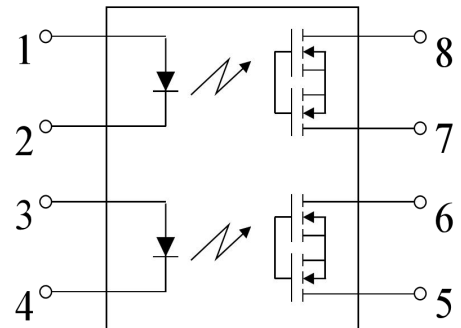




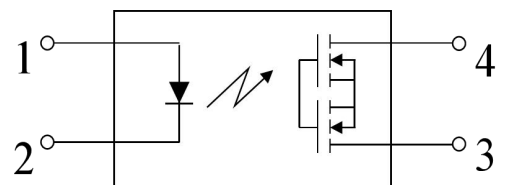
### Description

The JOR214D4 and JOR214D8 consists of a AlGaAs infrared emitting diode input stage optically coupled to a high-voltage output detector circuit. The detector consists of a high-speed photovoltaic diode array and driver circuitry to switch on/off two discrete high voltage MOSFETs.

### Block Diagram and Package



1, 3: Anode (LED)  
2, 4: Cathode (LED)  
5, 6, 7, 8: Drain (MOS FET)



1: Anode (LED)  
2: Cathode (LED)  
3, 4: Drain (MOS FET)

### Features

- Normally open, single pole single throw
- Control 400V AC or DC voltage
- Switch 120mA loads
- Controls low-level analog signals
- High sensitivity, low ON resistance
- Low-level off-state leakage current
- High isolation voltage 5KV (DIP / SMD)
- Pb free and RoHS compliant

### Application

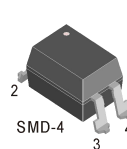
- Telecommunications(PC, electronic notepad)
- Modem/Sensors
- Telephone /Security equipment
- Measuring and testing equipment
- Factory automation equipment
- High speed inspection machines



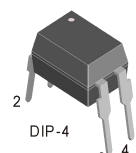
SMD 8



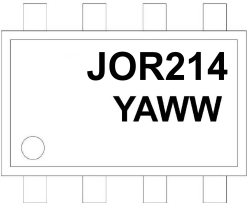

DIP 8



SMD-4



DIP-4

ORDERING AND MARKING INFORMATION	
<b>MARKING INFORMATION</b>	
	<p><b>JOR</b> : Company Abbr.  <b>214</b> : Part Number  <b>Y</b> : Fiscal Year  <b>A</b> : Manufacturing Code  <b>WW</b> : Work Week</p>
<b>ORDERING INFORMATION</b>	<b>LABEL INFORMATION</b>
<b>JOR214(Y)(Z)-G</b>	
<p><b>JOR</b> – Company Abbr  <b>214</b> – Part Number  <b>Y</b> – Lead Form Option (M/S/SL/None)  <b>Z</b> – Tape and Reel Option (T1/T2)  <b>G</b> – Green</p>	

**Absolute Maximum Ratings (T<sub>A</sub>=25°C)**

Parameter		Symbol	Rating	Unit	Note
Input	LED Forward Current	I <sub>F</sub>	50	mA	
	LED Reverse Voltage	V <sub>R</sub>	3	V	
	Peak Forward Current	I <sub>FP</sub>	1	A	f = 100 Hz, Duty cycle = 0.1%
	Power Dissipation	P	75	mW	
Output	Load Voltage (peak AC )	V <sub>L</sub>	400	V	
	Continuous Load Current (peak AC )	I <sub>L</sub>	0.12	A	
	Peak Load Current	I <sub>peak</sub>	0.3	A	100 ms (1 shot), V <sub>L</sub> = DC
	Power Dissipation	P <sub>out</sub>	800 500	mW	DIP8 SMD8 DIP4 SMD4
I/O isolation voltage		V <sub>iso</sub>	5,000	VAC	DIP SMD
Temperature Limits	Operating Temperature	T <sub>opr</sub>	-40°C ~ + 85°C	°C	Non-condensing at low temperatures
	Storage Temperature	T <sub>stg</sub>	-40°C ~ + 100°C		

