

PRODUCT SPECIFICATION

Model No.: CSOV-S12050X-01

Descriptions:
<ul style="list-style-type: none"> ■ Touch Display (W/O touch drive IC) ■ Emitting Color: Blue ; White ■ White Face ■ White Segment



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

OPTO PLUS TECHNOLOGIES CO.,LTD
 Address:No.696,Yangming North Rd,
 ShaoXing City,ZheJiang Province, P.R.China.
 Tel :86-575-88623888
 Fax:86-575-88623112

Model No.: CSOV-S12050X-01

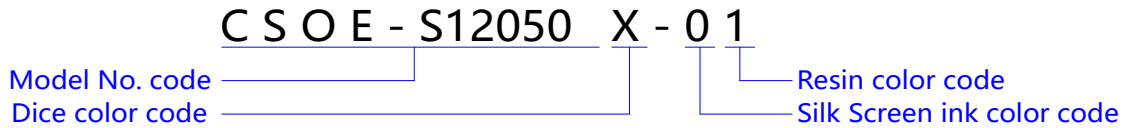
■ **Features -**

1. Case mold type.
2. RoHS compliant.
3. Low power consumption.
4. Easy mounting on P.C. board or socket.

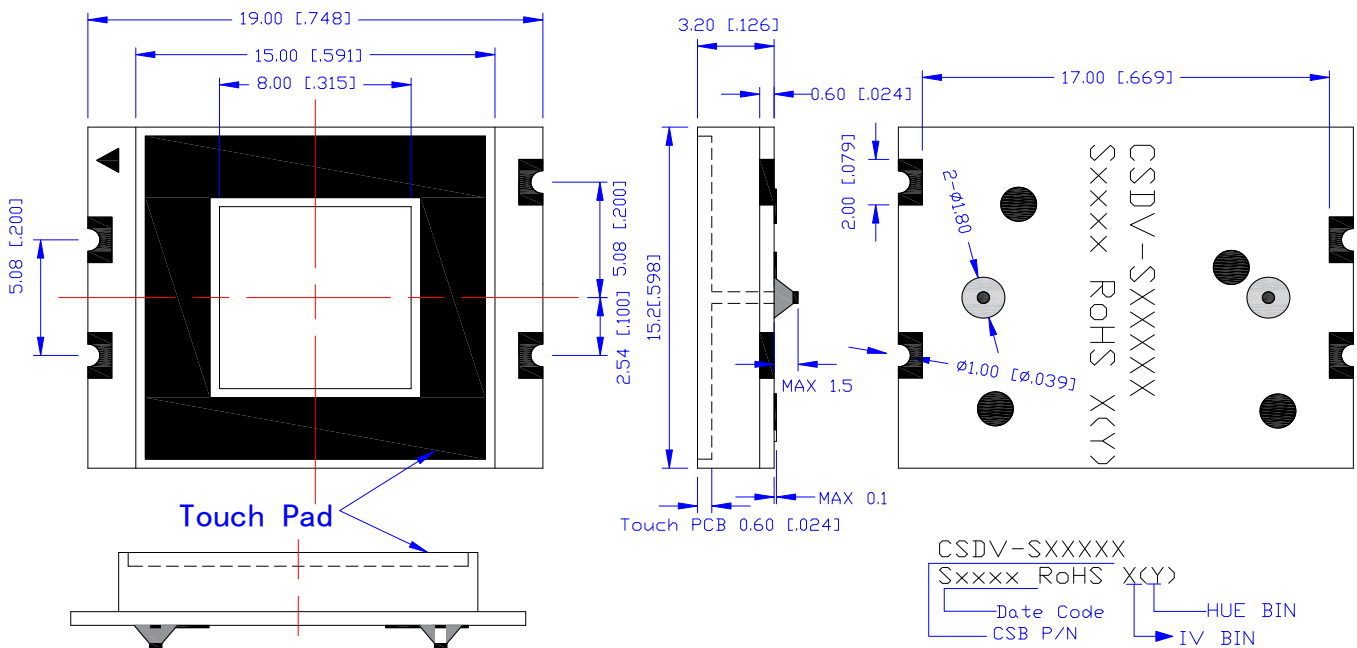
■ **Device Selection Guide -**

Model No.	Chip		Characteristics
	Material	Emitting Color	
CSOV-S12050X-01	InGaN	Blue (B)	Annex 1
	InGaN	White (W)	Annex 2

