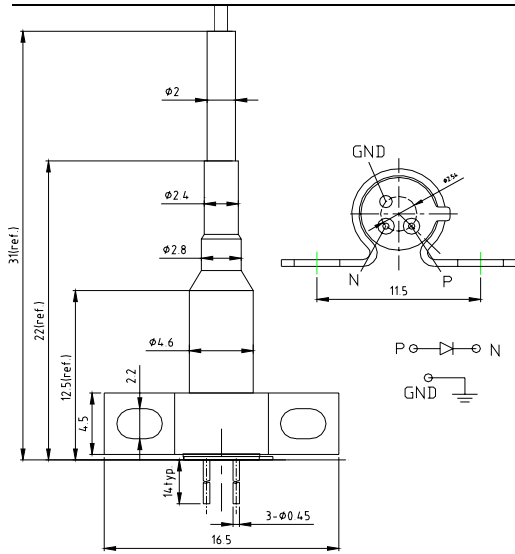
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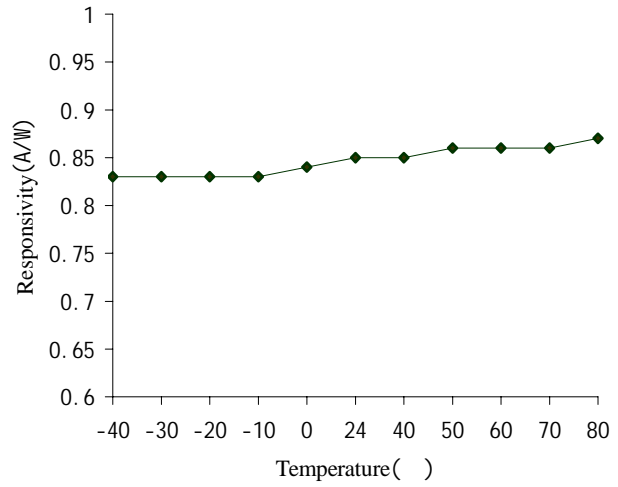


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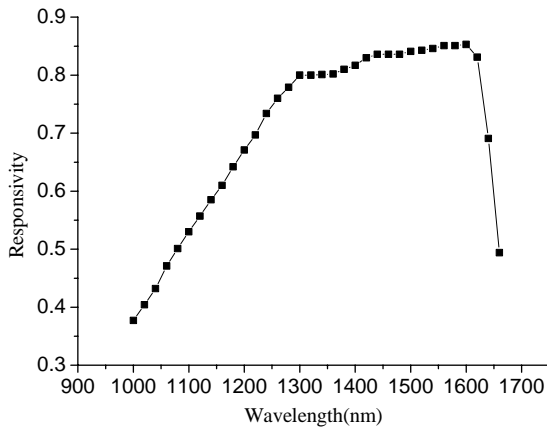
Beijing SWT Optical Communication Technology Co., Ltd.



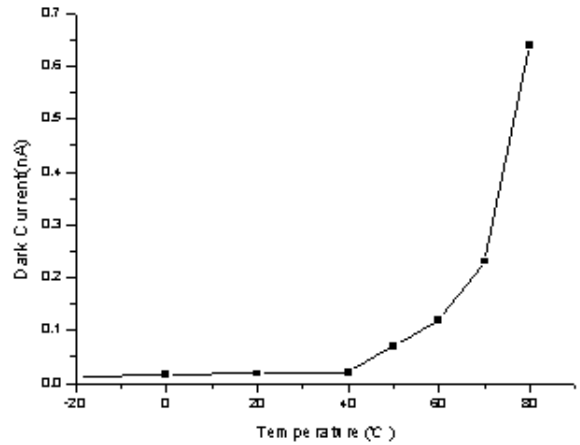
**Package Dimensions**



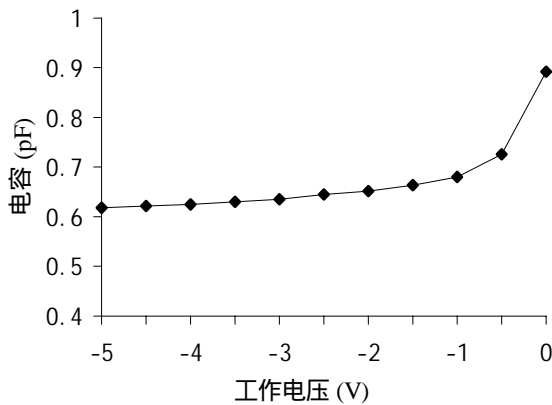
**Responsivity-Temperature Curve**



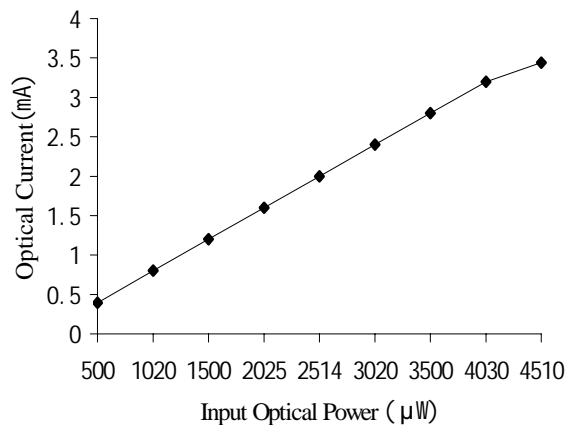
**Spectrum Curve**



**Dark Current-Temperature Curve**



**Capacitance-Voltage Curve**



**Current-Optical Power Curve**

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