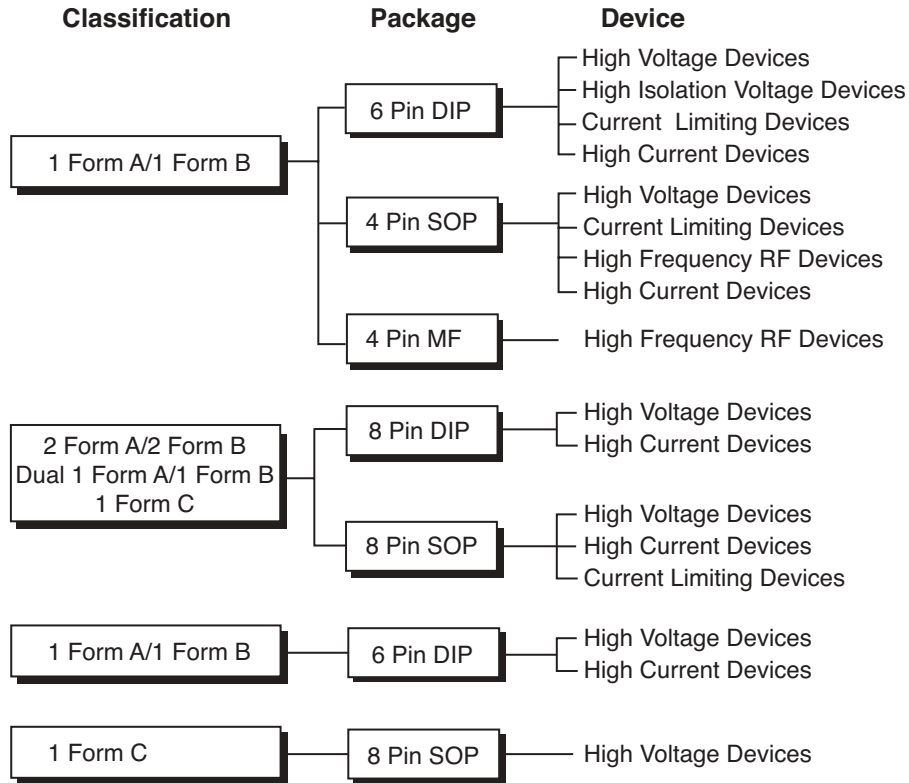
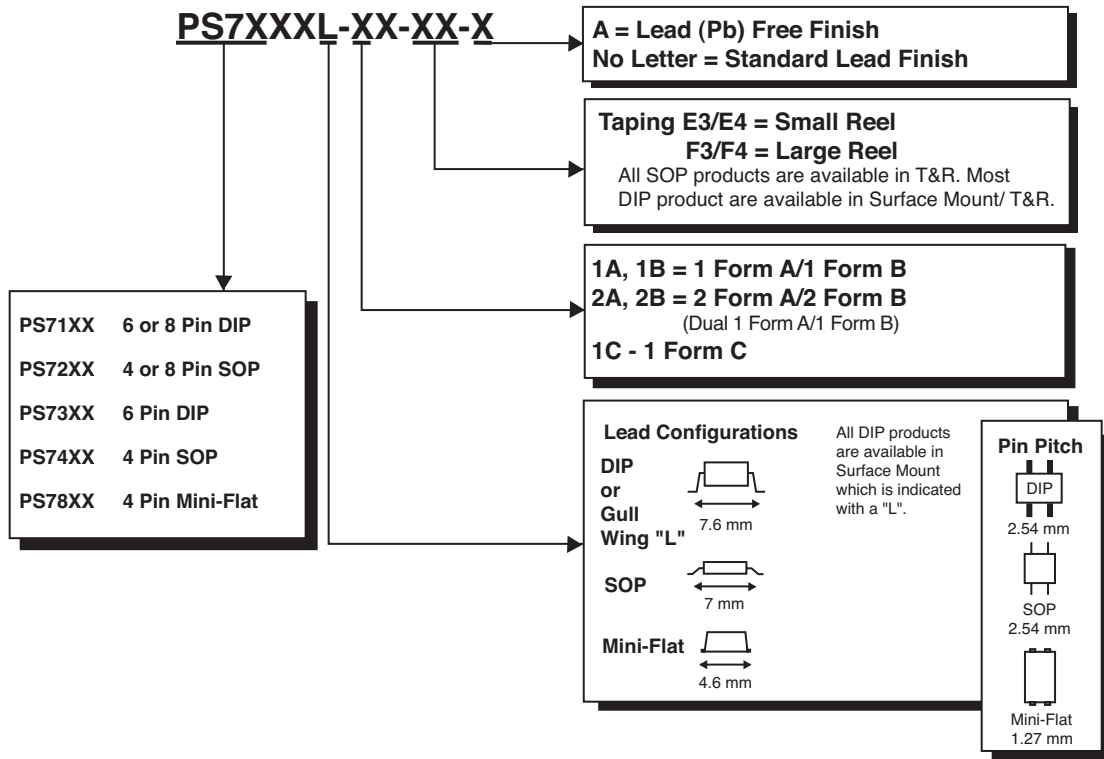