■ **LED Numeric/Alphanumeric Display**



■ **Mechanical Dimensions -**

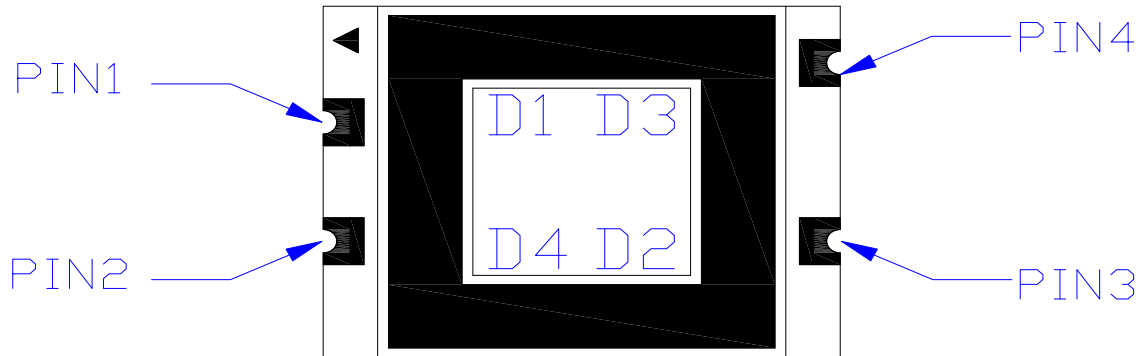


Notes:

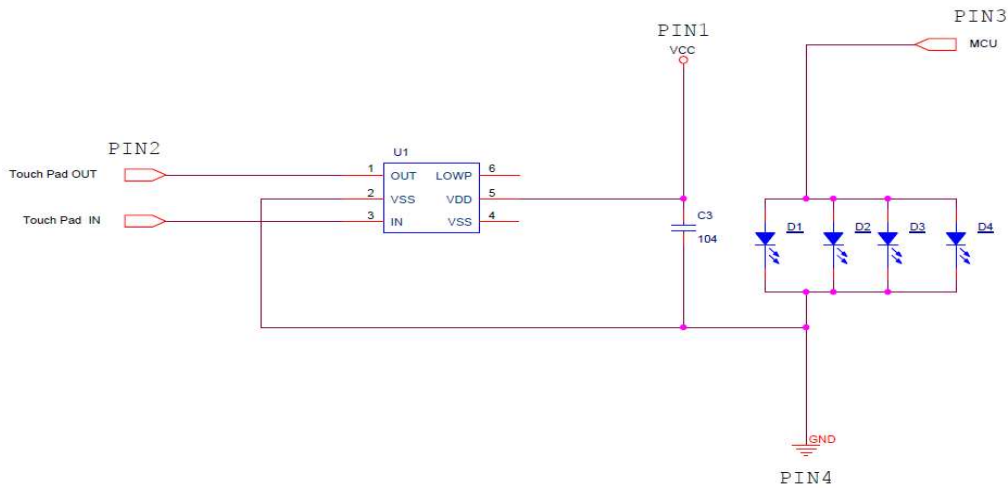
1. Dimension in millimeter [inch], tolerance is ± 0.25 [.010], unless otherwise noted
2. Bending \leq Length*1%

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■ All Light On Segments Feature & Pin Position