Electro-optical Characteristics (Ta=25°C)

Parameter		Symbol	Condition	Min	Typ	Max	Unit
Input	LED operate current	I <sub>Fon</sub>	I <sub>L</sub> =0.12A	0.1	0.6	3	mA
	LED reverse current	I <sub>Foff</sub>	I <sub>L</sub> =0.12A	0	0.5	3	mA
	LED dropout voltage	V <sub>F</sub>	I <sub>F</sub> =5mA	1	1.3	1.4	V
Output	On resistance	R <sub>on</sub>	I <sub>F</sub> =5mA, I <sub>L</sub> =0.12A, Within 1s on time	0	13	20	Ω
	Off state leakage current	I <sub>Lcak</sub>	I <sub>F</sub> =0mA, V <sub>L</sub> =400V	-	-	1000	nA
Transfer Characteristics	Turn on time	T <sub>on</sub>	I <sub>F</sub> =5mA, I <sub>L</sub> =0.12A	10	110	2000	us
	Turn off time	T <sub>off</sub>	I <sub>F</sub> =5mA, I <sub>L</sub> =0.12A	10	220	1000	us
	I/O Isolation capacitance	C <sub>iso</sub>	f=1MHz, V <sub>B</sub> =0		0.8	1.5	pF
	Initial I/O Isolation resistance	R <sub>iso</sub>	500V DC	1,000			MΩ

Note: Recommended LED Forward Current I<sub>F</sub>=5 to 10mA.