# Solid State Relays Selection Guide

**NEC Solid State Relays** (All devices are available in lead free lead finish)



## NEC's Part Numbering System



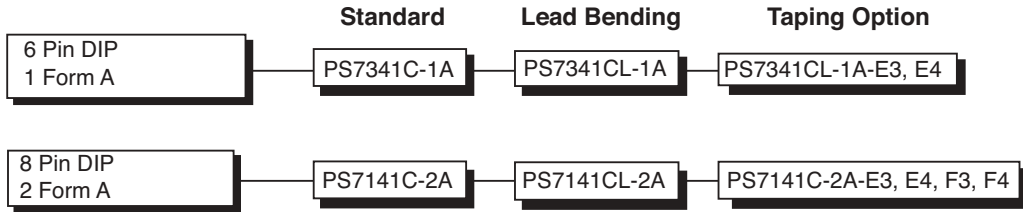
## High Voltage Devices

	Standard	Lead Bending	Taping Option
6 Pin DIP 1 Form A/1 Form B	PS7122A-1A PS7122A-1B PS7141-1A PS7141-1B PS7141E-1A PS7142-1A PS7142-1B PS7160-1A PS7141A-1A	PS7122AL-1A PS7122AL-1B PS7141L-1A PS7141L-1B PS7141EL-1A PS7142L-1A PS7142L-1B PS7160L-1A PS7141AL-1A	PS7122AL-1A-E3, E4 PS7122AL-1B-E3, E4 PS7141L-1A-E3, E4 PS7141L-1B-E3, E4 PS7141EL-1A-E3-E4 PS7142L-1A-E3, E4 PS7142L-1B-E3, E4 PS7160L-1A-E3, E4 PS7141AL-1A-E3, E4
4 Pin SOP 1 Form A/1 Form B		PS7241-1A PS7241-1B PS7431-1A	PS7241-1A-E3, E4, F3, F4 PS7241-1B-E3, E4, F3, F4 PS7431-1A-E3, E4, F3, F4
8 Pin DIP 2 Form A/2 Form B/ 1 Form C	PS7122A-2A PS7122A-2B PS7122A-1C PS7141-2A PS7141-2B PS7141-1C PS7141C-2A PS7142-1C PS7142-2B PS7142-2A PS7160-2A	PS7122AL-2A PS7122AL-2B PS7122AL-1C PS7141L-2A PS7141L-2B PS7141L-1C PS7141CL-2A PS7142L-1C PS7142L-2B PS7142L-2A PS7160L-2A	PS7122AL-2A-E3, E4 PS7122AL-2B-E3, E4 PS7122AL-1C-E3, E4 PS7141L-2A-E3, E4 PS7141L-2B-E3, E4 PS7141L-1C-E3, E4 PS7141CL-2A-E3, E4 PS7142L-1C-E3, E4 PS7142L-2B-E3, E4 PS7142L-2A-E3, E4 PS7160L-2A-E3, E4
8 Pin SOP 2 Form A/2 Form B/ 1 Form C		PS7221A-2A PS7241-2A PS7241-2B PS7241-1C	PS7221A-2A-F3, F4 PS7241-2A-F3, F4 PS7241-2B-F3, F4 PS7241-1C-F3, F4

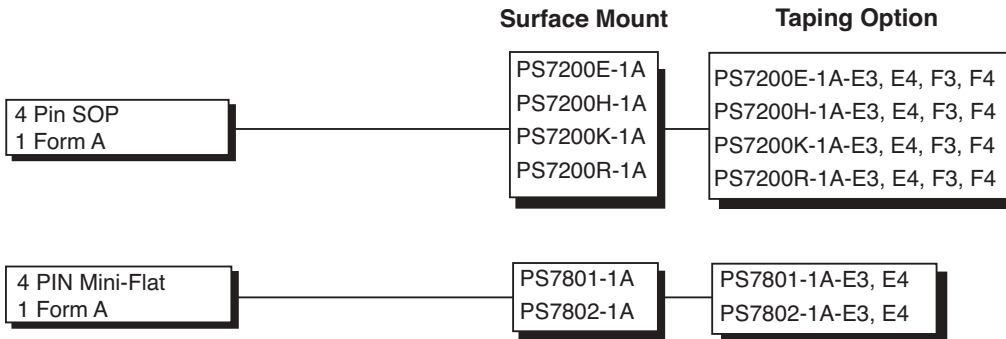
## High Isolation Voltage Devices

	Standard	Lead Bending	Taping Option
6 Pin DIP 1 Form A/1 Form B	PS7341-1A PS7341-1B PS7342-1A PS7360-1A	PS7341L-1A PS7341L-1B PS7342L-1A PS7360L-1A	PS7341L-1A-E3, E4 PS7341L-1B-E3, E4 PS7342L-1A-E3, E4 PS7360L-1A-E3, E4
4 Pin SOP 1 Form A		PS7431-1A	PS7431-1A-E3, E4