■ Internal Circuit Diagrams -



■ Touch IC Electro-optical Characteristics -

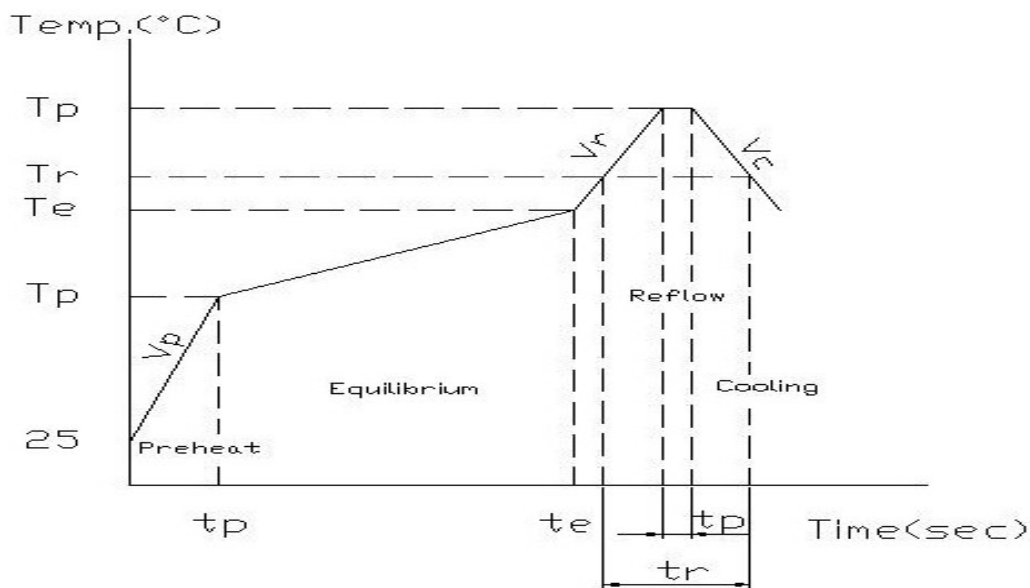
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{DD}	Supply Voltage	-	2.0	-	5.5	V
V_{IH}	High Level Input Voltage	@ $V_{DD}=5V$	3.5	-	5	V
V_{IL}	Low Level Input Voltage	@ $V_{DD}=5V$	0	-	1.5	V
I_{DD1}	Operating Current	@ $V_{DD}=5V$, no load	-	16	-	uA
		@ $V_{DD}=3V$, no load	-	3.5	-	
I_{DD2}	Operating Current (SLRT= V_{DD})	@ $V_{DD}=5V$, no load	-	10.5	-	uA
		@ $V_{DD}=3V$, no load	-	2.5	-	
I_{OL}	Low Level Output Current	@ $V_{DD}=3V$, $V_{OL}=1V$	-	30	-	mA
I_{OH}	High Level Output Current	@ $V_{DD}=3V$, $V_{OH}=2V$	-	80	-	mA

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■ Soldering Characteristics

1. IR-Reflow Soldering Profile :

Area	Title	Symbol	Min	Max	Unit
(1)Preheat	Ramp-up rate	Vp	1	5	°C/sec
	temperature	Tp	150	—	°C
	time	tp	—	—	sec
(2)Equilibrium	Ramp-up rate	Ve	—	—	°C/sec
	temperature	Te	150	200	°C
	Time	te	60	120	sec
(3)Reflow	Ramp-up rate	Vr	1	5	°C/sec
	temperature	Tr	220	—	°C
	Time	tr	—	60	sec
	Peak temperature	Trp	—	260	°C
	Peak time	trp	—	10	sec
(4)Cooling	Ramp-down rate	Vc	3	6	°C/sec



2. Hand Soldering (Iron Condition)

Soldering Iron: 30W Max
 Temperature 350°C Max
 Soldering Time: 3 Seconds Max (One Time)
 Distance: 1.6mm min (From seating plane)

■ Absolute Maximum Rating -

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	P_d	114	mW
Derating Liner from 25°C per Dice	-	0.4	mA/°C
Continuous Forward Current Per Dice	I_f	30	mA
Peak Current Per Dice(duty cycle 1/10,1KHz)	I_{fp}	100	mA
Reverse Voltage Per Dice	V_r	5	V
Electrostatic discharge(HBM)	ESD	1000	V
Operating Temp.	T_{opr}	-35 ~ +85	°C
Storage Temp.	T_{stg}	-35 ~ +85	°C

■ Electro-optical Characteristics -

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	V_f	-	3.2	3.8	V	$I_f=20mA$
Luminous Intensity	I_v	44	70	-	mcd	$I_f=20mA$
Dominant Wavelength	λ_d	-	470	-	nm	$I_f=20mA$
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	30	-	nm	$I_f=20mA$
Reverse Current	I_r	-	-	50	μA	$V_r=5V$
Luminous Intensity Matching Ratio	I_v-m	-	-	2:1	-	$I_f=10mA$

Notes:The device can not operated under continuous reverse voltage.

