



**BRIGHTTEK**  
**BRIGHTTEK (EUROPE) LIMITED**

*Brighten up The World With LED!*



ISO/TS 16949:2009



BS EN ISO 14001:2004



QC 080000 IECQ HSPM

## PRODUCT DATASHEET



- ▶ DC Input Photo Coupler
- ▶ SMD6 Gullwing
- ▶ Schmitt Trigger

Release Date: 30 August 2024 Version: A00

# H11LX(SLM)(T1)-GV



## H11LX(SLM) Series



### DESCRIPTION:

The H11LX(SLM) series combine an AlGaAs infrared emitting diode as the emitter which is optically coupled to a Schmitt Trigger detector in a plastic DIP6 package with SMD6 Gullwing lead forming option.

### FEATURES:

- High isolation 5000 Vrms
- DC input with Schmitt Trigger output
- Operating temperature range -55°C to +100°C
- REACH & RoHS compliance
- MSL class 1
- Regulatory Approvals:
  - UL - UL1577
  - VDE - EN60747-5-5 (VDE0884-5)
  - CQC - GB4943.1, GB8898
  - cUL - CSA Component Acceptance Service Notice 5A
- Packing: 16mm tape with 1000pcs/reel, ø330mm (13")

### APPLICATIONS:

- Logic to logic isolator
- Programmable current level sensor
- Line receiver - eliminate noise and transient problems
- AC to TTL conversion square wave shaping
- Power Supply digital programming
- Interfaces computer peripherals



Partner with: LIGHTNING

## NAMING & ORDERING INFORMATION:

Naming Information:

<b>H11L X (SLM) (T1) - G V</b>	
<b>H11L</b>	Part Number
<b>X</b>	Selection: Turn On Threshold Current (X=1/2/3)
<b>SLM</b>	Lead Form Option: SMD6 Low Profile
<b>T1</b>	Selection: Tape and Reel Option (T1(default)/T2)
<b>G</b>	Green Option
<b>V</b>	VDE Option

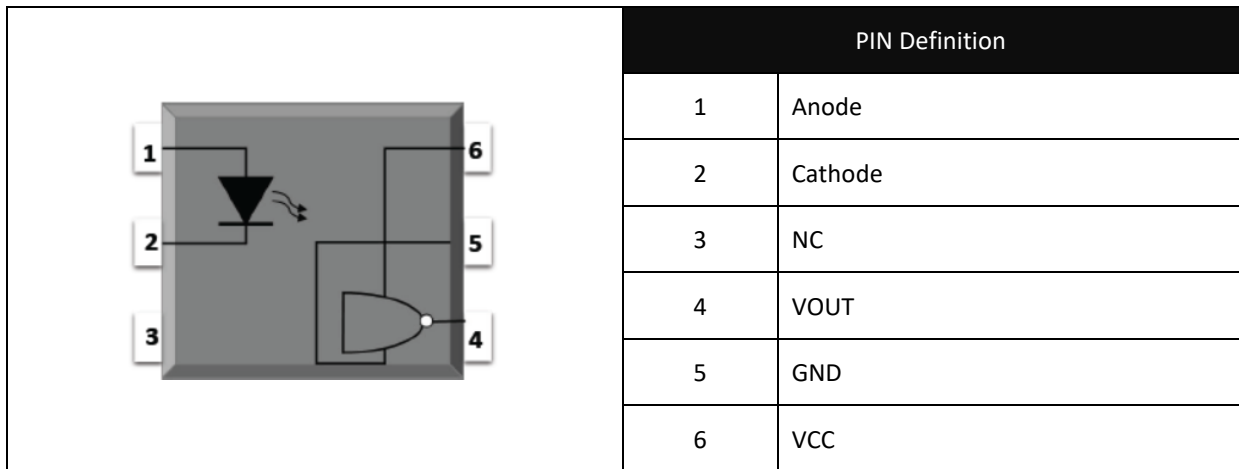
Ordering Information:

<b>H11LX(SLM)(T1)-GV</b>						
$\underline{X}$ = Selection: Turn On Threshold Current (X=1/2/3)						
Part Number	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
H11L1(SLM)(T1)-GV	$I_{Fon}$	---	---	1.6	mA	$V_{CC}=5V, R_L=270\Omega$
H11L2(SLM)(T1)-GV		---	---	10		
H11L3(SLM)(T1)-GV		---	---	5		

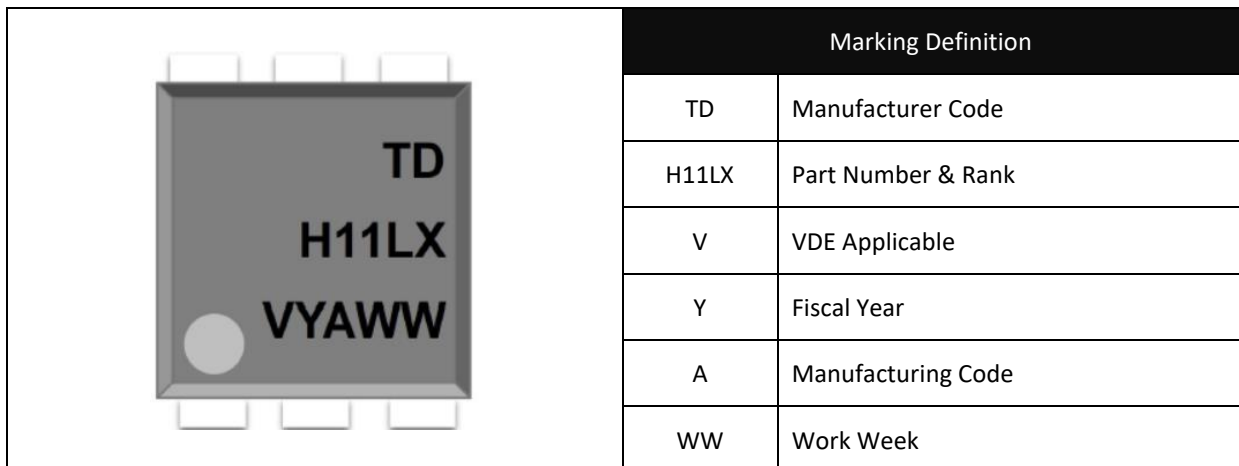
Version No.	Original Release Date
Rev: A00	22/06/2021

## SCHEMATIC DIAGRAM & MARKING:

Schematic Diagram:



Marking Information:



Labelling Information:

	<p>This product is manufactured, tested, and packed by</p> 
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## ABSOLUTE CHARACTERISTICS:

### Absolute Maximum Ratings:

Parameter	Symbol	Ratings	Unit
INPUT			
Forward Current	$I_F$	60	mA
Peak Transient Current	$I_{F(trans)}$	1 * <sup>1</sup>	A
Reverse Voltage	$V_R$	6	V
Input Power Dissipation	$P_i$	120	mW
OUTPUT			
Supply Voltage	$V_{CC}$	3 to 16	V
Output Voltage	$V_O$	0 to 16	V
Output Current	$I_o$	50	mA
Output Power Dissipation	$P_o$	150	mW
COMMON			
Total Power Dissipation	$P_{tot}$	250	mW
Isolation Voltage	$V_{iso}$	5000 * <sup>2</sup>	V <sub>rms</sub>
Operating Temperature	$T_{opr}$	-55~+100	°C
Storage Temperature	$T_{stg}$	-55~+150	°C
Soldering Temperature	$T_{sol}$	260 * <sup>3</sup>	°C

\*1.  $\leq 1\mu s$  P.W., 300pps

\*2. AC for 1 minute, R.H.=40~60%

\*3. For 10 seconds

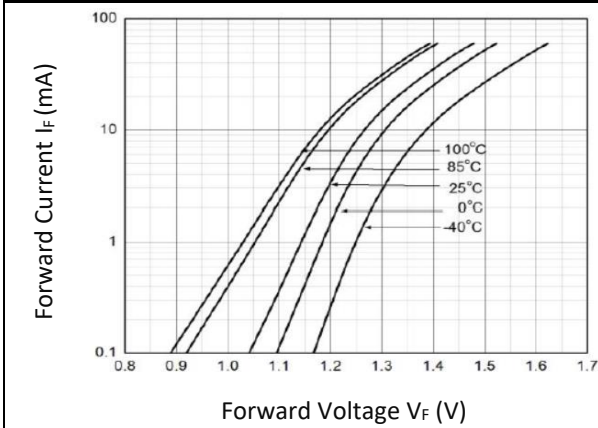
**ELECTRICAL CHARACTERISTICS:**

Electrical Optical Characteristics at Ta=25°C:

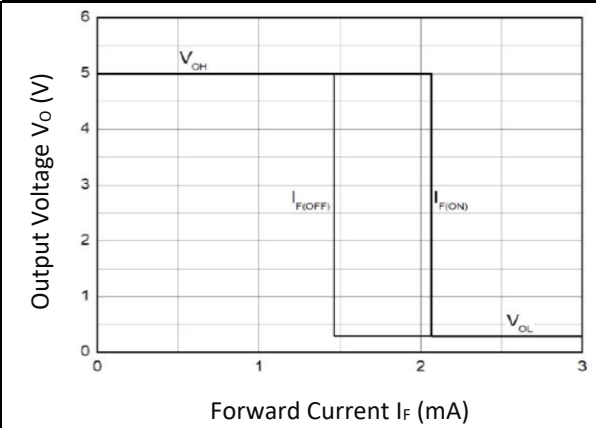
Parameter	Symbol	Values			Unit	Test Condition	
		Min.	Typ.	Max.			
<b>INPUT</b>							
Forward Voltage	V <sub>F</sub>	---	1.24	1.5	V	I <sub>F</sub> =10mA	
Reverse Current	I <sub>R</sub>	---	---	10	μA	V <sub>R</sub> =5V	
Input Capacitance	C <sub>IN</sub>	---	60	---	pF	V=0, f=1MHz	
<b>OUTPUT</b>							
Operation Voltage Range	V <sub>CC</sub>	3	---	15	V	---	
Off State Supply Current	I <sub>CC(off)</sub>	---	1.6	5	mA	I <sub>F</sub> =0mA, V <sub>CC</sub> =5V	
On State Supply Current	I <sub>CC(on)</sub>	---	1.6	5	mA	I <sub>F</sub> =10mA, V <sub>CC</sub> =5V	
High Level Output Current	I <sub>OH</sub>	---	---	100	μA	I <sub>F</sub> =10mA, V <sub>CC</sub> =V <sub>O</sub> =15V	
<b>TRANSFER CHARACTERISTICS (Ta=-40~+85°C)</b>							
Low Level Output Voltage	V <sub>OL</sub>	---	0.35	0.6	V	V <sub>CC</sub> =5.5V, V <sub>E</sub> =2.0V I <sub>F</sub> =5mA, I <sub>CL</sub> =13mA	
Turn On Threshold Current	H11L1	I <sub>Fon</sub>	---	---	1.6	mA	V <sub>CC</sub> =5V, R <sub>L</sub> =270Ω
	H11L2		---	---	10		
	H11L3		---	---	5		
Turn Off Threshold Current	I <sub>Foff</sub>	---	1	---	mA	V <sub>CC</sub> =5V, R <sub>L</sub> =270Ω	
Turn On Time	t <sub>on</sub>	---	---	4	μs	V <sub>CC</sub> =5V, I <sub>F</sub> =I <sub>Fon</sub> , R <sub>L</sub> =270Ω	
Fall Time	t <sub>f</sub>	---	0.1	---	μs		
Turn Off Time	t <sub>off</sub>	---	---	4	μs		
Rise Time	t <sub>r</sub>	---	0.1	---	μs		
Data Rate	---	---	1	---	MHz	---	
Isolation Resistance	R <sub>iso</sub>	10 <sup>12</sup>	10 <sup>14</sup>	---	Ω	DC=500V, 40~60% R.H.	
Floating Capacitance	C <sub>IO</sub>	---	0.3	1	pF	V=0, f=1MHz	