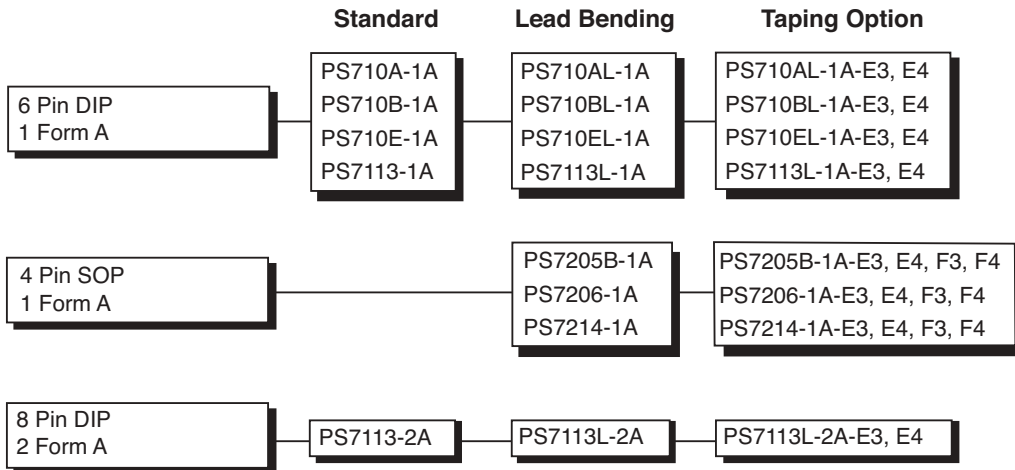
## Current Limiting Devices



## High Frequency RF Devices

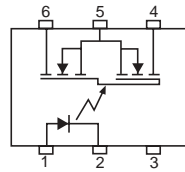


## High Current Devices



## Electrical Characteristics

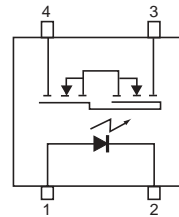
### 6 Pin DIP (1 Form A/1 Form B)



1. LED Anode
2. LED Cathode
3. NC
4. MOSFET Drain
5. MOSFET Source
6. MOSFET Drain

Type Number	R <sub>on</sub> (Ω)	V <sub>L</sub> (V)	I <sub>L</sub> (mA)	P <sub>T</sub> (mW)	Viso (V)	ToPT (°C)	TSTG (°C)	ton (ms)	toff (ms)	Current Limit
PS710A-1A	0.2	60	1,800	610	1500	-40 to 85	-40 to 100	3.0	1.0	125
PS710B-1A	0.1	60	2,500	675	1500	-40 to 85	-40 to 100	5.0	1.0	
PS710E-1A	.15	80	2,000	660	1500	-40 to 85	-40 to 100	2.0	0.2	
PS7113-1A	2.5	100	350	610	1500	-40 to 80	-40 to 100	3.0	0.2	
PS7122A-1A	8.0	250	200	610	1500	-40 to 80	-40 to 100	1.5	0.2	
PS7122A-1B	8.0	250	200	610	1500	-40 to 80	-40 to 100	0.2	1.5	
PS7141-1A	30	400	150	610	1500	-40 to 80	-40 to 100	1.0	0.2	
PS7141-1B	30	400	150	610	1500	-40 to 80	-40 to 100	0.2	1.0	
PS7141E-1A	50	400	120	610	1500	-40 to 80	-40 to 100	1.0	0.2	
PS7142-1A	10	400	200	610	1500	-40 to 80	-40 to 100	5.0	0.2	
PS7142-1B	12	400	200	610	1500	-40 to 80	-40 to 100	0.2	5.0	
PS7160-1A	50	600	90	610	1500	-40 to 80	-40 to 100	1.5	0.2	
PS7341-1A	30	400	150	610	3750	-40 to 85	-40 to 125	1.0	0.2	
PS7341C-1A	35	400	120	610	3750	-40 to 85	-40 to 125	1.0	1.0	
PS7341-1B	30	400	150	610	3750	-40 to 85	-40 to 125	0.03	0.6	
PS7342-1A	10	400	200	610	3750	-40 to 85	-40 to 125	2.5	0.2	
PS7360-1A	50	600	90	610	3750	-40 to 85	-40 to 125	2.0	0.2	

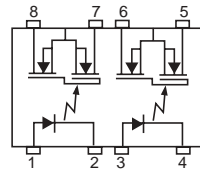
### 4 Pin SOP (1 Form A/1 Form B)