■ Electrical / Optical Characteristics Curves -

(Ta = 25°C Unless Otherwise Noted)

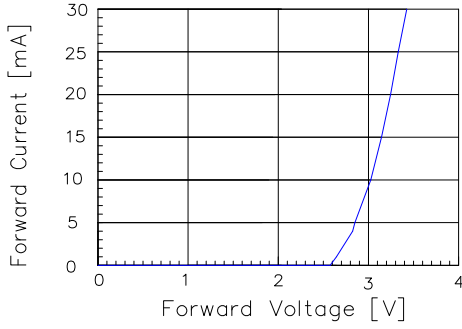


Fig 1. Forward Current vs. Forward Voltage

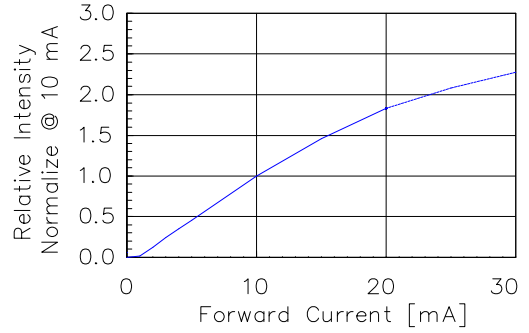


Fig 2. Relative Intensity vs. Forward Current

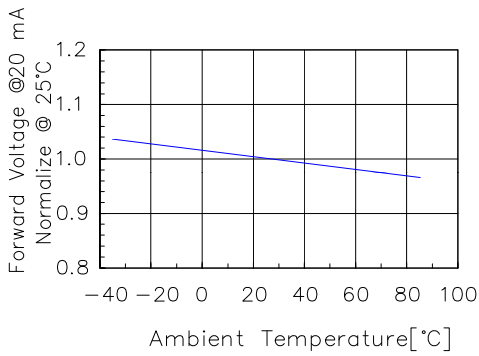


Fig 3. Forward Voltage vs. Temperature

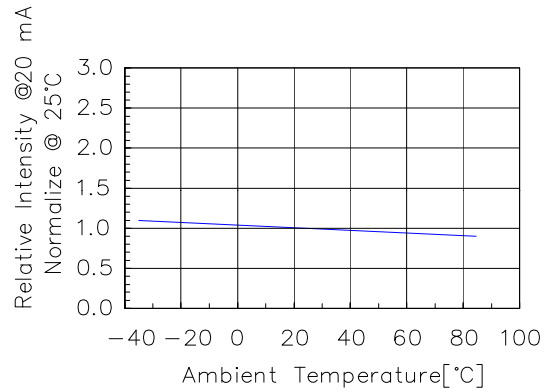


Fig 4. Relative Intensity vs. Temperature

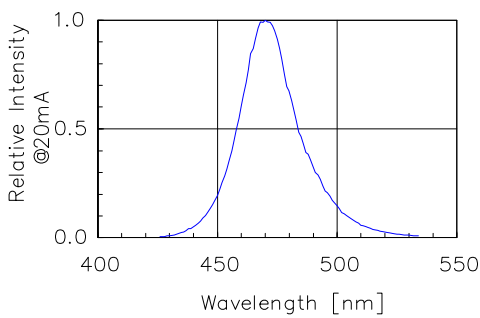


Fig 5. Relative Intensity vs. Wavelength

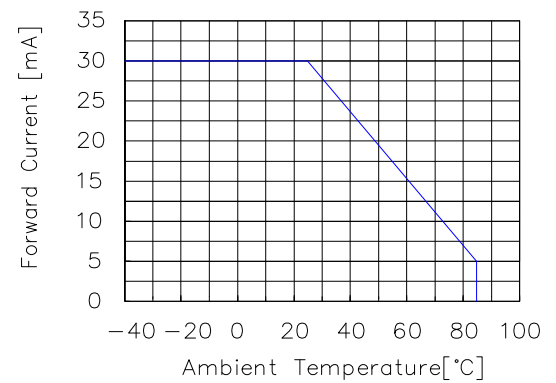


Fig 6. Forward current vs. Temperature

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(Ta=25°C)

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Derating Liner from 25°C per Dice	-	0.4	mA/°C
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Reverse Voltage Per Dice	V_r	5	V
Electrostatic discharge(HBM)	ESD	1000	V
Operating Temp.	T_{opr}	-35 ~ +85	°C
Storage Temp.	T_{stg}	-35 ~ +85	°C