Typical Performance Curves

Fig.1 Load Current--Ambient temperature

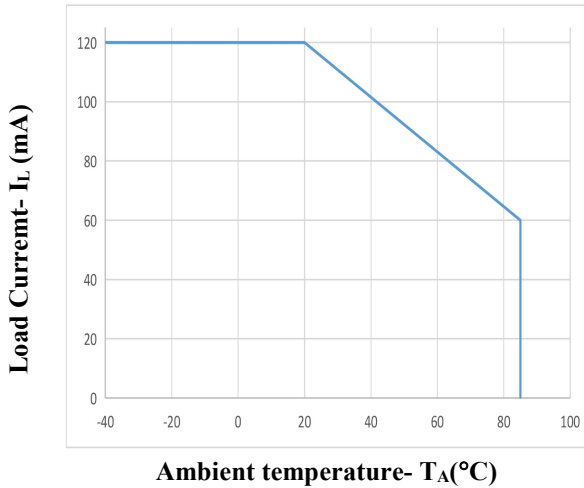


Fig.2 On resistance--Ambient temperature

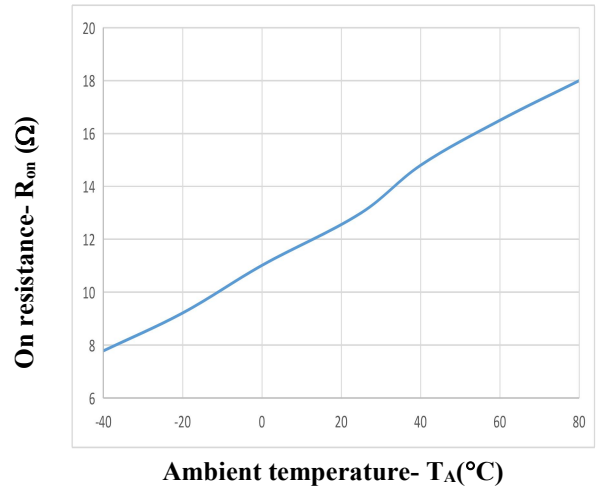


Fig.3 Turn on time--Ambient temperature

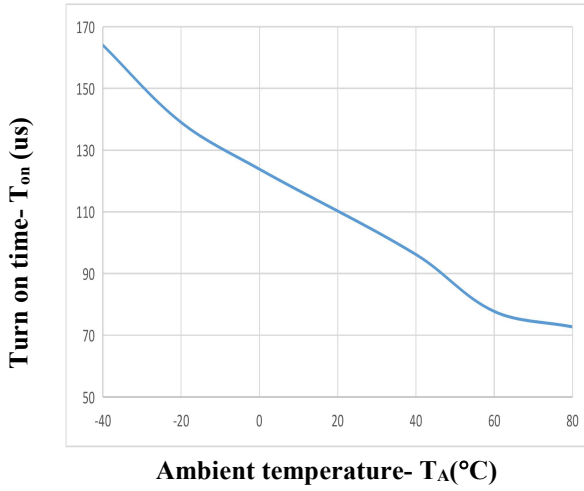


Fig.4 Turn off time--Ambient temperature

