

FEATURES

1. High-speed switching

Since release time is 0.1 ms, the MOSFET can be turned off quickly in urgent situations.

2. Space saving

With a built-in control circuit, an external resistor is not needed. This contributes to making substrates more compact.

3. High insulation

DIP type: 5,000 V

SOP type: 2,500 V

SSOP type: 1,500 V

4. Extensive product lineup

Products include the industry's smallest SSOP type, SOP4 type, and DIP 6 type.

TYPICAL APPLICATIONS

MOSFET driver

Power supply (Vcc) for electronic circuits

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

RoHS Directive compatibility information
<http://www.mew.co.jp/ac/e/environment/>

TYPES

Type	Output rating		Part No.				Packing quantity	
	Drop-out voltage (Typ.)	Short circuit current (Typ.)	Through hole terminal	Surface-mount terminal			Tube	Tape and reel
			Tube packing style	Tube packing style	Tape and reel packing style			
		Picked from 1/2/3-pin side*1			Picked from 4/5/6-pin side*2			
DIP6pin	8.7V	14μA	APV1122	APV1122A	APV1122AX	APV1122AZ	1 tube contains 50 pcs. 1 batch contains 500 pcs.	1,000 pcs.
SOP4pin	8.7V	14μA	—	—	APV1121SX	APV1121SZ	1 tube contains 100 pcs. 1 batch contains 2,000 pcs.	
SOP4pin*3	8.2V	8μA	—	—	APV2121SX	APV2121SZ	—	3,500 pcs.
SSOP*4	8.2V	8μA	—	—	APV2111VY	APV2111VW		

Notes: *1 SOP type is picked from 1/2-pin side, SSOP type is picked from 1/4-pin side

*2 SOP type is picked from 3/4-pin side, SSOP type is picked from 2/3-pin side

*3 Tape package is the standard packing style. Also available in tube.

(Part No. suffix "X" or "Y" is not needed when ordering; Tube: 100 pcs.; Case: 2,000 pcs.)

For space reasons, the initial letters of the part number "AP" or "S" are not marked on the relay.

The package style indicator "X" or "Z" are not marked on the relay. (Ex. the label for product number APV1121SX is V1121).

*4 Tape package is the standard packing style.

For space reasons, the initial letters of the part number "AP" or "V" are not marked on the relay.

The package style indicator "Y" or "W" are not marked on the relay. (Ex. the label for product number APV2111VY is V2111).

RATING

1. Absolute maximum ratings (Ambient temperature: 25°C 77°F)

Item		Symbol	APV1122(A)	APV1121S	APV2121S	APV2111V	Remarks
Input	LED forward current	I _F	50mA				f = 100 Hz, Duty Ratio = 0.1%
	LED reverse voltage	V _R	5V				
	Peak forward current	I _{FP}	1A				
	Power dissipation	P _{in}	75mA				
I/O isolation voltage		V _{iso}	5,000V AC	2,500V AC	2,500V AC	1,500V AC	
Temperature limits	Operating	T _{opr}	-40°C to +85°C -40°F to +185°F				Non-condensing at low temperatures
	Storage	T _{stg}	-40°C to +100°C -40°F to +212°F				

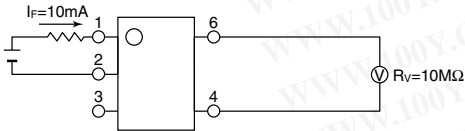
PHOTOVOLTAIC MOSFET DRIVER (APV1,2)

2. Electrical characteristics (Ambient temperature: 25°C 77°F)

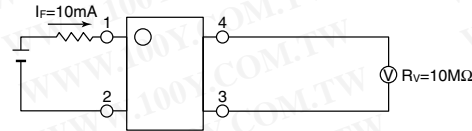
Item		Symbol	APV1122(A)	APV1121S	APV2121S	APV2111V	Condition
Input	LED operate current	Typical	0.6mA		0.85mA		$V_{oc} = 5V$
		Maximum	3mA				
	LED turn off current	Minimum	0.2mA				$V_{oc} = 1V$
		Typical	0.5mA		0.75mA		
LED dropout voltage	Typical	1.15V				$I_F = 10mA$	
	Maximum	1.5V					
Output	Drop-out voltage*	Minimum	6V		5V		$I_F = 10mA$
		Typical	8.7V		8.2V		
	Short circuit current**	Minimum	5 μ A		3 μ A		$I_F = 10mA$
		Typical	14 μ A		8 μ A		
Transfer characteristics	Turn on time***	Typical	0.4ms		0.8ms		$I_F = 10mA$, $C_L = 1,000pF$
	Turn off time***	Typical	0.1ms				
	I/O capacitance	Typical	0.8pF				$V_B = 0V$, $f = 1MHz$
		Maximum	1.5pF				
Initial I/O isolation resistance	Minimum	1,000M Ω				500V DC	

Note: Recommended LED forward current I_{FT} : 10mA.

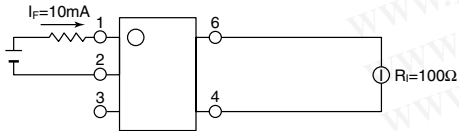
*Drop-out voltage measurement circuit
 APV1122(A)



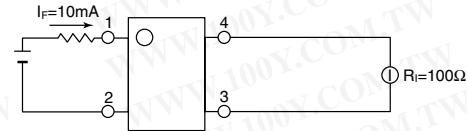
APV1121S, APV2121S, APV2111V



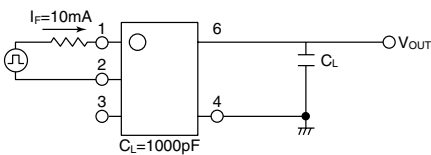
**Short circuit current measurement circuit
 APV1122(A)



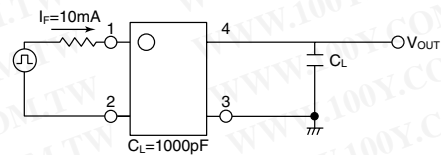
APV1121S, APV2121S, APV2111V



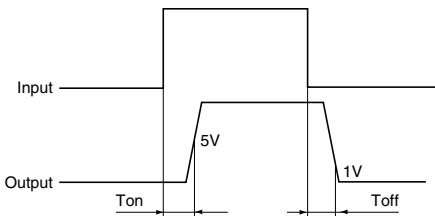
***Turn on/Turn off time measurement circuit
 APV1122(A)



APV1121S, APV2121S, APV2111V



***Turn on time

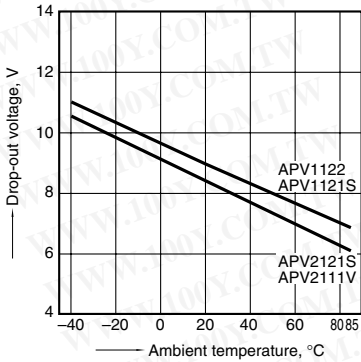


- For Dimensions.
- For Schematic and Wiring Diagrams.
- For Cautions for Use.

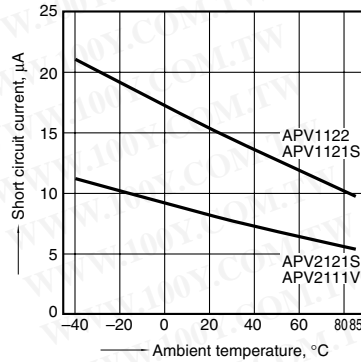
PHOTOVOLTAIC MOSFET DRIVER (APV1,2)

REFERENCE DATA

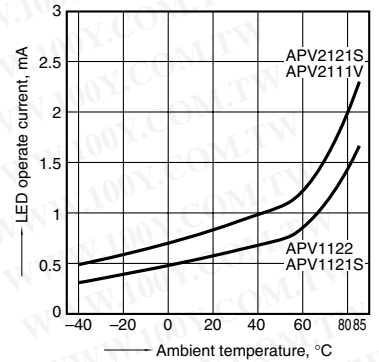
1. Drop-out voltage vs. ambient temperature characteristics
Input current: 10mA



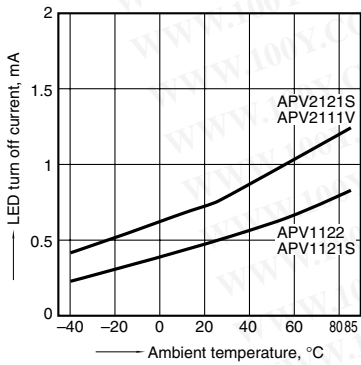
2. Short circuit current vs. ambient temperature characteristics
Input current: 10mA



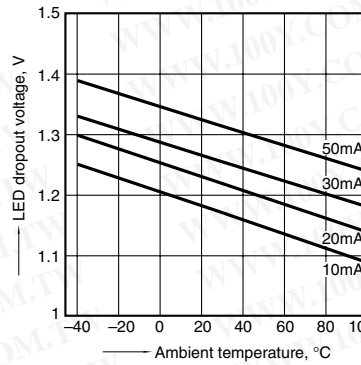
3. LED operate current vs. ambient temperature characteristics
Drop-out voltage: 5V



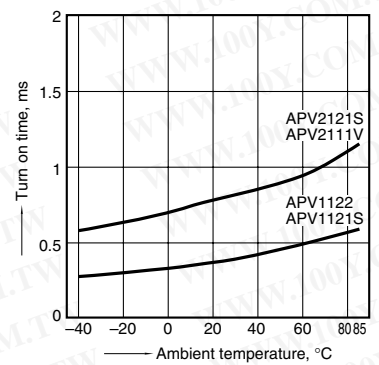
4. LED turn off current vs. ambient temperature characteristics
Drop-out voltage: 1V



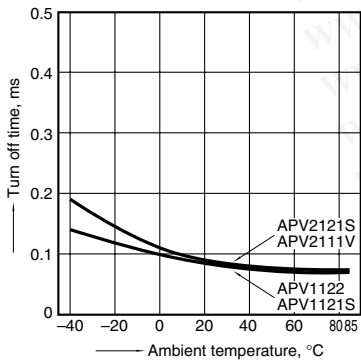
5. LED dropout voltage vs. ambient temperature characteristics
LED forward current: 5 to 50mA



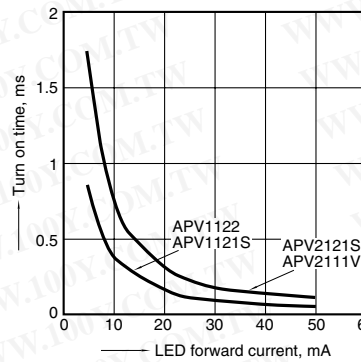
6. Turn on time vs. ambient temperature characteristics
LED forward current: 10mA
Load capacity: 1,000pF; output voltage: 5V



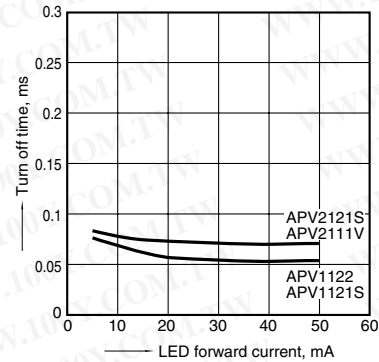
7. Turn off time vs. ambient temperature characteristics
LED forward current: 10mA
Load capacity: 1,000pF; output voltage: 1V



8. Turn on time vs. LED forward current characteristics
Load capacity: 1,000pF; output voltage: 5V



9. Turn off time vs. LED forward current characteristics
Load capacity: 1,000pF; output voltage: 1V



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