■ Electro-optical Characteristics -

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	V_f	-	3.2	3.8	V	$I_f=20mA$
Luminous Intensity	I_v	113	290	-	mcd	$I_f=20mA$
Chromaticity Coordinates (Tolerance: ±0.01)	X	-	0.27	-	-	$I_f=10mA$
	Y	-	0.25	-	-	
Reverse Current	I_r	-	-	50	μA	$V_r=5V$
Luminous Intensity Matching Ratio	I_v-m	-	-	2:1	-	$I_f=10mA$

Notes:The device can not operated under continuous reverse voltage.

■ Electrical / Optical Characteristics Curves -

(Ta = 25°C Unless Otherwise Noted)

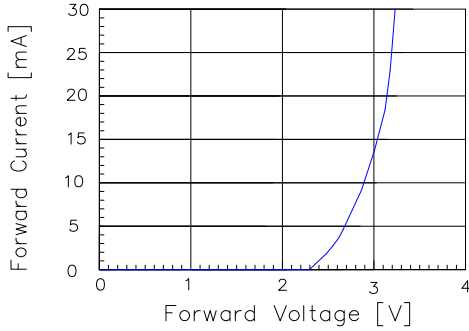


Fig 1. Forward Current vs. Forward Voltage

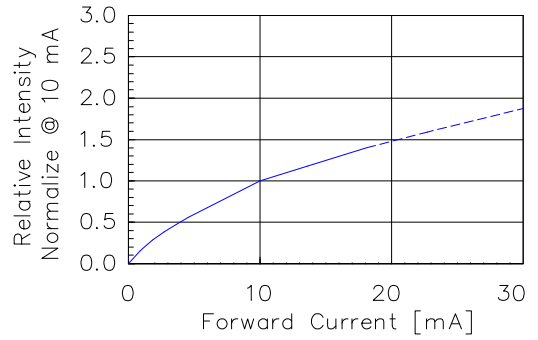


