SWISSDIS

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lead-free

SPECIFICATIONS

SD1029-V00

SSR DIP-SMD-6, 400V, 120mA
5kV, Ron = 21.00Ω, Cout = 55.00pF
Operation LED Current IFon max. 1.5mA

Swissdis # 109466

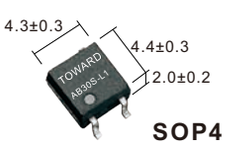
Version February 2015

400V · 1a/2a

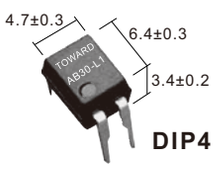
Features

• Contact Form	1a / 2a
• Load Voltage	400V Max.
• Operation LED Current	1.5mA Max.
• Load Current	120mA Max.
• On-Resistance	21Ω Typ.
• Output Capacitance	55pF Typ.
• Low Off-State Leakage Current	1.0μA Max.
• Suffix -H for DIP/SMD I/O Breakdown Voltage	5000Vrms Min.

Outline:(Unit:mm) pitch:2.54 mm



SOP4



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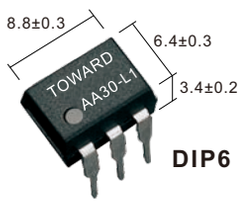

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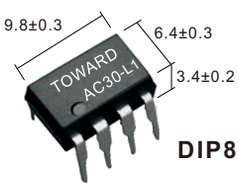

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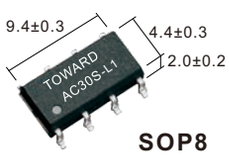

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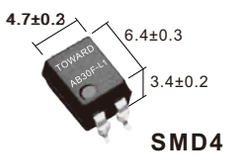

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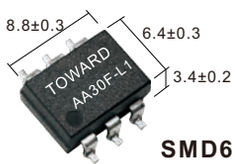
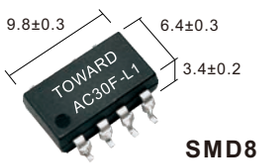


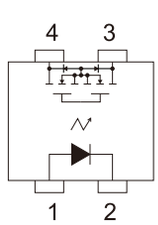
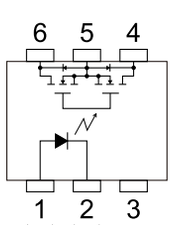
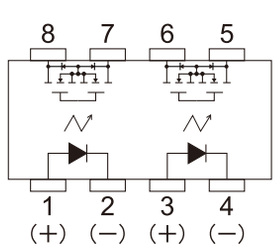
SMD6



SMD8

PhotoDMOS-FET Relay
General-Purpose

Terminal Identification

Terminal Identification		
SD1029-Vxx	SD1029-V00	SD1029-Vxx
		
1: Anode (LED) 2: Cathode (LED) 3,4: Drain (MOS FET)	1: Anode (LED) 2: Cathode (LED) 3: NC 4,6: Drain (MOS FET) 5: Source (MOS FET)	1,3: Anode (LED) 2,4: Cathode (LED) 5,6,7,8: Drain (MOS FET)

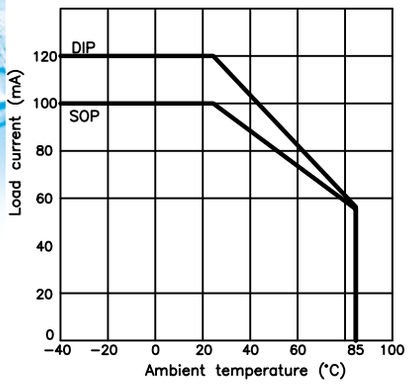
Absolute Maximum Ratings （Ambient Temperature ：25℃）

Item			Symbol	Value				
Outline Package				SOP 4/8		DIP 4/8 SMD 4/8		DIP 6 SMD 6
				1CH	2CH	1CH	2CH	1CH
Input	Continuous LED Current		I_F	50mA				
	Peak LED Current	（f=100 Hz, duty=1%）	I_{FP}	500mA				
	LED Reverse Voltage		V_R	5V				
	Input Power Dissipation		P_{In}	75mW				
Output	Load Voltage		V_L	400V (AC peak or DC)				
	Load Current	(mA)	I_L	100	85	120	100	120
	Peak Load Current	（1 ms,1 shot） (mA)	I_{Peak}	600	600	600	600	600
	Output Power Dissipation	(mW)	P_{Out}	300	450	450	600	450
Total Power Dissipation		(mW)	P_T	350	500	500	650	500
I/O Breakdown Voltage			$V_{I/O}$	1500	1500	3750	3750	3750
Operating Temperature			T_{Opr}	-40℃ ～ +85℃				
Storage Temperature			T_{Stg}	-40℃ ～ +100℃				

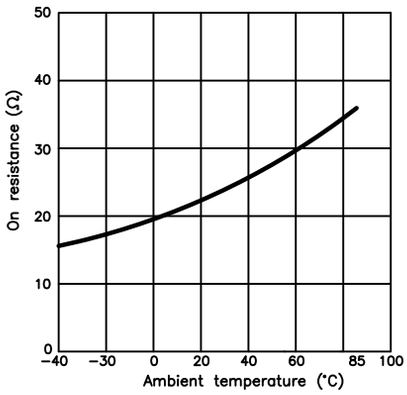
Electrical Specifications LED （Ambient Temperature ：25℃）

Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	LED Forward Voltage	V_F	1.0	1.37	1.5	V	I_F=10mA
	Operation LED Current	$I_{F\ On}$		0.7	1.5	mA	**Tested at 70 degree C
	Recovery LED Voltage	$V_{F\ Off}$	0.5	1.0		V	
Output	On-Resistance Drain to Drain	R_{On}		21	30	Ω	I_F=5mA, I_L=Rating Time to flow is within 1sec.
	Off-State Leakage Current	I_{Leak}			1.0	μA	V_L=400V
	Output Capacitance	C_{Out}		55		pF	V_L=0V, f=1MHz
Transmission	Turn-On Time	T_{On}		0.1	0.5	ms	I_F=5mA I_L=Rating (for SOP type)
	Turn-Off Time	T_{Off}		0.05	0.2	ms	
	Turn-On Time	T_{On}		0.1	1.0	ms	I_F=10mA, I_L=Rating (for DIP/SMD type)
	Turn-Off Time	T_{Off}		0.05	0.5	ms	
Coupled	I/O Insulation Resistance	$R_{I/O}$	10^9			Ω	
	I/O Capacitance	$C_{I/O}$		1.3		pF	f=1MHz

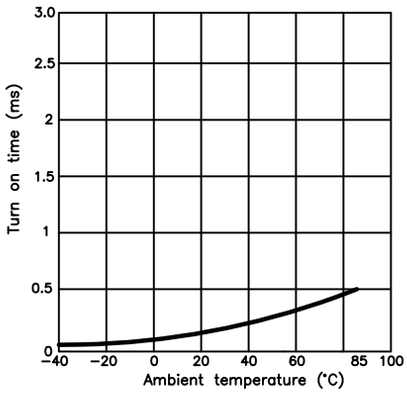
Load current Vs.
Ambient temperature



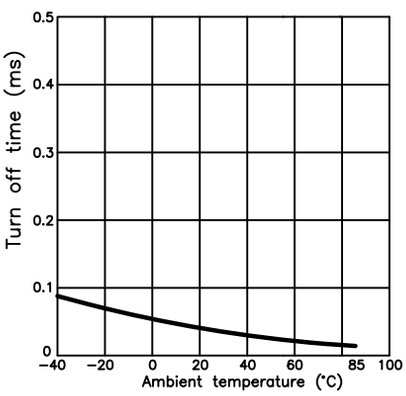
On resistance Vs.
Ambient temperature



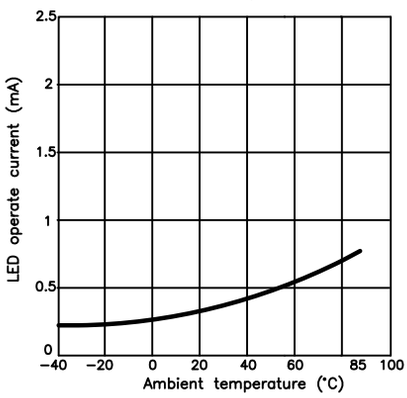
Turn on time Vs.
Ambient temperature



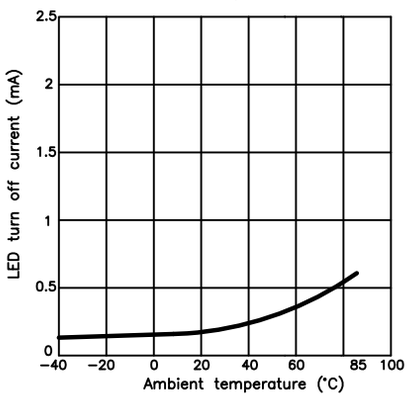
Turn off time Vs.
Ambient temperature



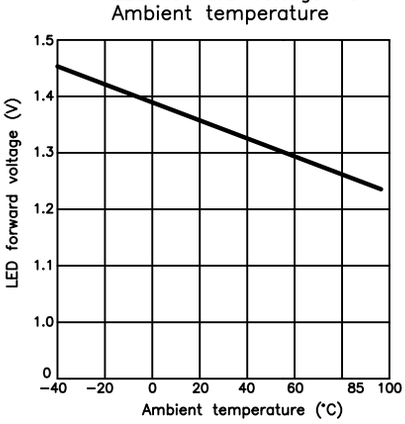
LED operate current Vs.
Ambient temperature



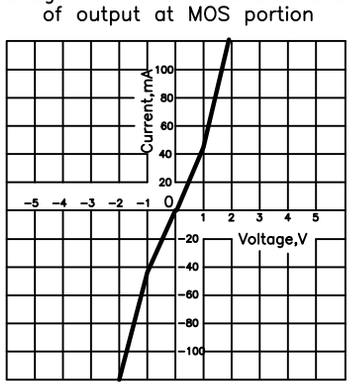
LED Turn off current Vs.
Ambient temperature



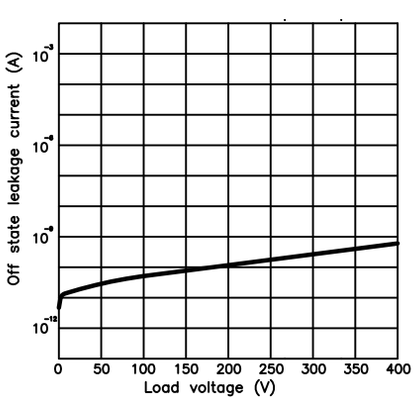
LED forward voltage Vs.
Ambient temperature



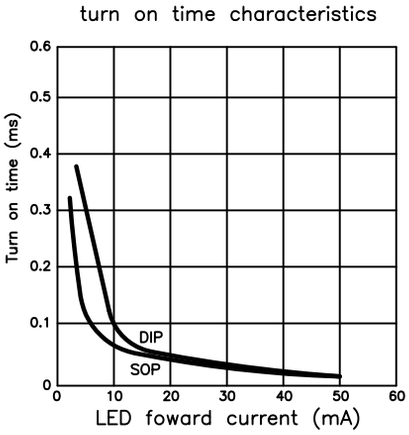
Voltage Vs. current characteristics
of output at MOS portion



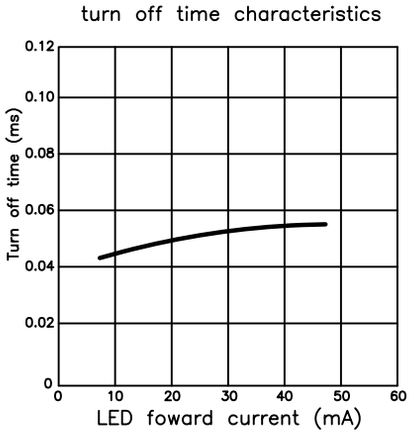
Off state leakage current



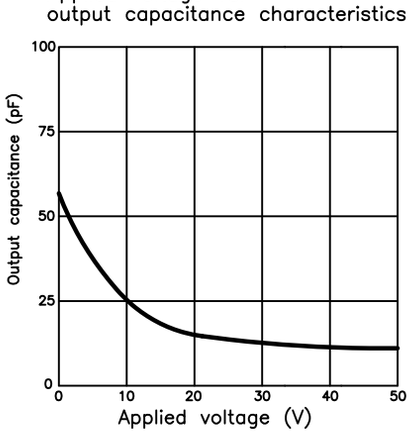
LED foward current Vs.
turn on time characteristics



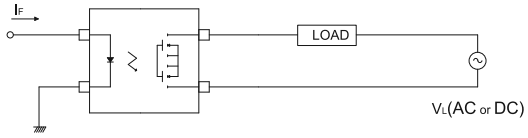
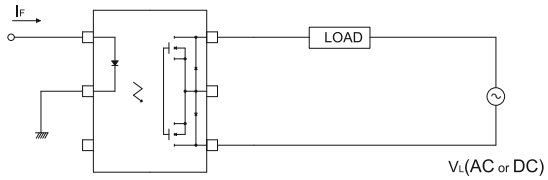
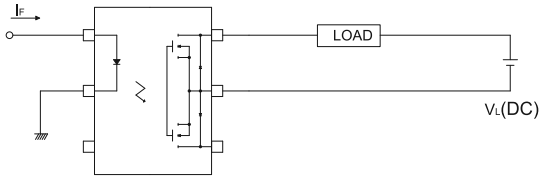
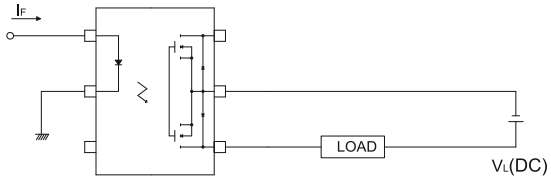
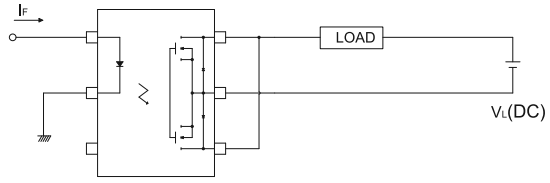
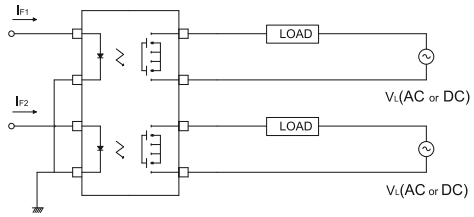
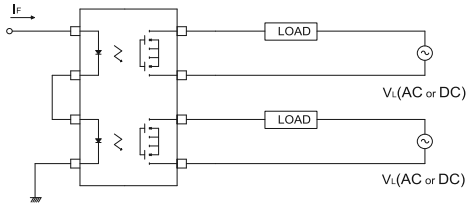
LED foward current Vs.
turn off time characteristics



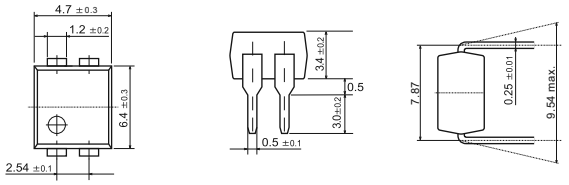
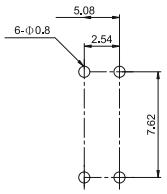
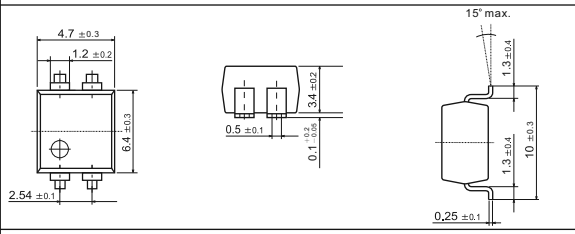
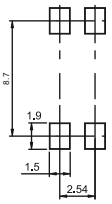
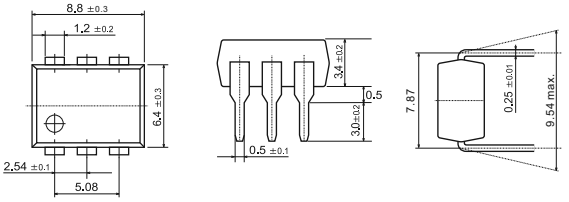
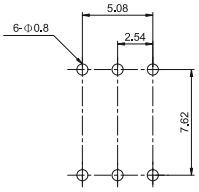
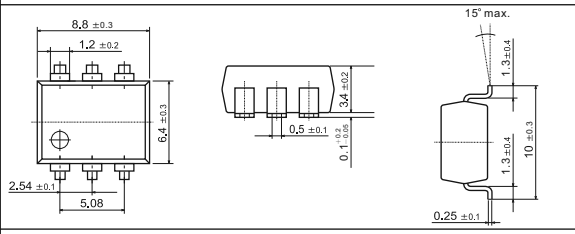
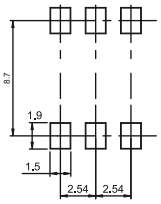
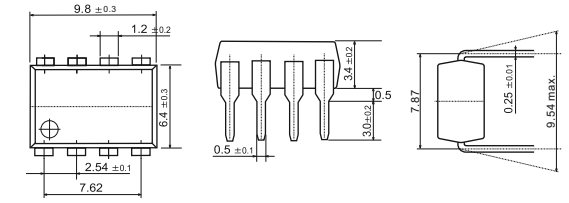
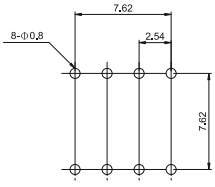
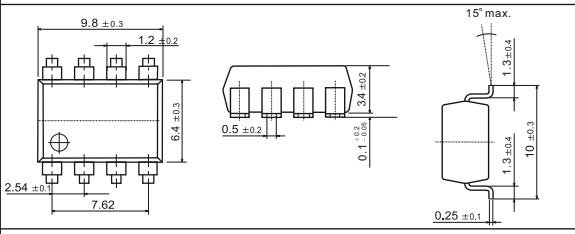
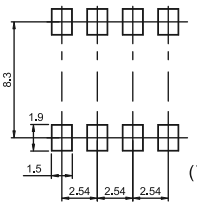
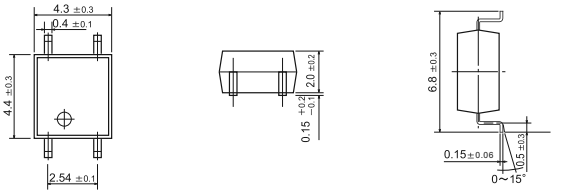
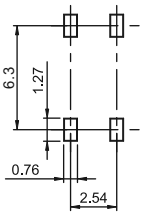
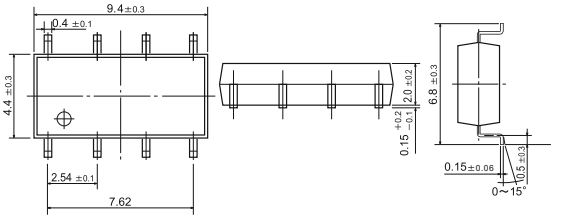
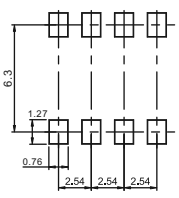
Applied voltage Vs.
output capacitance characteristics



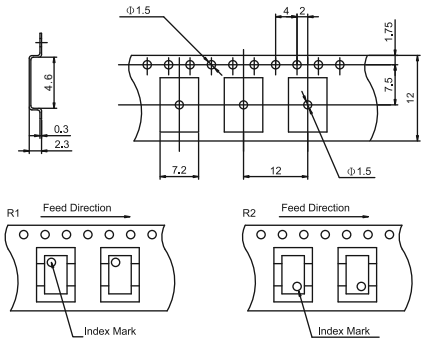
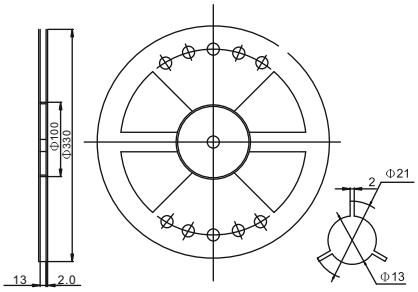
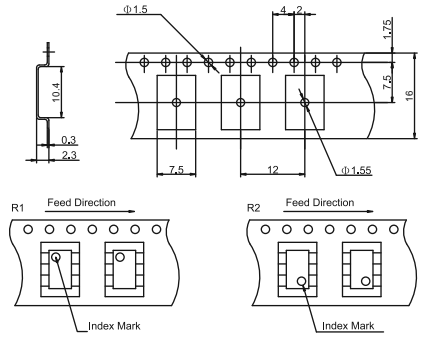
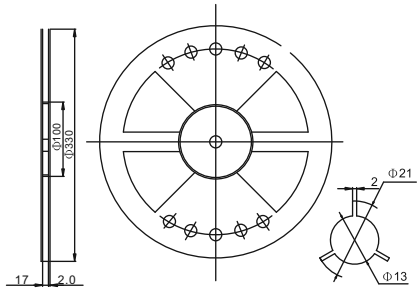
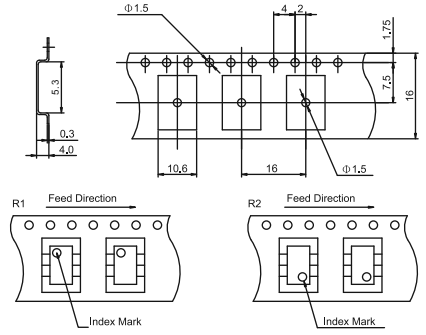
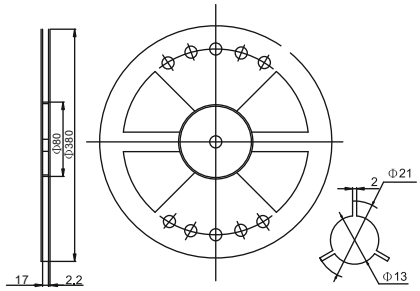
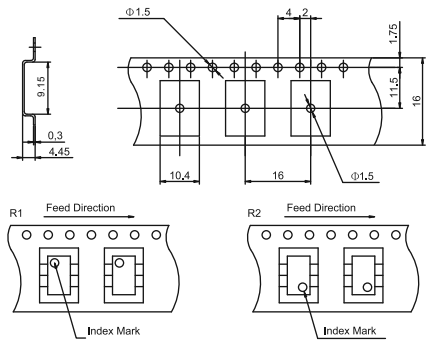
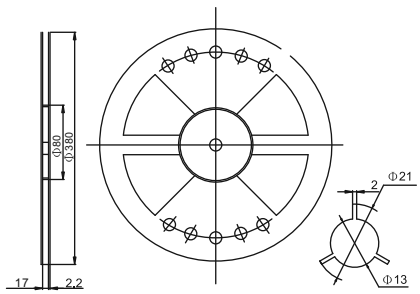
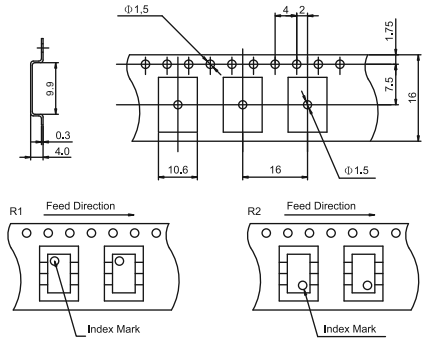
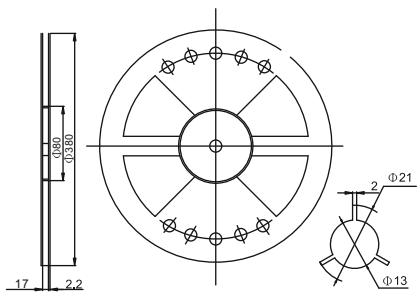
Load Connecting Method

Type	Load		Connection	Feature
4pin	AC or DC			Control bi-directional signal
6pin	A	AC or DC		Control bi-directional signal
	B	DC		On-Resistance is 1/2 of A-connection
				2-Make-contacts (Source Common)
	C	DC		On-Resistance is 1/2 of B-connection
8pin	AC or DC			2 input and 2 output
				1 input and 2 output

Package & PC Board Pattern

Package	Dimensions	PC Board pattern
 DIP4		 (Bottom View)
 SMD4		 (Top View)
 DIP6		 (Bottom View)
 SMD6		 (Top View)
 DIP8		 (Bottom View)
 SMD8		 (Top View)
 SOP4		 (Top View)
 SOP8		 (Top View)

Packing Specifications

Package Type	Tape shape & dimensions	Reel shape & dimensions	Quantity
4 Pin SOP			1000 pcs
8 Pin SOP			1000 pcs
4 Pin SMD			1000 pcs
6 Pin SMD			1000 pcs
8 Pin SMD			1000 pcs