



# COMUS

# TOWARD



Part Number: AB38S-Q

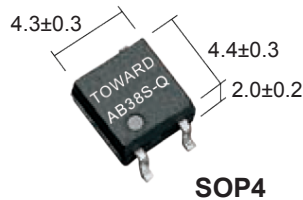
AEC-Q101 Certified - 1 Form A - PhotoDMOS Relays

Product Data Sheet

**AEC-Q101**

**600 VOLTS**

## PICTURE



**SOP4**

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

✓ **RoHS Compliant**

## FEATURES

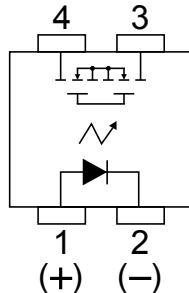
- **TOWARD** PhotoDMOS Relays
- AEC-Q101 Certification for Automotive Applications
- 600 Volt, 70 mA
- On-Resistance 60  $\Omega$  Max.
- I/O Breakdown Voltage: SOP 1500 Vrms Min.
- Max LED Current 3.0 mA
- Tape and Reel, add R1 (Example: AB38S-Q-R1)

## PART IDENTIFICATION

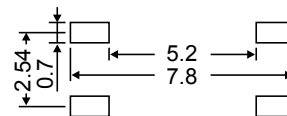
	SOP TYPE	QUANTITY
AB38S-Q	Tape & Reel	Tube 100
	Feed direction: Pin No. 3, 4	Tape 1000
	AB38S-Q-R1	

## CIRCUIT DIAGRAM

(TOP VIEW)



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



- Recommended Soldering Pattern For Reflow Soldering

Drawings not to scale.  
All dimensions in mm nominal.

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**Phone: (1) 973 777 6900**

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ABSOLUTE MAXIMUM RATINGS			AMBIENT TEMPERATURE: 25°C
ITEM	SYMBOL	VALUE	
Input	Continuous LED Current	$I_F$	50 mA
	Peak LED Current	$I_{FP}$	500 mA
	LED Reverse Voltage	$V_R$	5 V
	Input Power Dissipation	$P_{In}$	75 mW
Output	Load Voltage	$V_L$	600 V (AC peak or DC)
	Load Current	$I_L$	70 mA
	Peak Load Current (1 ms, 1 shot)	$I_{Peak}$	200 mA
	Output Power Dissipation	$P_{Out}$	300 mW
Total Power Dissipation		$P_T$	350 mW
I/O Breakdown Voltage		$V_{I/O}$	1500 Vrms Min
Operating Temperature		$T_{Opr}$	-40°C ~ +105°C
Storage Temperature		$T_{Stg}$	-40°C ~ +125°C

ELECTRICAL SPECIFICATIONS					AMBIENT TEMPERATURE: 25°C		
ITEM		SYMBOL	MIN	TYP	MAX	UNITS	CONDITIONS
Input	LED Forward Voltage	V <sub>F</sub>	0.9	1.17	1.3	V	I <sub>F</sub> = 10 mA
	Operation LED Current	I <sub>F On</sub>		1	5	mA	
	Recovery LED Voltage	V <sub>F Off</sub>	0.5	1		V	
Output	On-Resistance Drain to Drain	R <sub>On</sub>		40	60	Ω	I <sub>F</sub> = 5 mA, I <sub>L</sub> = Rated Current Time to flow is within 1 sec.
	Off-State Leakage Current	I <sub>Leak</sub>			1	μ A	V <sub>L</sub> = 600 V
	Output Capacitance	C <sub>Out</sub>		47		pF	V <sub>L</sub> = 0 V, f = 1 MHz
Transmission	Turn-On Time	T <sub>On</sub>		0.2	0.5	ms	I <sub>F</sub> = 5 mA
	Turn-Off Time	T <sub>Off</sub>		0.08	0.2	ms	I <sub>L</sub> = Rated Current
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 = 1 MHz

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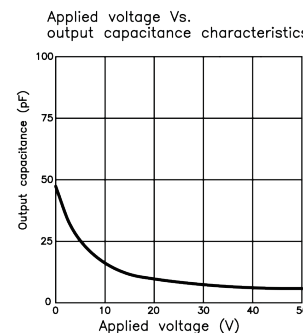
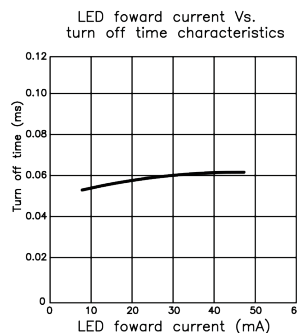
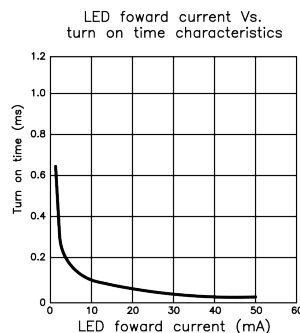
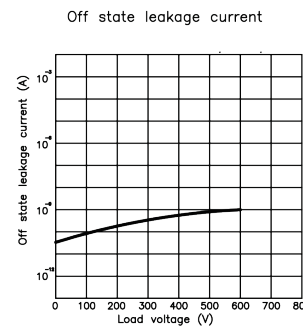
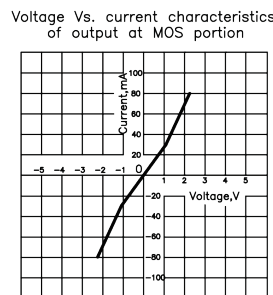
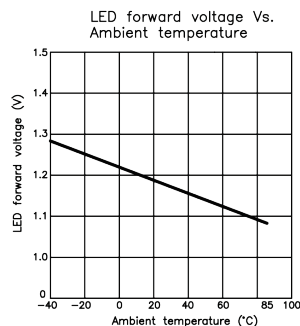
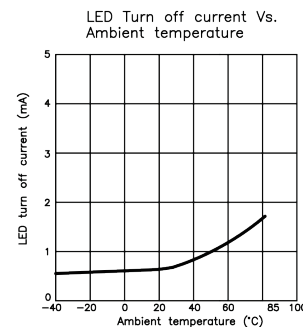
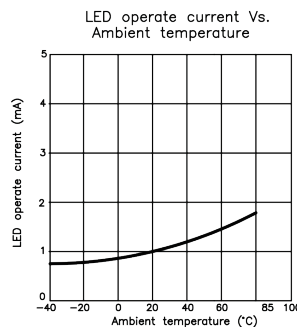
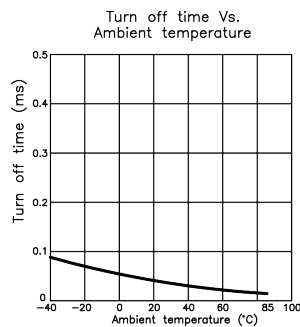
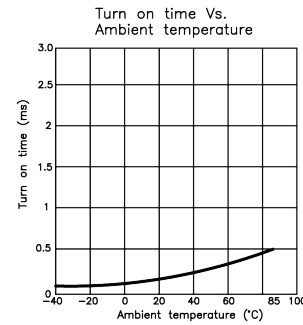
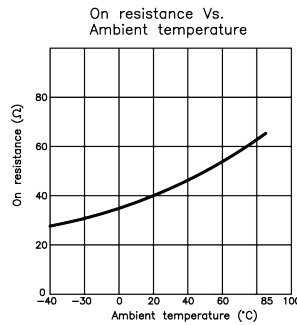
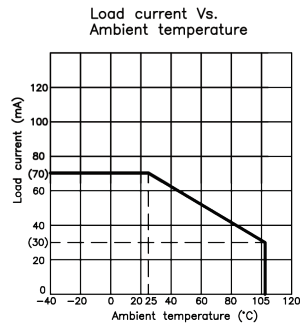
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## GRAPHS



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