Fig 2. Relative Intensity vs. Forward Current

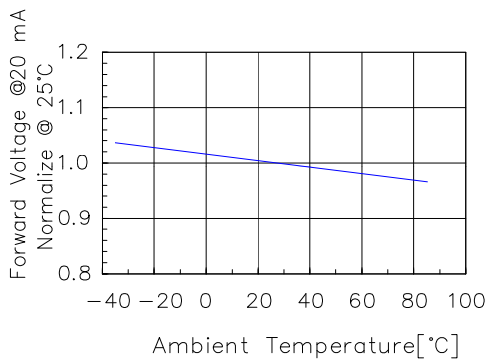


Fig 3. Forward Voltage vs. Temperature

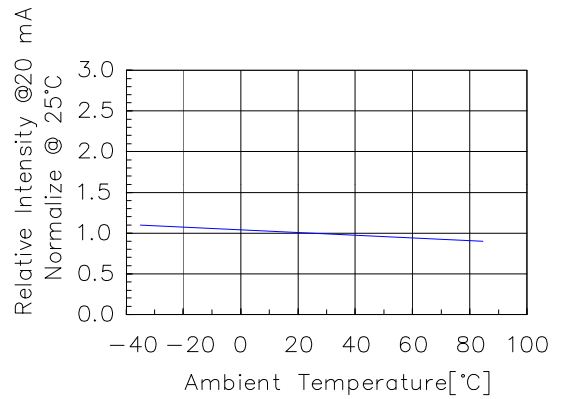


Fig 4. Relative Intensity vs. Temperature

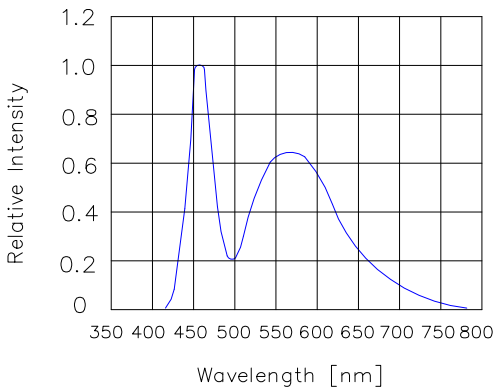


Fig 5. Relative Intensity vs. Wavelength

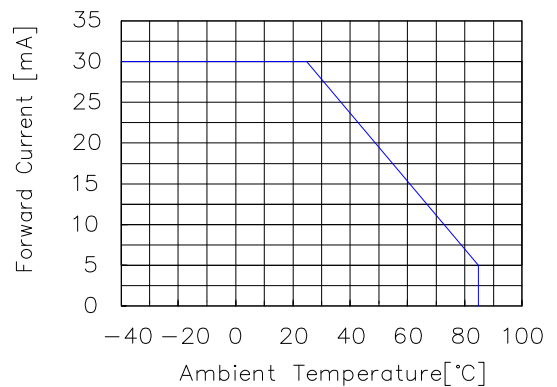
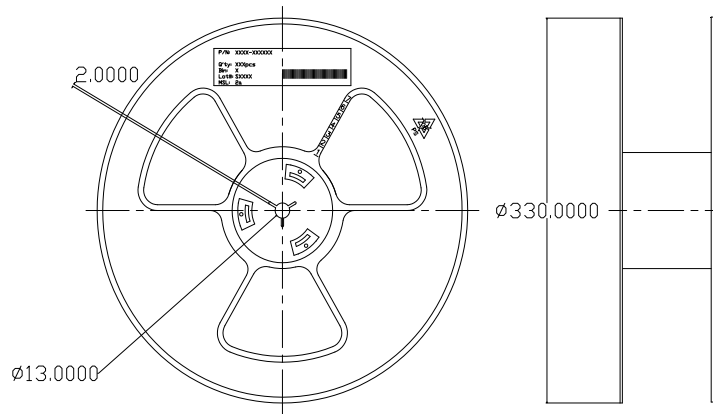


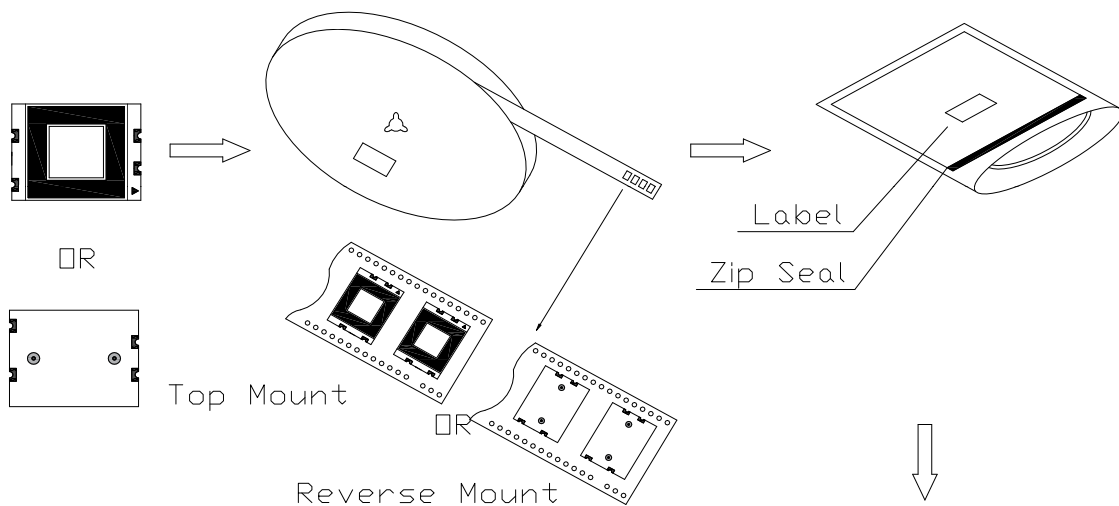
Fig 6. Forward current vs. Temperature

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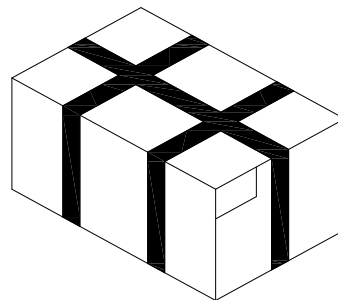
■ Reel Dimensions



■ Packing & Label Specifications



750Pcs / 1Reel



5 Reel / 1Box

Size: 440X340X280 mm