



# THE DATASHEET OF AB47S

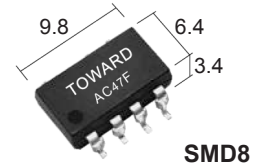
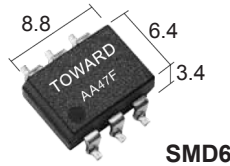
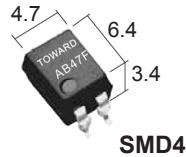
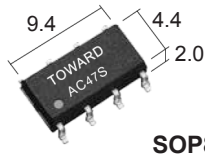
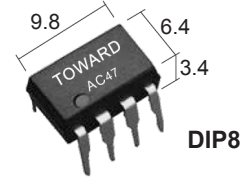
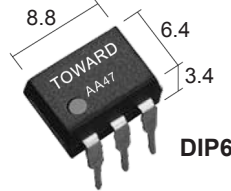
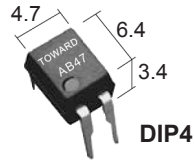
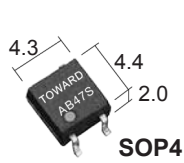


**Part Number: 47 Series**  
**High Current - 1 Form A / 2 Form A - PhotoDMOS Relays**  
**Product Data Sheet**

**80 VOLTS**

**High Current up to 2A**

**PICTURE**



Drawings not to scale. All dimensions in mm nominal. Pitch: 2.54 mm

**✓ RoHS Compliant**

**ORDERING INFORMATION**

**FEATURES**

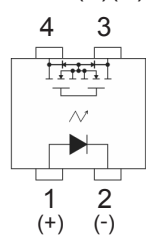
Body Style	Series	Options
AB = 4 pin AA = 6 pin AC = 8 pin	47	F = SMD S = SOP R1 = Tape & Reel (SMD / SOP Only) H = 5KV I/O BV (DIP / SMD Only) H = 3.75KV I/O BV (SOP)

- **TOWARD** PhotoDMOS Relays
- 80 Volt, 2.0 Amp High Current design
- On-Resistance: 0.15  $\Omega$  (typical)
- I/O Breakdown Voltage: SOP 1500 Vrms Min.  
DIP / SMD 3750 Vrms Min.
- Optional High I/O BV: SOP 3750 Vrms Min.  
DIP / SMD 5000 Vrms Min.
- Max LED Current 3.0 mA
- Low Off-State Leakage Current 1.0  $\mu$  A Max
- UL File E344988

**Part Number Example:** XX47X-XX  
 AB47S-R1 = Series 47, 1 Form A, 4 Pin, SOP with tape and reel packaging

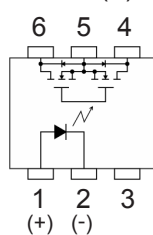
**SCHEMATIC**

AB47(F)(S)



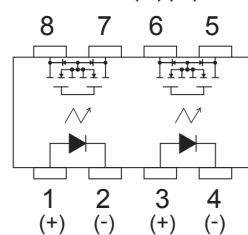
- 1: Anode (LED)
- 2: Cathode (LED)
- 3, 4: Drain (MOS FET)

AA47(F)



- 1: Anode (LED)
- 2: Cathode (LED)
- 3: NC
- 4, 6: Drain (MOS FET)
- 5: Source (MOS FET)

AC47(F)(S)



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

As part of the company policy of continued product improvement, specifications may change without notice. Our sales office will be pleased to help you with the latest information on this product range and the details of our full design and manufacturing service. All products are supplied to our standard conditions of sale unless otherwise agreed in writing.

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Rev: 0 - Date: June/17/2016 - Signature: BR

An ISO 9001 Certified Company

**Part Number: 47 Series**  
**High Current - 1 Form A / 2 Form A - PhotoDMOS Relays**  
**Product Data Sheet**

**80 VOLTS**
**High Current  
up to 2A**
**ABSOLUTE MAXIMUM RATINGS (Ambient Temperature: 25°C)**

ITEM	SYMBOL	VALUE					
		SOP 4/8		DIP 4/8 SMD 4/8		DIP 6 SMD 6	
		1CH	2CH	1CH	2CH	1CH	
<b>OUTLINE PACKAGE</b>							
Input	Continuous LED Current	I <sub>F</sub>	50 mA				
	Peak LED Current (f=100 Hz, duty=1%)	I <sub>FP</sub>	500 mA				
	LED Reverse Voltage	V <sub>R</sub>	5 V				
	Input Power Dissipation	P <sub>In</sub>	75 mW				
Output	Load Voltage	V <sub>L</sub>	80 V (AC peak or DC)				
	Load Current (A)	I <sub>L</sub>	1.25	1.0	1.25	1.0	2.0
	Peak Load Current (1 ms, 1 shot) (A)	I <sub>Peak</sub>	3.0	3.5	3.0	3.0	5.0
	Output Power Dissipation (mW)	P <sub>Out</sub>	350	450	350	450	500
Total Power Dissipation (mW)		P <sub>T</sub>	400	500	400	500	550
I/O Breakdown Voltage (Vrms)		V <sub>I/O</sub>	1500	1500	3750	3750	3750
Operating Temperature		T <sub>Opr</sub>	-40° +85°C				
Storage Temperature		T <sub>Stg</sub>	-40° +100°C				

**ELECTRICAL SPECIFICATIONS (Ambient Temperature: 25°C)**

ITEM	SYMBOL	MIN	TYP	MAX	UNITS	CONDITIONS
Input	LED Forward Voltage	V <sub>F</sub>	1.0	1.37	1.5	V I <sub>F</sub> = 10mA
	Operation LED Current	I <sub>F On</sub>		1.2	3.0	mA
	Recovery LED Voltage	V <sub>F Off</sub>	0.5	1.0		V
Output	On-Resistance Drain to Drain	R <sub>On</sub>		0.15 0.1(DIP6)	0.5 0.16(DIP6)	Ω I <sub>F</sub> = 5mA I <sub>L</sub> = Rating Time to flow is within 1 sec.
	Off-State Leakage Current	I <sub>Leak</sub>			1.0	μA V <sub>L</sub> =80V
	Output Capacitance	C <sub>Out</sub>		190 500(DIP6)		pF V <sub>L</sub> =0V, f=1MHz
Transmission	Turn-On Time	T <sub>On</sub>		0.7	3.0	ms I <sub>F</sub> = 5mA
	Turn-Off Time	T <sub>Off</sub>		0.06	0.5	ms I <sub>L</sub> = Rating (for SOP/DIP4 - 8 type)
	Turn-On Time	T <sub>On</sub>		0.7	3.0	ms I <sub>F</sub> = 10mA
	Turn-Off Time	T <sub>Off</sub>		0.04	0.5	ms I <sub>L</sub> = Rating (for DIP6 type)
Coupled	I/O Insulation Resistance	R <sub>I/O</sub>	10 <sup>9</sup>			Ω
	I/O Capacitance	C <sub>I/O</sub>		1.3		pF f = 1MHz

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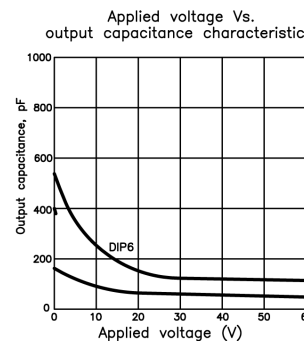
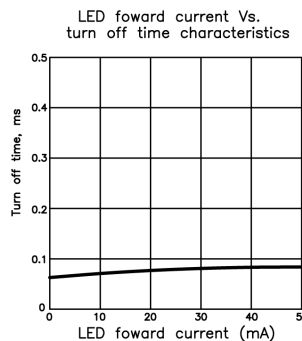
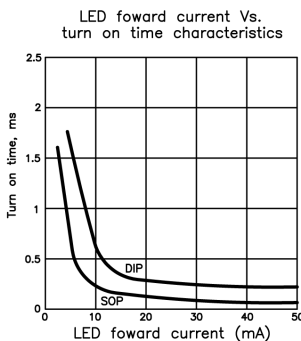
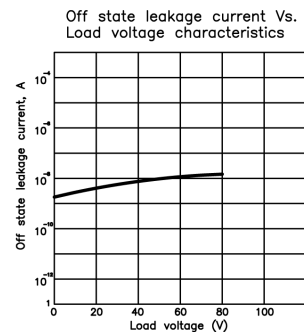
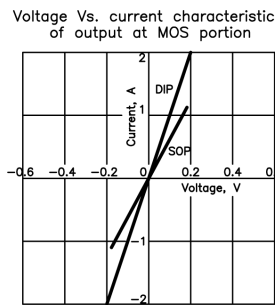
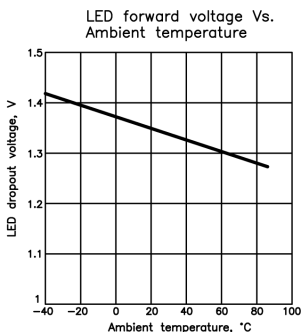
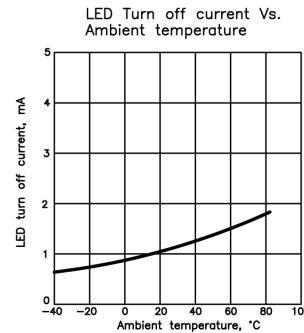
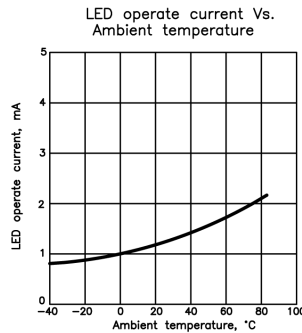
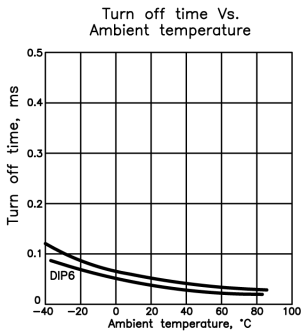
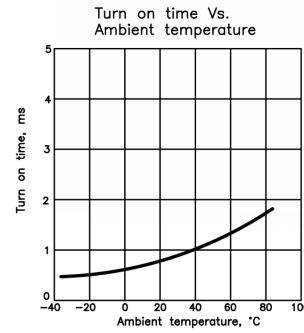
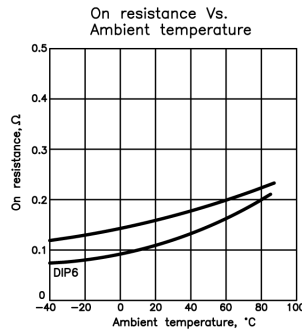
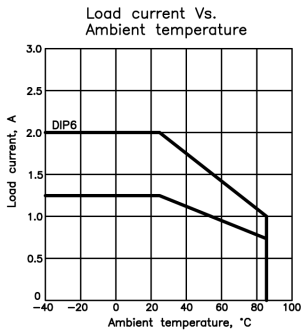
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**GRAPHS**



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