### CHARACTERISTIC CURVES:

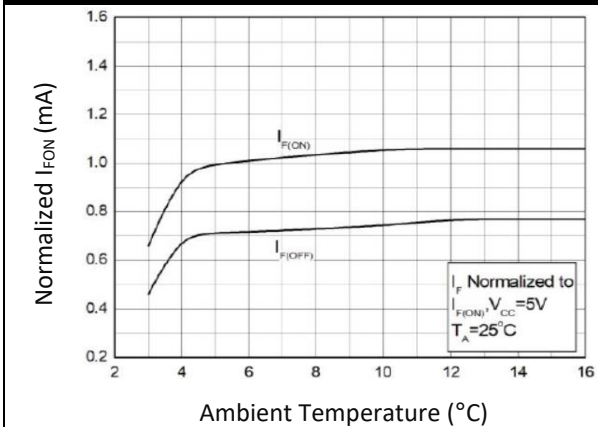
Forward Voltage v.s. Forward Current



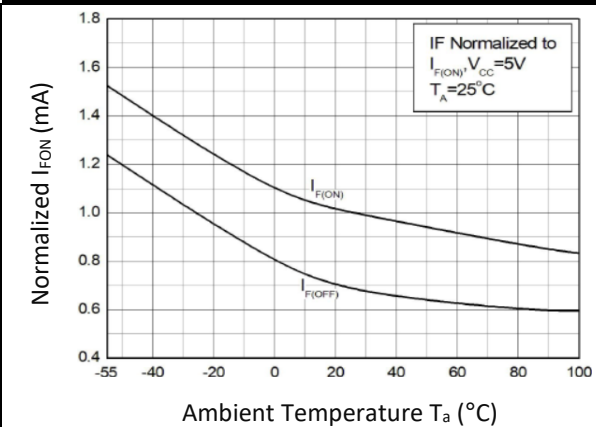
Output Voltage v.s. Forward Current



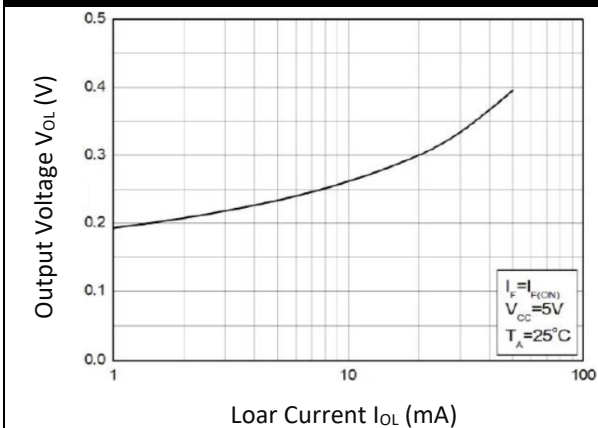
Normalized Turn-On Threshold Current v.s. Supply Voltage



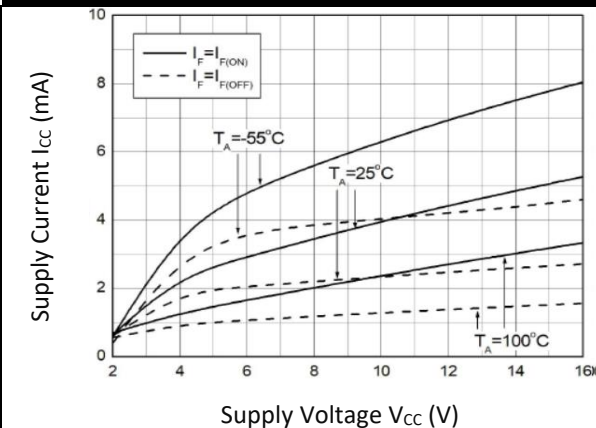
Normalized Turn-On Threshold Current v.s. Ambient Temperature



