

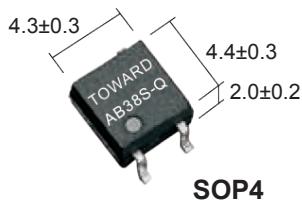
Part Number: AB38S-Q

AEC-Q101 Certified - 1 Form A - PhotoDMOS Relays
Product Data Sheet

AEC-Q101

600 VOLTS

PICTURE



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

✓ RoHS Compliant

FEATURES

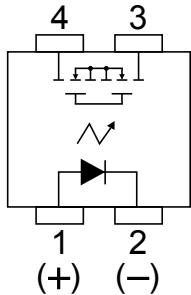
- **TOWARD** PhotoDMOS Relays
- AEC-Q101 Certification for Automotive Applications
- 600 Volt, 70 mA
- On-Resistance 60 Ω Max.
- I/O Breakdown Voltage: SOP 1500 Vrms Min.
- Max LED Current 3.0 mA
- Tape and Reel, add R1 (Example: AB38S-Q-R1)

PART IDENTIFICATION

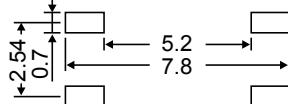
	SOP TYPE	QUANTITY
AB38S-Q	Tape & Reel	Tube 100
	Feed direction: Pin No. 3, 4	Tape 1000
	AB38S-Q-R1	

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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600 VOLTS

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 _F	0.9	1.17	1.3	V
	Operation LED Current	I _{F On}		1	5	mA
	Recovery LED Voltage	V _{F Off}	0.5	1		V
Output	On-Resistance Drain to Drain	R _{On}		40	60	Ω
	Off-State Leakage Current	I _{Leak}			1	μA
Transmission	Output Capacitance	C _{Out}		47		pF
	Turn-On Time	T _{On}		0.2	0.5	ms
	Turn-Off Time	T _{Off}		0.08	0.2	ms
Coupled	I/O Insulation Resistance	R _{I/O}	10 ⁹			Ω
	I/O Capacitance	C _{I/O}		1.3		pF
I _F = 10 mA						
I _F = 5 mA, I _L = Rated Current Time to flow is within 1 sec.						
V _L = 600 V						
V _L = 0 V, f = 1 MHz						
I _F = 5 mA						
I _L = Rated Current						
f = 1 MHz						

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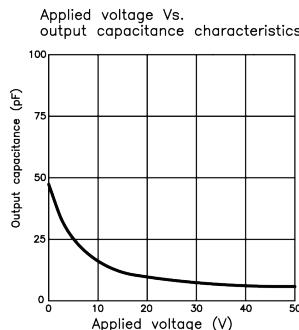
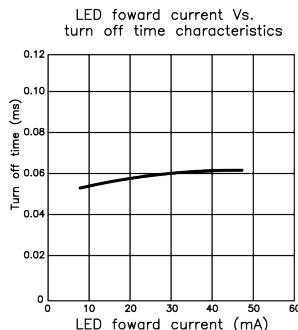
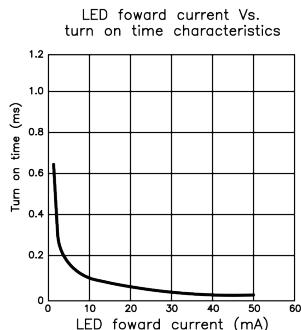
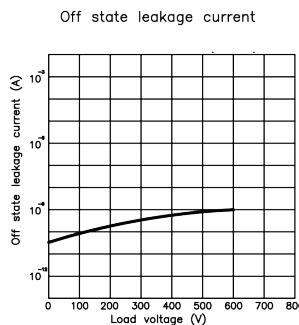
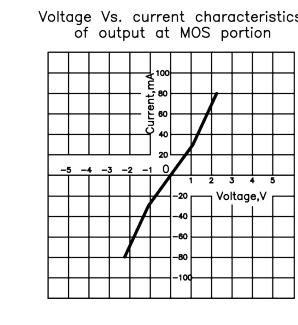
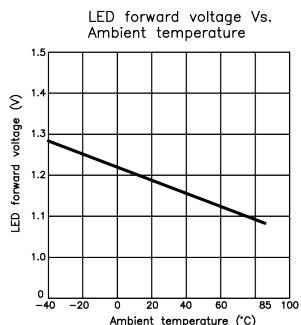
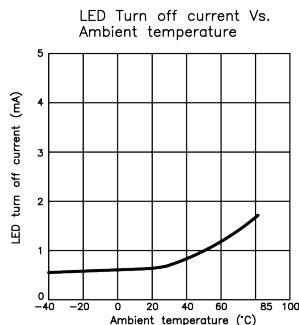
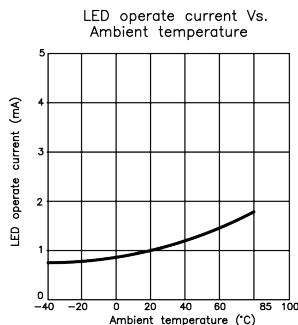
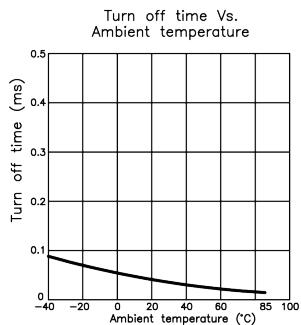
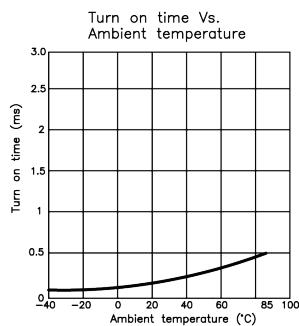
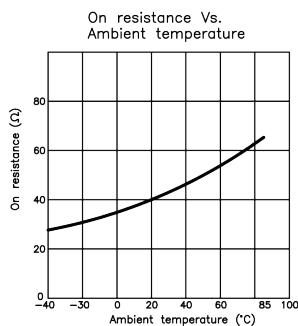
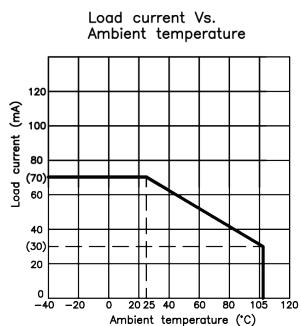
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GRAPHS



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