1. LED Anode
2. LED Cathode
3. MOSFET
4. MOSFET

Type Number	R <sub>on</sub> TYP (Ω)	C <sub>OUT</sub> TYP (pF)	V <sub>L</sub> (V)	I <sub>L</sub> (mA)	P <sub>T</sub> (mW)	Viso (V)	ToPT (°C)	TSTG (°C)	ton (ms)	toff (ms)
PS7200E-1A	0.8	3.5	40	250	150	1500	-40 to 80	-40 to 100	1.0	0.5
PS7200H-1A	2.2	4.2	40	160	150	1500	-40 to 80	-40 to 100	0.5	1.0
PS7200K-1A	1.1	9.6	40	200	150	1500	-40 to 80	-40 to 100	1.0	1.0
PS7200R-1A	10	1.1	40	120	150	1500	-40 to 80	-40 to 100	0.5	1.0
PS7205B-1A	0.9	30	80	500	350	1500	-40 to 85	-40 to 100	0.5	0.5
PS7206-1A	0.6	70	60	600	350	1500	-40 to 85	-40 to 100	2.0	0.5
PS7214-1A	1.0	120	100	400	350	1500	-40 to 85	-40 to 100	2.0	1.0
PS7241-1A	18	65	400	120	350	1500	-40 to 80	-40 to 100	2.0	0.2
PS7241-1B	24	185	400	120	350	1500	-40 to 80	-40 to 100	0.2	2.0
PS7431-1A	24	35	350	120	360	3000	-40 to 85	-40 to 100	3.0	0.2

**8 Pin DIP**  
(2 Form A/2 Form B, Dual 1 Form A/1 Form B)



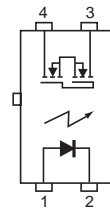
- 1. LED Anode
- 2. LED Cathode
- 3. LED Anode
- 4. LED Cathode
- 5. MOSFET
- 6. MOSFET
- 7. MOSFET
- 8. MOSFET

Type Number	R <sub>on</sub> (Ω)	V <sub>L</sub> (V)	I <sub>L</sub> (mA)	P <sub>T</sub> (mW)	V <sub>iso</sub> (V)	T <sub>OPT</sub> (°C)	T <sub>STG</sub> (°C)	t <sub>ON</sub> (ms)	t <sub>OFF</sub> (ms)	Current Limit (mA)
PS7113-2A	2.5	100	350	850	1500	-40 to 80	-40 to 100	3.0	0.2	170
PS7122A-2A	8.0	250	200	850	1500	-40 to 80	-40 to 100	1.5	0.2	
PS7122A-2B	8.0	250	200	850	1500	-40 to 80	-40 to 100	0.2	1.5	
PS7122A-1C	8.0	250	200	850	1500	-40 to 80	-40 to 100	1.5	0.2	
PS7141-2A	30	400	150	850	1500	-40 to 80	-40 to 100	1.0	0.2	
PS7141-2B	30	400	150	850	1500	-40 to 80	-40 to 100	0.2	1.0	
PS7141-1C	30	400	150	850	1500	-40 to 80	-40 to 100	1.0	0.2	
PS7141C-2A	35	400	120	850	1500	-40 to 80	-40 to 100	2.0	1.0	
PS7142-1C	12	400	200	850	1500	-40 to 80	-40 to 100	2.0	0.2	
PS7142-2A	12	400	200	850	1500	-40 to 80	-40 to 100	2.0	0.2	
PS7142-2B	12	400	200	850	1500	-40 to 80	-40 to 100	0.2	2.0	
PS7160-2A	50	600	90	850	1500	-40 to 80	-40 to 100	1.5	0.2	

**8 Pin SOP**  
(2 Form A/2 Form B, Dual 1 Form A/1 Form B)

Type Number	R <sub>on</sub> (Ω)	V <sub>L</sub> (V)	I <sub>L</sub> (mA)	P <sub>T</sub> (mW)	V <sub>iso</sub> (V)	T <sub>OPT</sub> (°C)	T <sub>STG</sub> (°C)	t <sub>ON</sub> (ms)	t <sub>OFF</sub> (ms)
PS7221A-2A	10	260	170	460	1500	-40 to 80	-40 to 100	1.0	0.2
PS7241-2A	30	400	120	460	1500	-40 to 80	-40 to 100	1.0	0.2
PS7241-2B	30	400	120	460	1500	-40 to 80	-40 to 100	0.2	1.0
PS7241-1C	30	400	120	460	1500	-40 to 80	-40 to 100	1.0	0.2

**4 Pin**  
**Mini-Flat High Frequency**

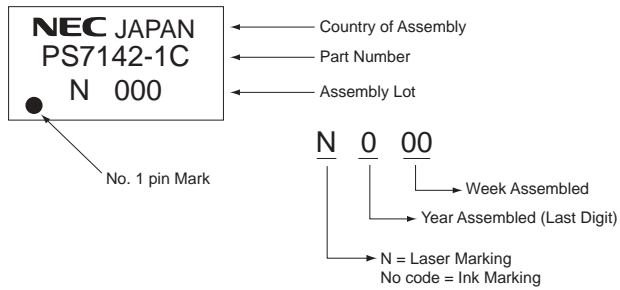


- 1. LED Anode
- 2. LED Cathode
- 3. MOSFET
- 4. MOSFET

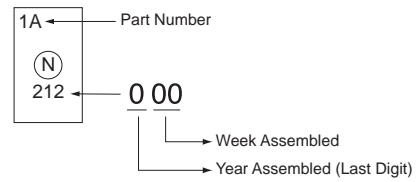
Type Number	R <sub>on</sub> TYP (Ω)	C <sub>OUT</sub> TYP (pF)	V <sub>L</sub> (V)	I <sub>L</sub> (mA)	P <sub>T</sub> (mW)	V <sub>iso</sub> (V)	T <sub>OPT</sub> (°C)	T <sub>STG</sub> (°C)	t <sub>ON</sub> (ms)	t <sub>OFF</sub> (ms)
PS7801-1A	11.5	1.2	40	100	300	500	0 to 85	-40 to 100	0.2	.15
PS7802-1A	2.4	11.5	40	250	150	500	0 to 85	-40 to 100	0.2	.08

# Packaging Marking Codes

## DIPs and SOP PACKAGES



## 4 PIN MINI-FLAT



## International Safety Standards

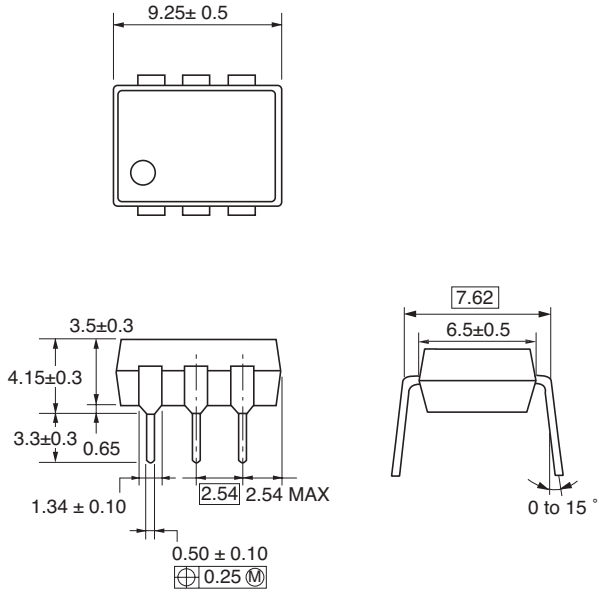
SOLID STATE RELAYS PART NUMBERS				PS71XX-1A PS71XX-2A	PS710A-1A PS710B-1A PS710E-1A	PS71XX-1B PS71XX-2B PS71XX-1C	PS72XX-1A	PS72XX-2A	PS78XX-1A	PS73XX-1A PS73XXC-1A PS73XXC-1B	PS7431
PARAMETER (Units: mm) (Minimum Dist.)	Outer Creepage Distance			7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
	Clearance Distance			7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
	Isolation Distance			0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	Inner Creepage Distance			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	Breakdown Voltage			1.5 k	1.5 k	1.5 k	1.5 k	1.5 k	1.5 k	3.75 k	3 k
Organization	Country	Standard No	NEC Approval No.								
UL	USA	UL1577	E72422(S)	●	●/⊙	●	●	●	⊙	●	●
CSA	Canada	CL9073X0030	CA101391	●	●/⊙	●	●/—	●	—	●	●
VDE	Germany	VDE0884	Call CEL Office	—	—	—	—	●	—	●	—
BSI	UK	BS415 IEC65	Call CEL Office	●	●/⊙	●	●	●	⊙	●	●
		BS7002 IEC950	Call CEL Office	●	●/⊙	●	●	●	⊙	●	●
SEMKO	Sweden	SS-441-01-55	9317144	—	—	—	—	—	—	●	—
		SS-EN-60-950	9317144	—	—	—	—	—	—	●	—
SETI (FIMKO)	Finland	E 65-89	167265-08	—	—	—	—	—	—	●	—
		SFS-EN-60-950	167265-08	—	—	—	—	—	—	●	—
NEMKO	Norway	NEK-HD 195 S6	A21409	—	—	—	—	—	—	●	—
		NEK-EN-60-950	A21409	—	—	—	—	—	—	●	—
DEMKO	Denmark	Section 101	300535	—	—	—	—	—	—	●	—
		Section 137	300535	—	—	—	—	—	—	●	—

● Approved      ⊙ Under Application      — N/A

**Package Diagrams** (Units in mm)

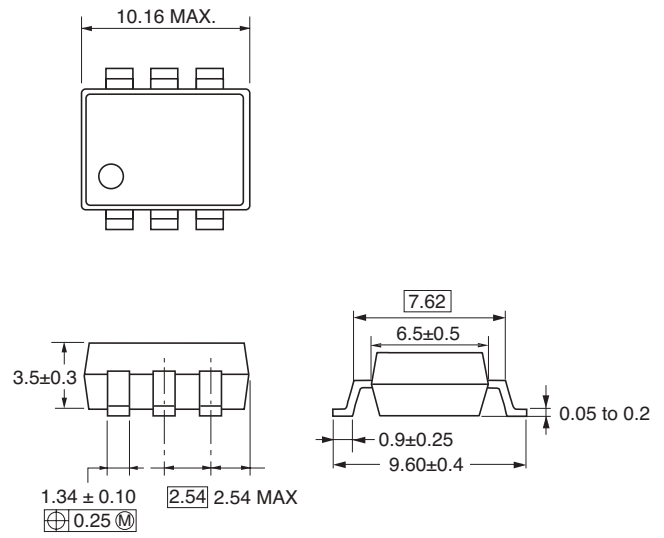
**6 PIN DIP**

PS71XX-1A/B  
PS73XX-1A/B



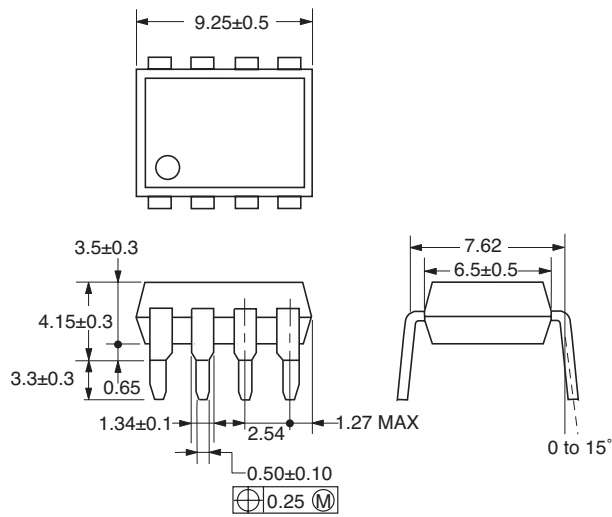
**6 PIN DIP - lead bending type**

PS71XXL-1A/B  
PS73XXL-1A/B



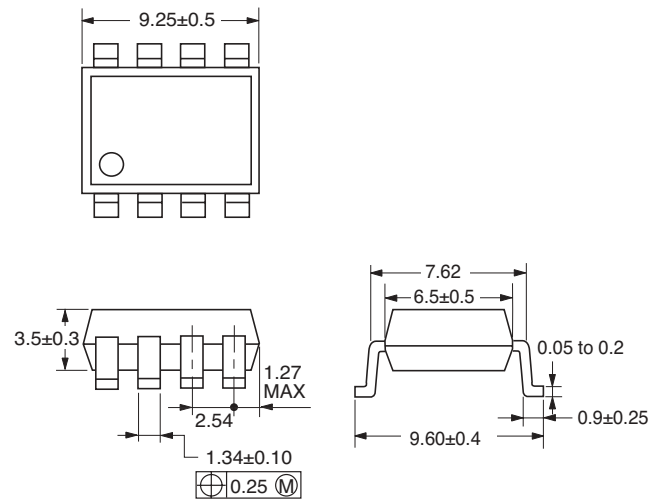
**8 PIN DIP**

PS71XX-1C  
PS71XX-2A/B  
PS73XX-2A/B



**8 PIN DIP - lead bending type**

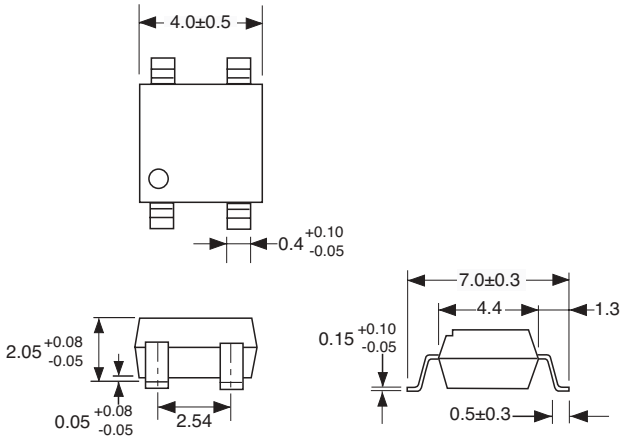
PS71XXL-1C  
PS71XXL-2A/B  
PS73XXL-2A/B



**Package Diagrams** (Units in mm)

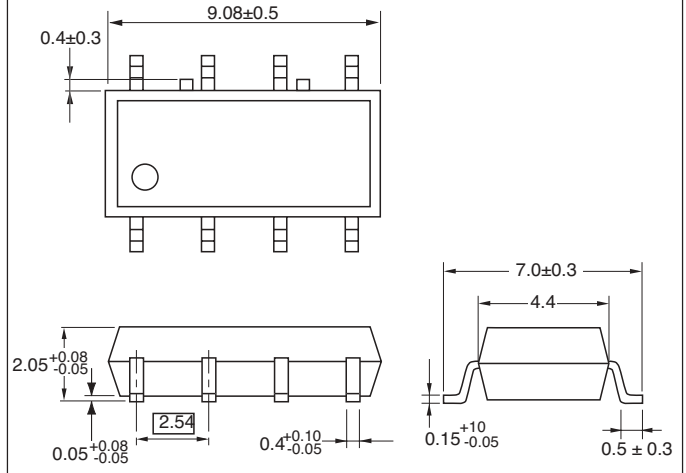
**4 PIN SOP - lead bending type**

PS72XX-1A/B  
PS74XX-1A



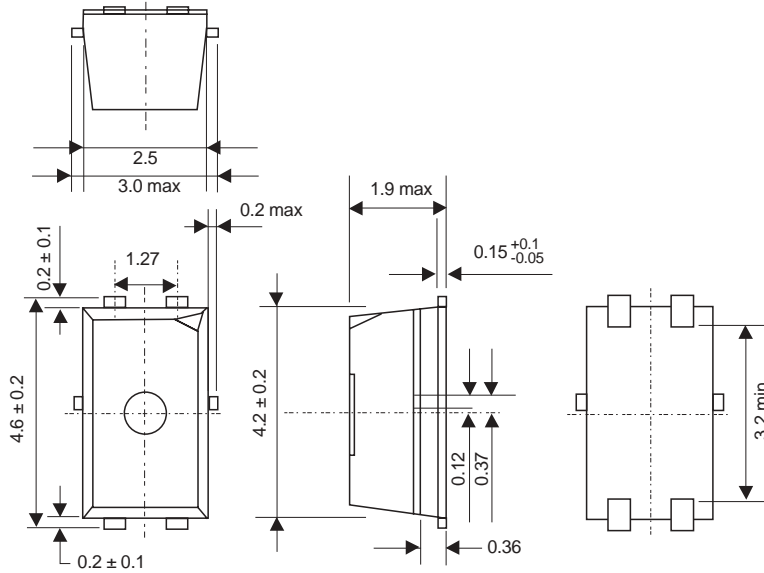
**8 PIN SOP - lead bending type**

PS72XX-1C  
PS72XX-2A/B  
PS72XX-ATX



**4 PIN Mini-Flat**

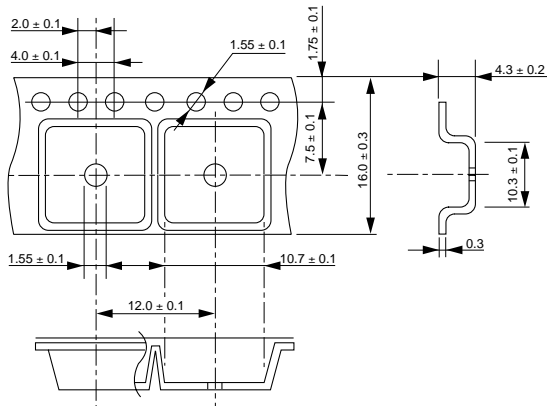
PS78XX-1A



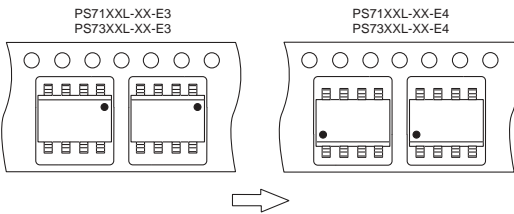
# Taping Specifications (Units in mm)

## 6, 8 PIN DIP

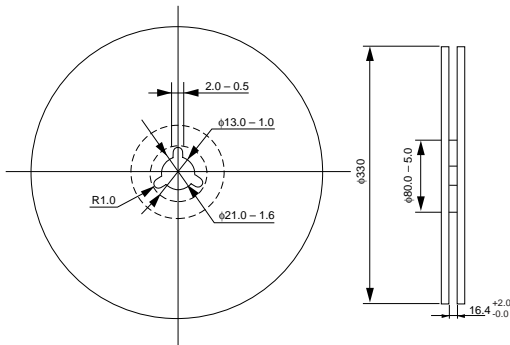
### Tape Dimensions



### Taping Direction



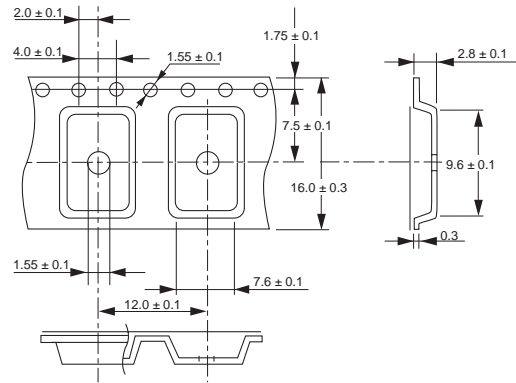
### Reel Dimensions



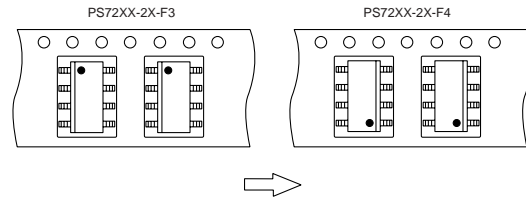
Packaging: 1000 pcs/reel

## 8 PIN SOP

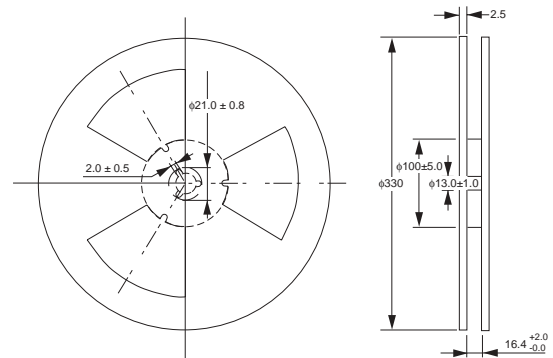
### Tape Dimensions



### Taping Direction



### Reel Dimensions

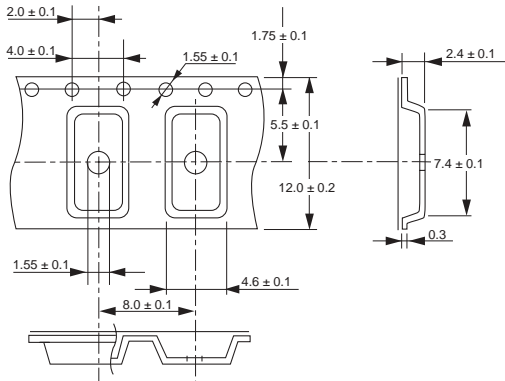


Packaging: 1500 pcs/reel

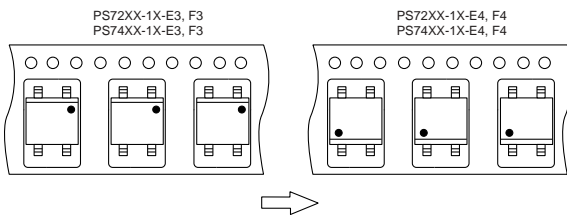
# Taping Specifications (Units in mm)

## 4 PIN SOP

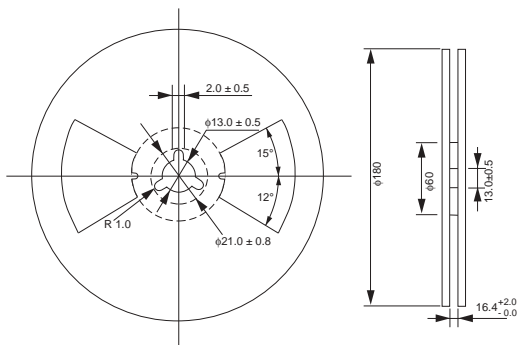
### Tape Dimensions



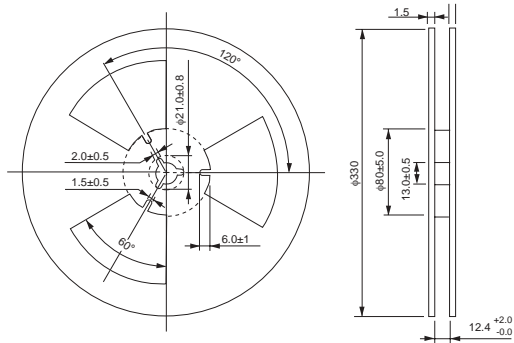
### Taping Direction



### Reel Dimensions



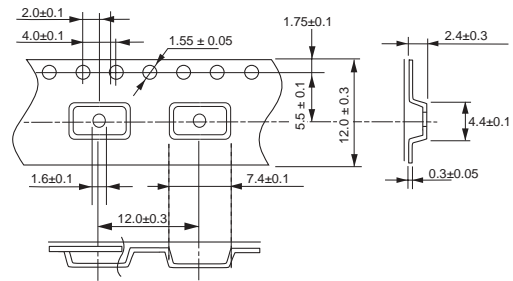
Packaging: E3/E4 900 pcs/reel



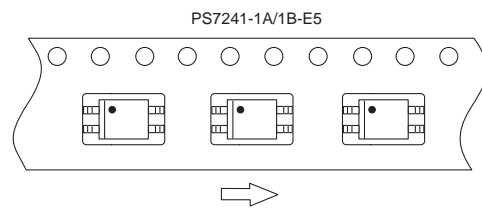
Packaging: E3/E4 3500 pcs/reel

## 4 PIN SOP (φ255 Reel)

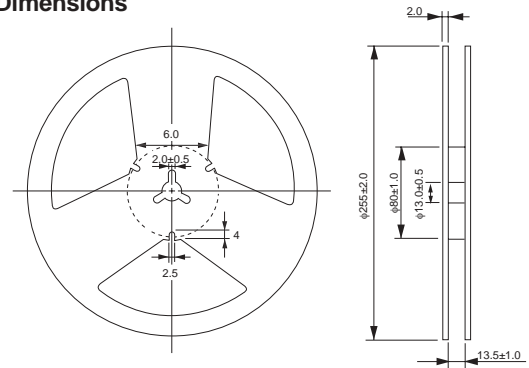
### Tape Dimensions



### Taping Direction



### Reel Dimensions



Packaging: 1000 pcs/reel