Low Level Output Voltage v.s. Load Current

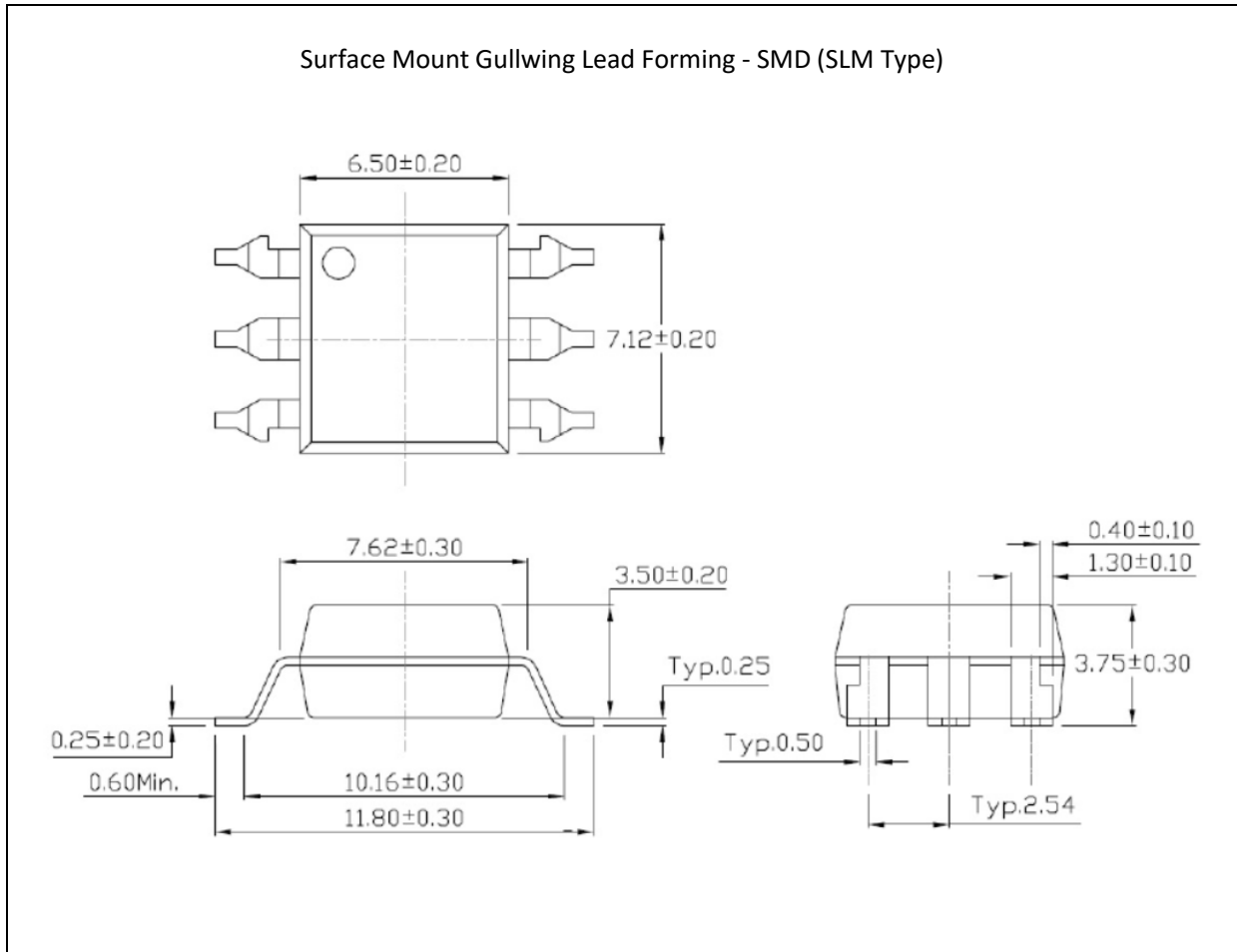


Supply Current v.s. Supply Voltage



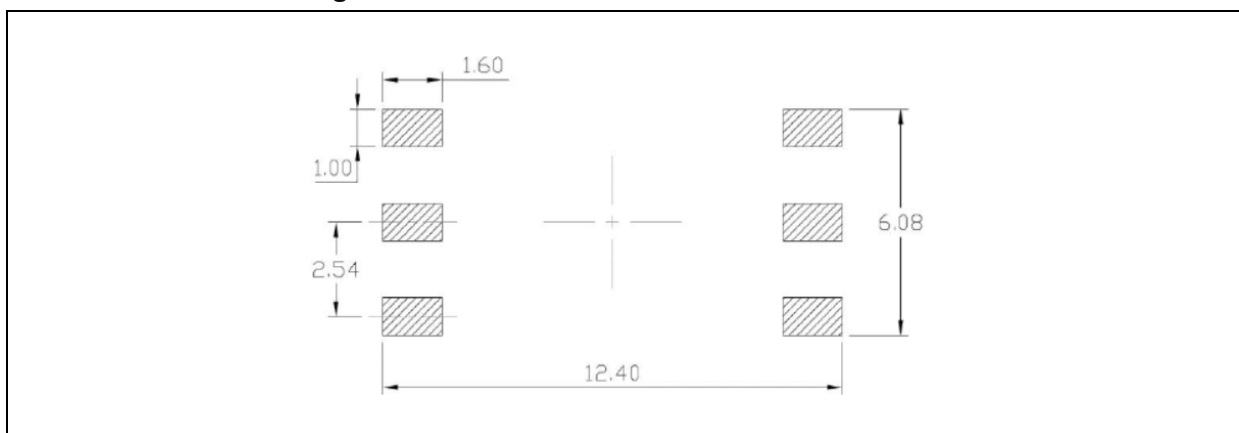
## OUTLINE DIMENSION:

Package Dimension:



1. All dimensions are in millimetre (mm).

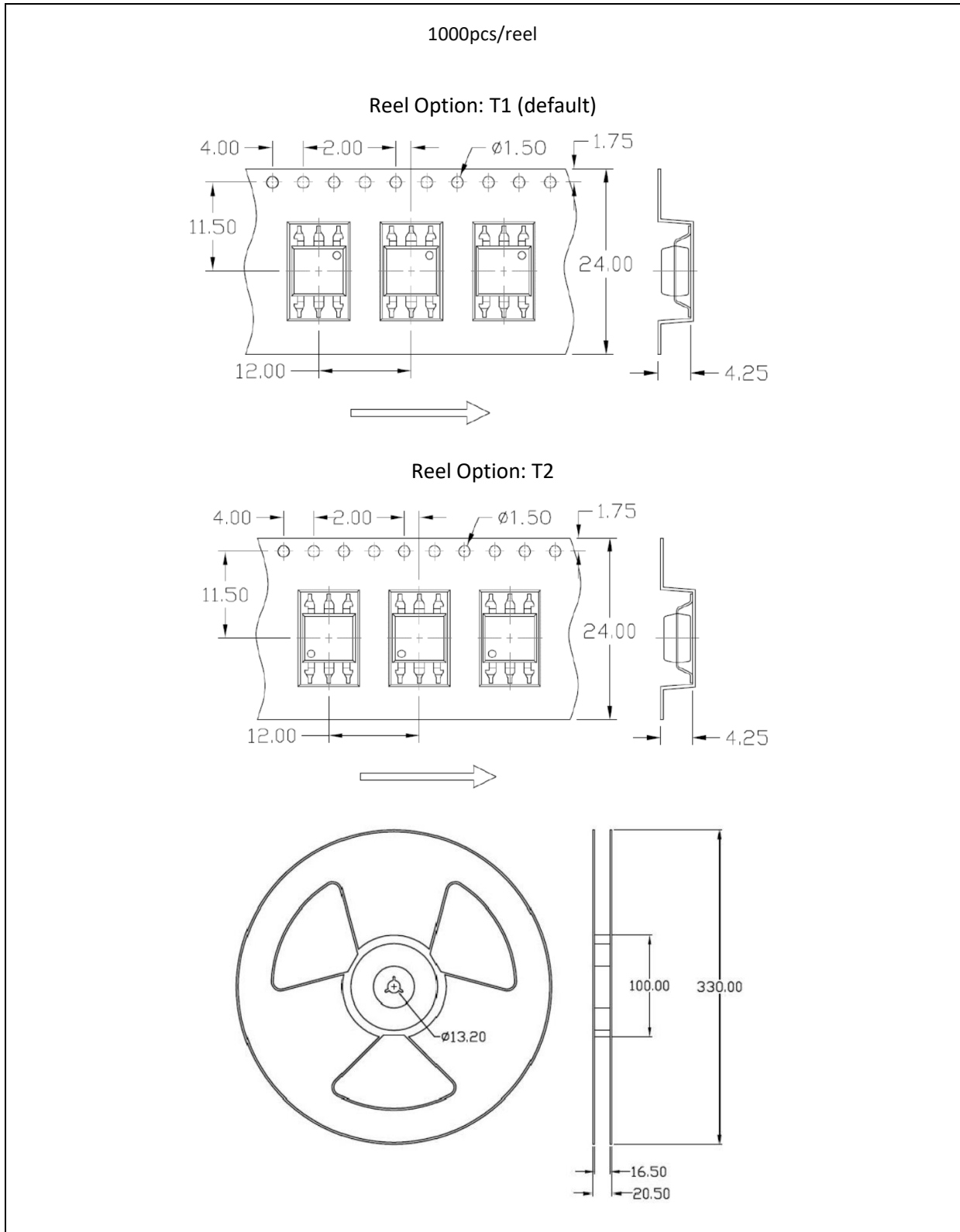
Recommended Soldering Mask:



1. Dimensions are in millimetre (mm).

## PACKING SPECIFICATION:

Reel Dimension:

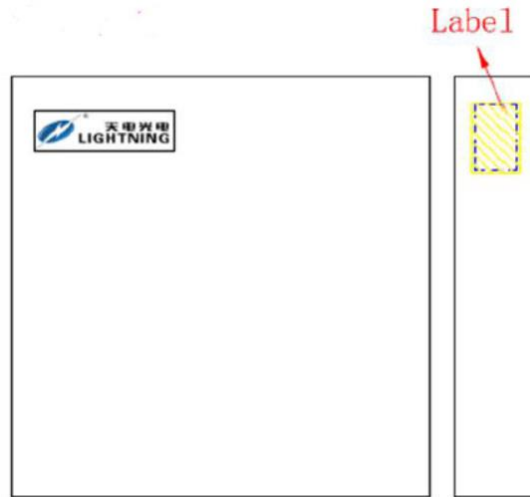




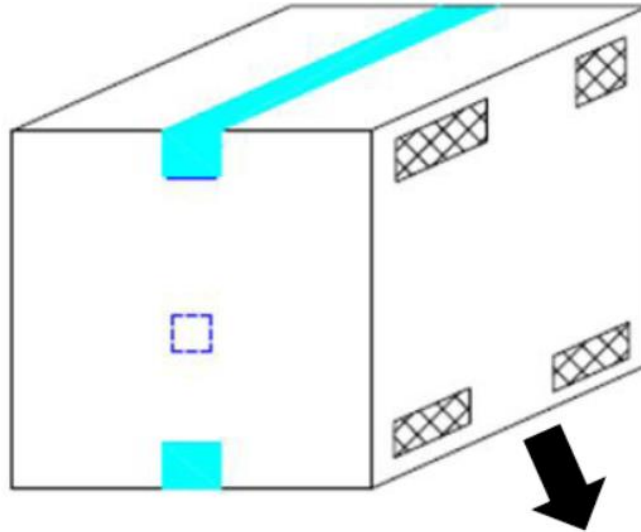
**PACKING SPECIFICATION:**

Box Dimension:

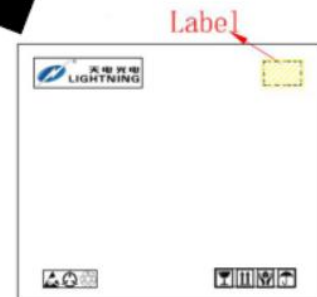
3 reel (3Kpcs)/inner box, 5 inner box (15Kpcs)/carton



- L x W x H = 36cm x 36cm x 6.9cm



- L x W x H = 45cm x 38cm x 38cm



## RECOMMENDED SOLDERING PROFILE:

Reflow Information:

