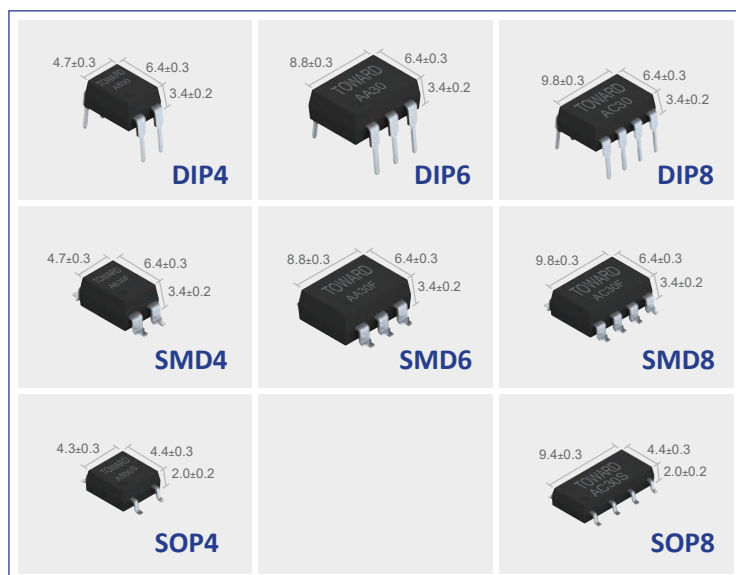


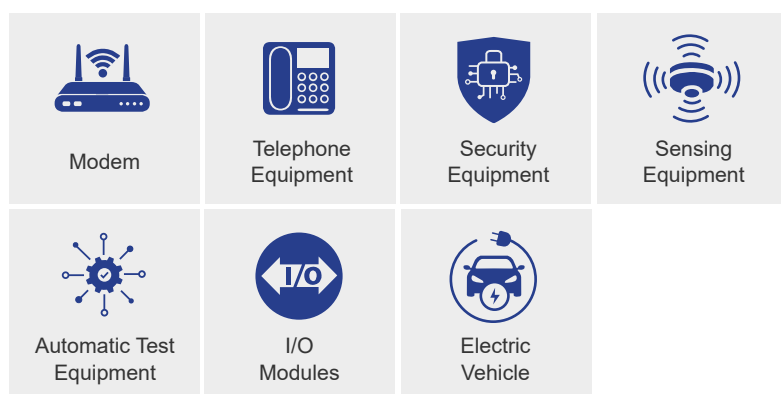


30-pA SERIES

400V.1a/2a



APPLICATIONS



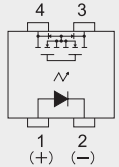
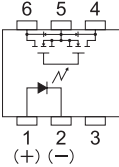
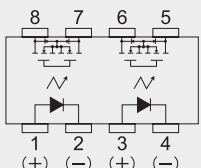
KEY FEATURES

- High voltage with low on-resistance
- Fast reverse recovery time
- High avalanche ruggedness

SPECIFICATIONS

ITEM		PERFORMANCE CHARACTERISTICS
Contact Form		1a / 2a
Load Voltage	V_L	400V
Operation LED Current	I_{FON}	3.0mA
Load Current	I_L	120mA
On-Resistance	R_{ON}	21Ω
Output Capacitance	C_{OUT}	36pF
Low Off-State Leakage Current	I_{LEAK}	1nA

PIN DESCRIPTION & PART NUMBER

CIRCUIT DIAGRAM	PIN DESCRIPTION	PART NO.	PACKAGE	PACKING
 AB30(F)(S)-pA	1: Anode (LED) 2: Cathode (LED) 3,4: Drain (MOS FET)	AB30-pA AB30F-pA AB30S-pA AB30F-pA-R1 AB30S-pA-R1	DIP-4 SMD-4 SOP-4 SMD-4 SOP-4	Tube (90pcs) Tube (90pcs) Tube (100pcs) Reel (1000pcs) Reel (1000pcs)
 AA30(F)-pA	1: Anode (LED) 2: Cathode (LED) 3: NC 4,6: Drain (MOS FET) 5: Source (MOS FET)	AA30-pA AA30F-pA AA30F-pA-R1	DIP-6 SMD-6 SMD-6	Tube (50pcs) Tube (50pcs) Reel (1000pcs)
 AC30(F)(S)-pA	1,3: Anode (LED) 2,4: Cathode (LED) 5~8: Drain (MOS FET)	AC30-pA AC30F-pA AC30S-pA AC30F-pA-R1 AC30S-pA-R1	DIP-8 SMD-8 SOP-8 SMD-8 SOP-8	Tube (45pcs) Tube (45pcs) Tube (50pcs) Reel (1000pcs) Reel (1000pcs)

ABSOLUTE MAXIMUM RATINGS (Ambient Temperature 周圍溫度 : 25°C)

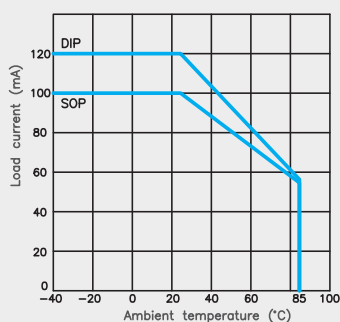
ITEM		CONDITION	SYMBOL	VALUE					UNIT
Outline Package				AB30S	AC30S	AB30(F)	AC30(F)	AA30(F)	
				1CH	2CH	1CH	2CH	1CH	
Input 輸入	Continuous LED Current 連續 LED 電流		I_F	50					mA
	Peak LED Current LED 峰值電流	f=100 Hz,Duty=1%	I_{FP}	500					mA
	LED Reverse Voltage 逆向 LED 電壓		V_R	5					V
	Input Power Dissipation 輸入損耗		P_{IN}	75					mW
Output 輸出	Load Voltage 負荷電壓		V_L	400 (AC peak or DC)					V
	Load Current 負荷電流		I_L	100	85	120	100	120	mA
	Peak Load Current 峰值負荷電流	1ms,1 shot	I_{PEAK}	600	600	600	600	600	mA
	Output Power Dissipation 輸出損耗		P_{OUT}	300	450	450	600	450	mW
Relay 繼電器	Total Power Dissipation 全損耗		P_T	350	500	500	650	500	mW
	I/O Breakdown Voltage 入/出力間絕緣電壓		$V_{I/O}$	1500	1500	3750	3750	3750	Vrms
	I/O Breakdown Voltage 入/出力間絕緣電壓	Suffix-H	$V_{I/O}$	3750	3750	5000	5000	5000	Vrms
	Operating Temperature 使用時溫度		T_{OPR}	-40 ~ +85					°C
	Storage Temperature 保存溫度		T_{STG}	-40 ~ +100					°C

ELECTRICAL SPECIFICATIONS (Ambient Temperature 周圍溫度 : 25°C)

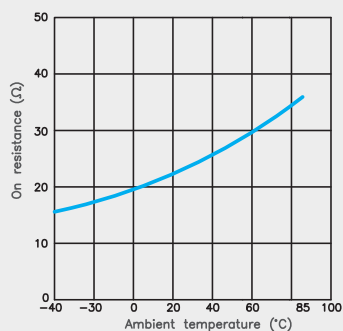
ITEM		CONDITION	SYM.	MIN.	TYP.	MAX.	UNIT
	LED Forward Voltage LED 順向電壓	$I_F=10\text{mA}$	V_F	1.0	1.17	1.5	V
Input 輸入	Operation LED Current LED 動作電流		$I_{F\text{ ON}}$		0.7	3.0	mA
	Recovery LED Voltage LED 復位電壓		$V_{F\text{ OFF}}$	0.5	1.0		V
Output 輸出	On-Resistance 導通電阻 Drain to Drain	$I_F=5\text{mA}, I_L=\text{Rating}$ Time to flow is within 1sec.	R_{ON}		21	24	Ω
	Off-State Leakage Current 開路狀態漏電流	$V_L=400\text{V}$	I_{LEAK}		0.3	1.0	nA
	Output Capacitance 輸出端容量	$V_L=0\text{V}, f=1\text{MHz}$	C_{OUT}		36		pF
Transmission 傳達	Turn-On Time 動作時間	$I_F=5\text{mA}, I_L=\text{Rating}$ (for SOP type)	T_{ON}		0.2	0.5	ms
	Turn-Off Time 復位時間		T_{OFF}		0.05	0.2	ms
	Turn-On Time 動作時間	$I_F=10\text{mA}, I_L=\text{Rating}$ (for DIP/SMD type)	T_{ON}		0.2	1.0	ms
	Turn-Off Time 復位時間		T_{OFF}		0.05	0.5	ms
Coupled 結合	I/O Insulation Resistance 輸入/ 出間絕緣阻抗		$R_{\text{I/O}}$	10^9			Ω
	I/O Capacitance 輸入/ 力端靜電容量	$f=1\text{MHz}$	$C_{\text{I/O}}$		1.3		pF

REFERENCE DATA

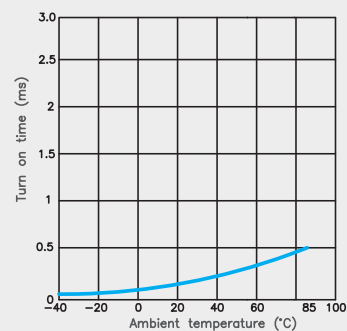
Load current vs. Ambient temp.



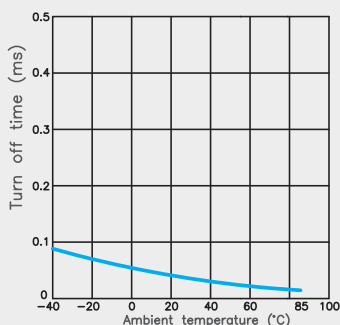
On resistance vs. Ambient temp.



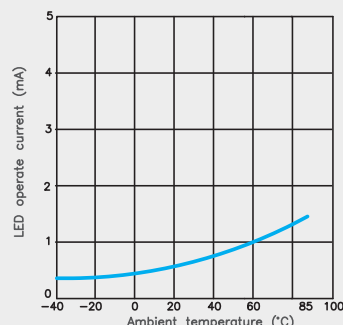
Turn on time vs. Ambient temp.



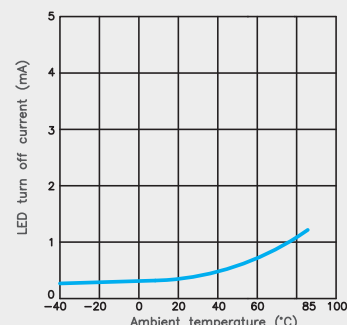
Turn off time vs. Ambient temp.



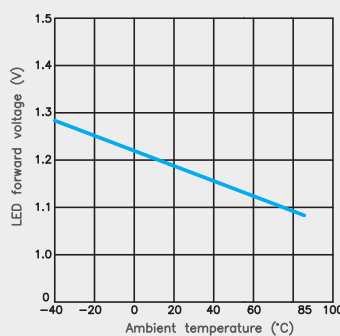
LED operate current vs. Ambient temp.



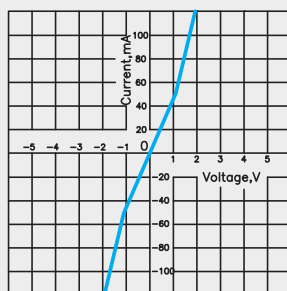
LED turn off current vs. Ambient temp.



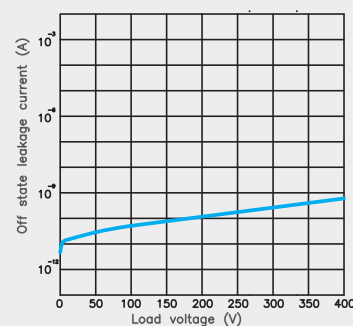
LED forward voltage vs. Ambient temp.



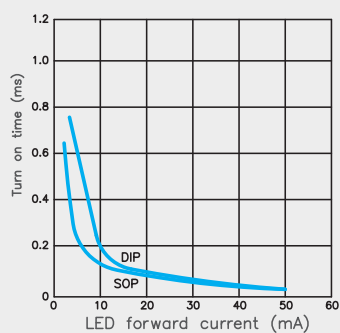
Current vs. Voltage characteristics of output at MOS portion



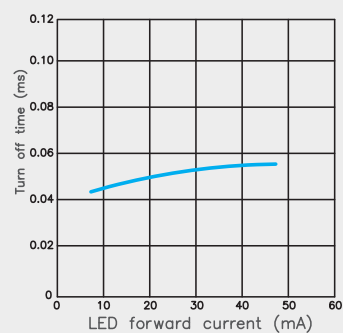
Off state leakage current vs. Load voltage



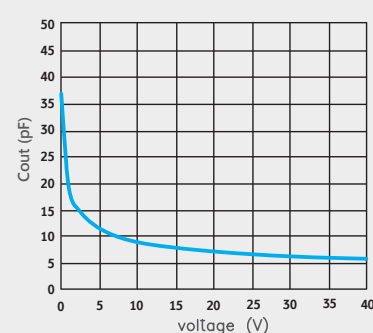
Turn on time vs. LED forward current



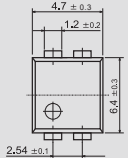
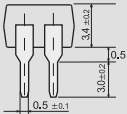
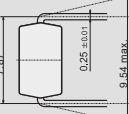
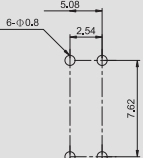
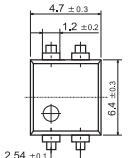
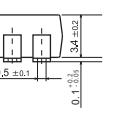
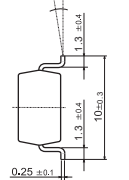
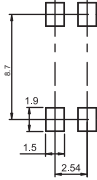
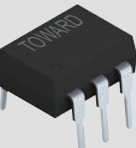
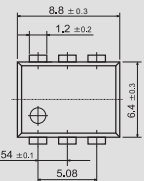
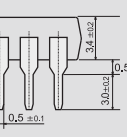
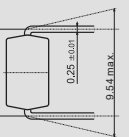
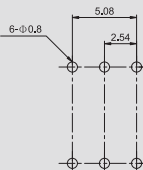
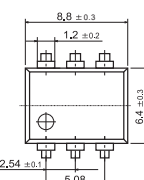
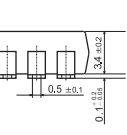
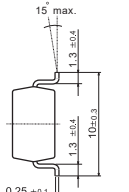
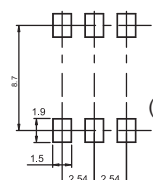
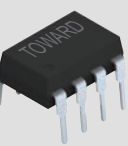
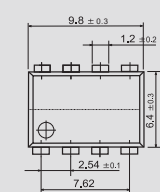
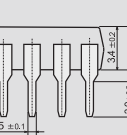
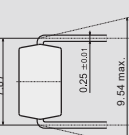
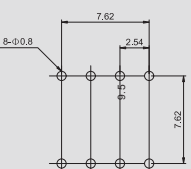
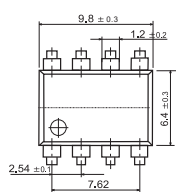
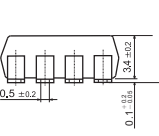
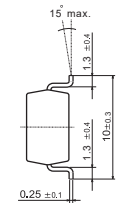
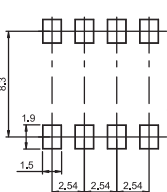
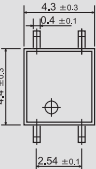
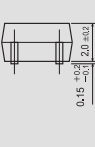
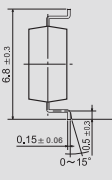
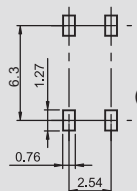
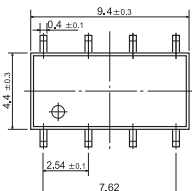
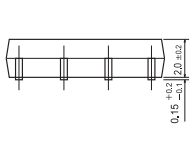
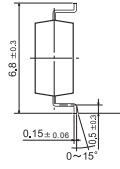
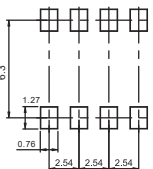
Turn off time vs. LED forward current



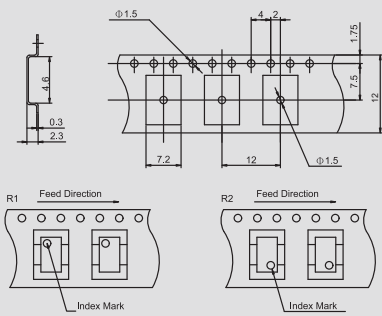
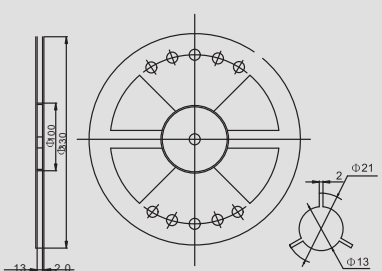
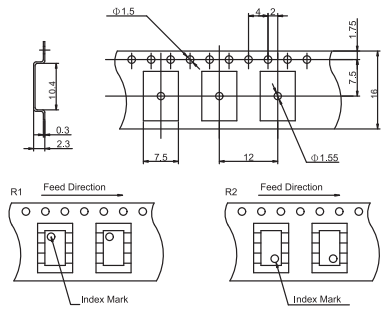
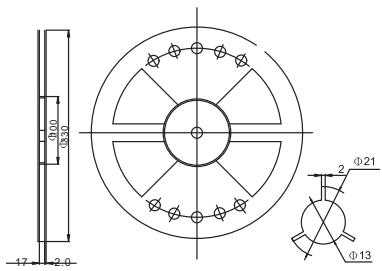
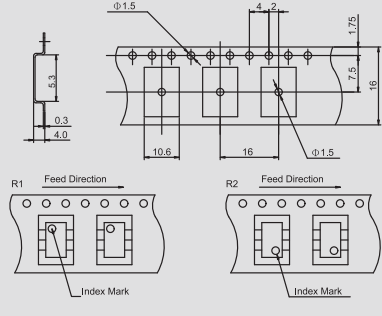
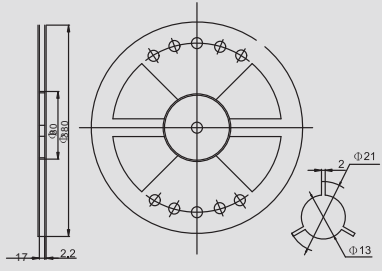
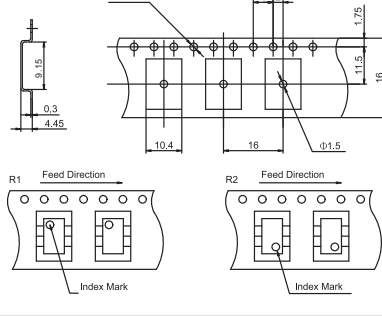
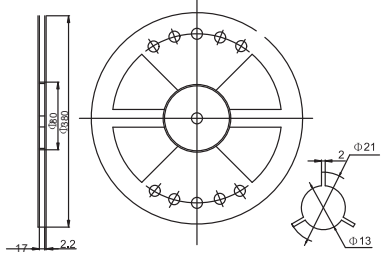
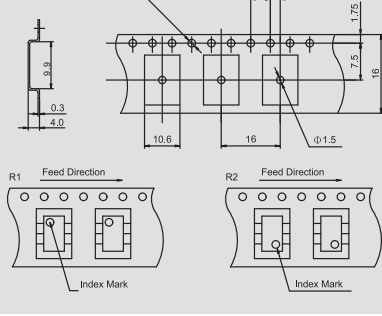
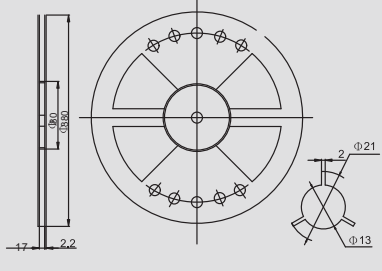
Cout pin87 vs. Voltage



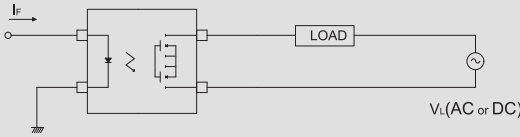
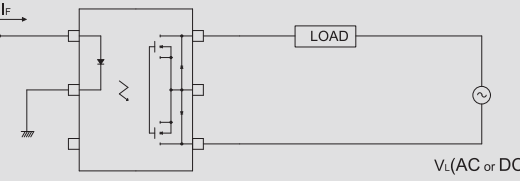
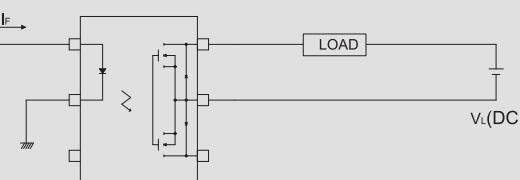
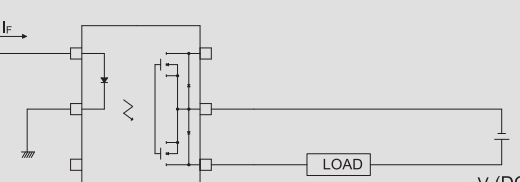
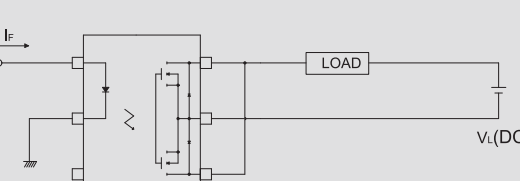
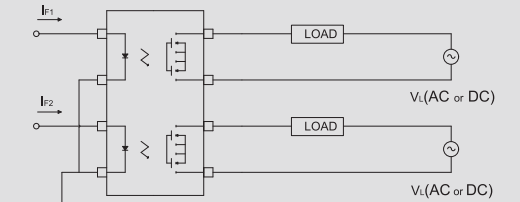
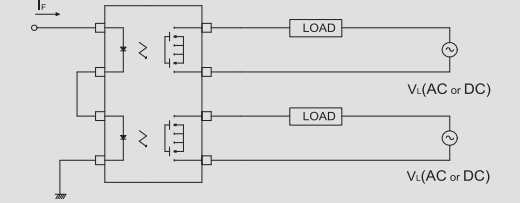
PACKAGE & PC BOARD PATTERN

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)

PACKAGING SPECIFICATIONS

PACKAGE TYPE 包裝類型	TAPE SHAPE & DIMENSIONS 形狀和尺寸	REEL SHAPE & DIMENSIONS 圖帶形狀和尺寸	QUANTITY 數量
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

LOAD CONNECTING METHOD

TYPE 類型	LOAD 負荷	CONNECTION 接續方法	FEATURE 特長
4 Pin	AC or DC		Control bi-directional signal 可控制雙向信號
6 Pin	A AC or DC		Control bi-directional signal 可控制雙向信號
			
	B DC		On-Resistance is 1/2 of A-connection 導通電阻值是A接法的1/2 2-Make-contacts (Source Common)
			
8 Pin	AC or DC		2 input and 2 output 2 入力和2 出力回路
			1 input and 2 output 1 入力和2 出力回路