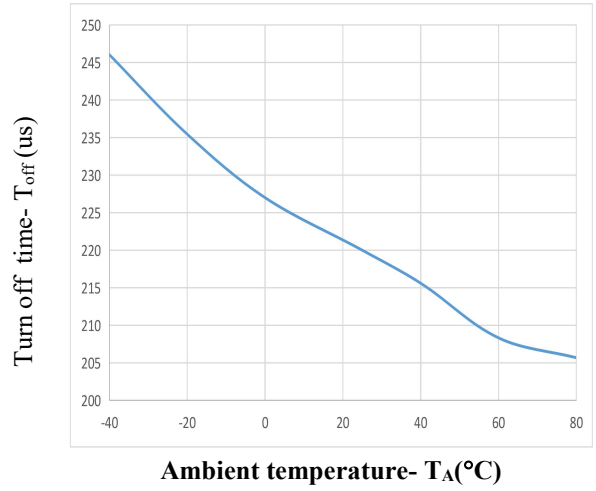


Fig.5 LED operate current--Ambient temperature

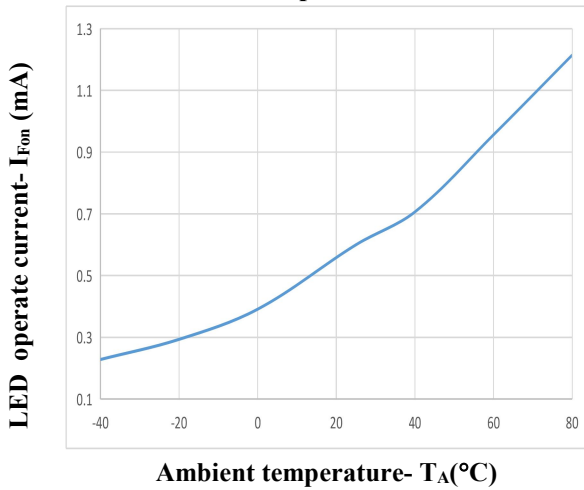


Fig.6 LED reverse current--Ambient temperature

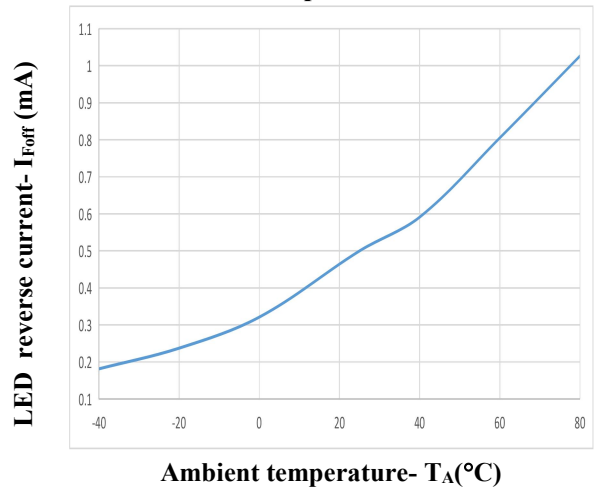


Fig.7 LED Forward Voltage--Ambient temperature

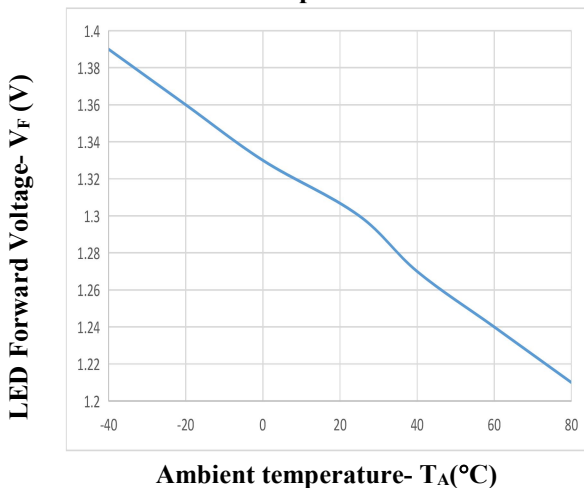


Fig.8 Output current--Voltage characteristics

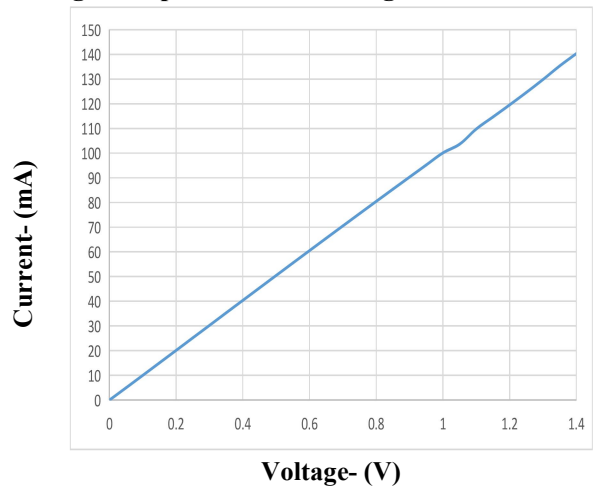


Fig.9 Off state leakage current--Load Voltage

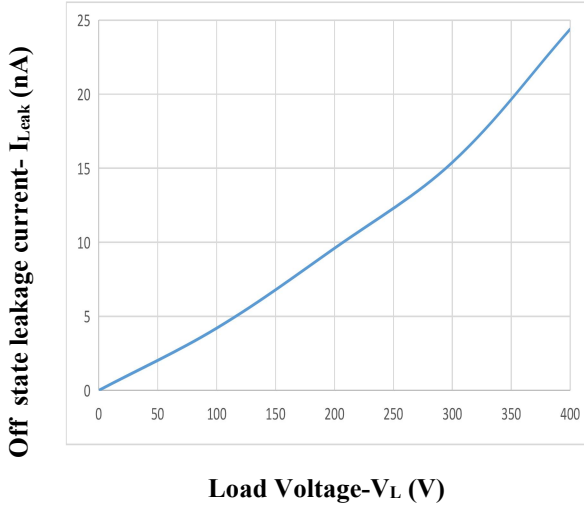


Fig.10 Turn on time--Forward Current

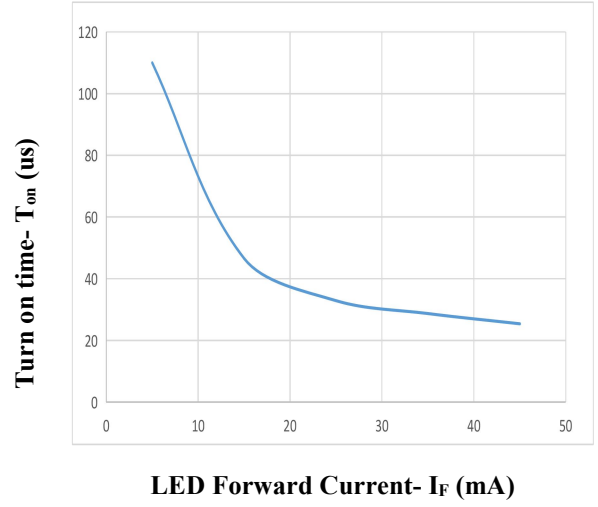
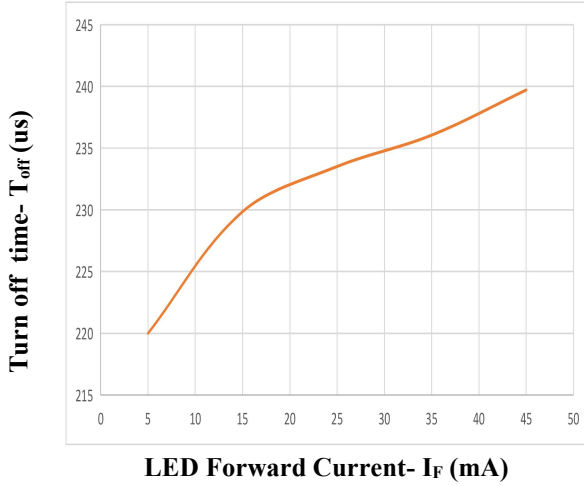
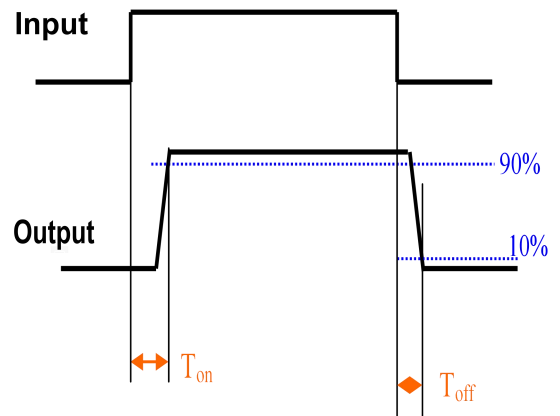


Fig.11 Turn off time--Forward Current

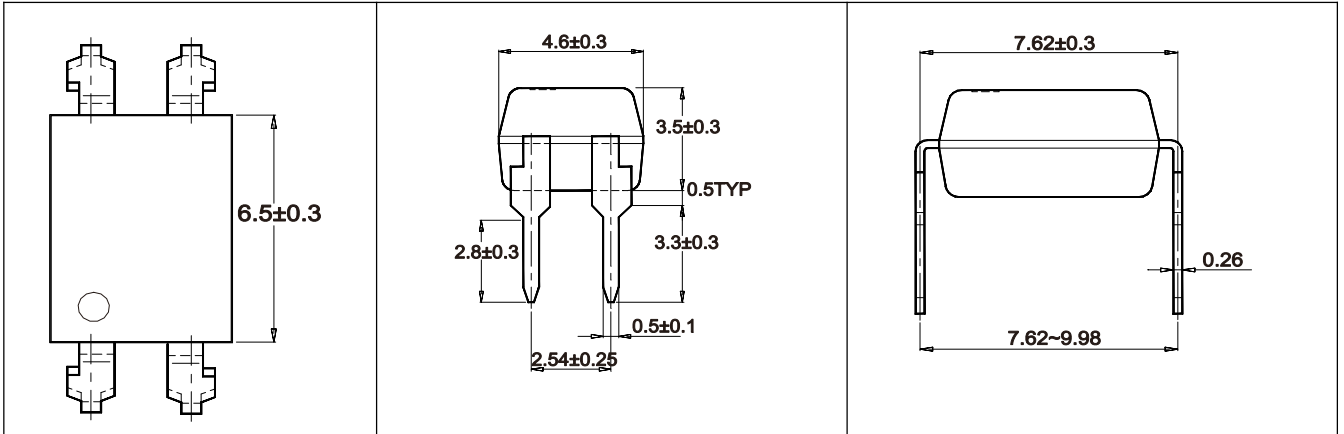


★ Turn on/off time

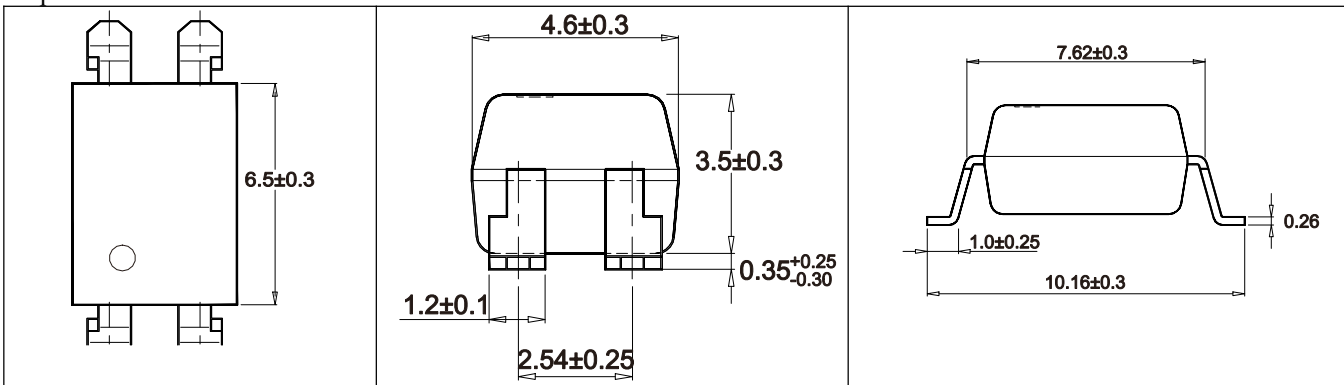


Package Dimensions

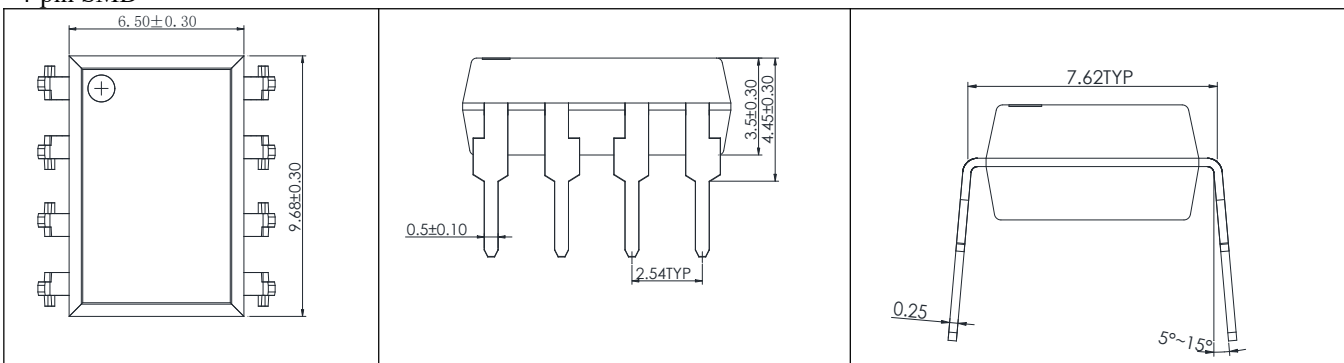
Unit: mm



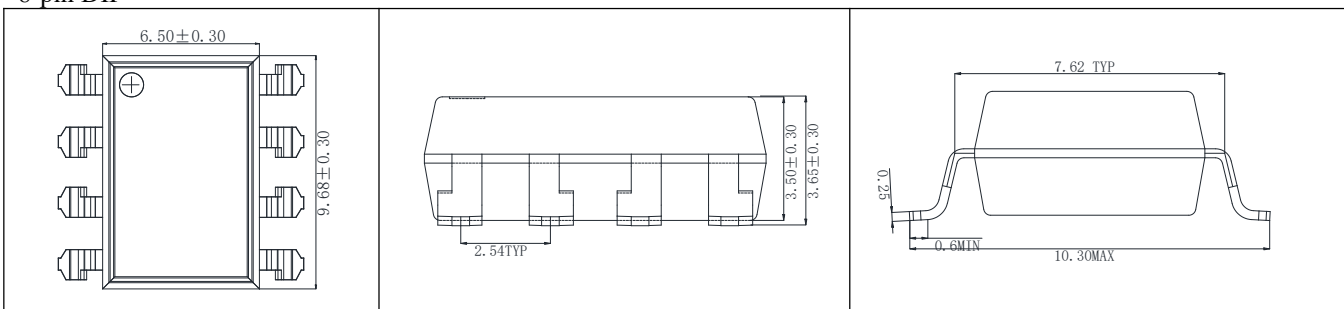
4-pin DIP



4-pin SMD



8-pin DIP



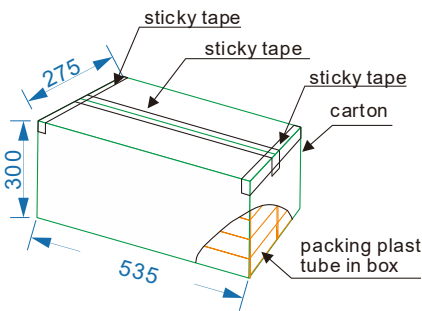
8pin SMD

Packing

Package Type	Packing Form	Quantity per Reel	Quantity per Box	Quantity per Carton	Antistatic Bag Specification	Box Specification	Carton Specification	Note
DIP4	Tube (500*12*11mm)	100 pcs /tube	50 tubes/box	10 boxes /ctn	NA	525*128*56mm	535*275*300 mm	Endplug (blue) and Endplug (white) keep the direction
DIP8	Tube (500*12*11mm)	45 pcs /tube	50 tubes/box	10 boxes /ctn	NA	525*128*56mm	535*275*300 mm	
SMD4	Reel( $\phi$ 330mm Blue)	2K pcs/reel	2 reels/box	10 boxes/ctn	380*380mm	340*60*340mm	620*360*365 mm	Guard band 200mm min.
SMD8	Reel ( $\phi$ 330mm Blue)	1K pcs/reel	2 reels/box	10 boxes/ctn	380*380mm	340*60*340mm	620*360*365 mm	

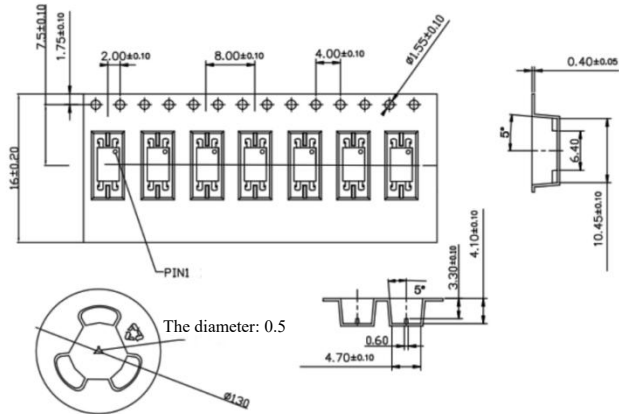
■ DIP-4 (tube)

- 1) Qty/ctn: 50000pcs
- 2) Qty/tube: 100pcs
- 3) Qty/box: 50tubes
- 4) Schematic:



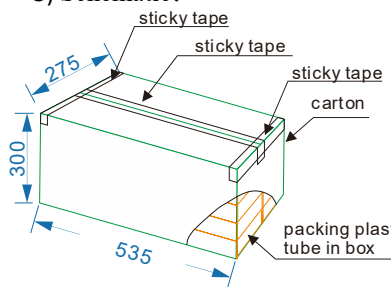
■ SMD-4 (Reel)

- 1) Qty/ctn: 40000pcs
- 2) Qty/reel: 2000pcs
- 3) Inner packing: 2reels/box
- 4) Schematic:



■ DIP-8 (tube)

- 1) Qty/ctn: 22500pcs
- 2) Inner packing:
  - i. 45pcs /tube
  - ii. 50tubes/box
- 3) Schematic:



■ SMD-8(Reel)

- 1) Qty/ctn: 20000pcs
- 2) Qty/reel: 1000pcs
- 3) Inner packing: 2reels/box
- 4) Schematic:

