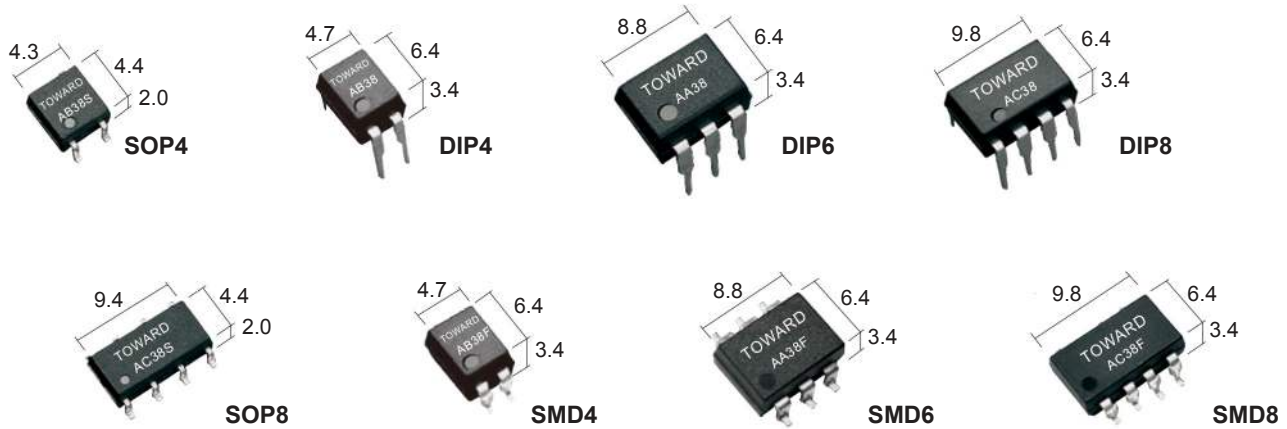


**Part Number: 38 Series**

**General Purpose - 1 Form A / 2 Form A - PhotoDMOS Relays  
Product Data Sheet**

**600 VOLTS**

**PICTURE**



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

**✓RoHS Compliant**

**ORDERING INFORMATION**

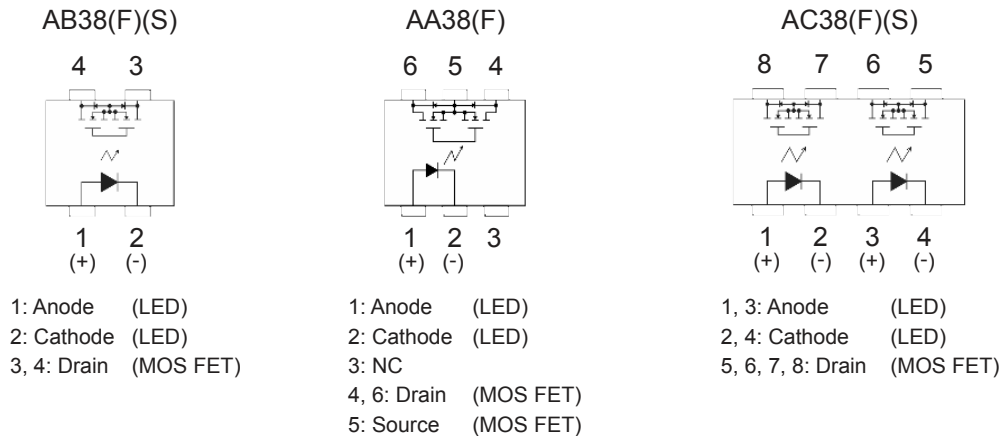
**FEATURES**

Body Style	Series	Options
AB = 4 pin AA = 6 pin AC = 8 pin	38	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 Only)

- **TOWARD** PhotoDMOS Relays
- 600 Volt, 80 mA
- On-Resistance: 40 Ω (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 μA Max
- UL File E344988

**Part Number Example:** XX38X-XX  
AC38F-R1 = Series 38, 2 Form A, 8 Pin, SMD with tape and reel packaging

**SCHEMATIC**



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Rev: 0 - Date: June/16/2016 - Signature: BR

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Part Number: 38 Series

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**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
OUTLINE PACKAGE							
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>	600 V (AC peak or DC)				
	Load Current (mA)	I <sub>L</sub>	70	60	80	70	80
	Peak Load Current (1 ms, 1 shot) (mA)	I <sub>Peak</sub>	200	200	200	200	200
	Output Power Dissipation (mW)	P <sub>Out</sub>	300	450	450	600	450
Total Power Dissipation (mW)		P <sub>T</sub>	350	500	500	650	500
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	1.17	1.5	V	I <sub>F</sub> = 10mA
	Operation LED Current	I <sub>F On</sub>		1.0	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>		40	60	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> = 600V
	Output Capacitance	C <sub>Out</sub>		47		pF	V <sub>L</sub> = 0V, f = 1MHz
Transmission	Turn-On Time	T <sub>On</sub>		0.2	0.5	ms	I <sub>F</sub> = 5mA I <sub>L</sub> = Rating (for SOP type)
	Turn-Off Time	T <sub>Off</sub>		0.05	0.2	ms	
	Turn-On Time	T <sub>On</sub>		0.1	1.0	ms	I <sub>F</sub> = 10mA I <sub>L</sub> = Rating (for DIP/SMD type)
	Turn-Off Time	T <sub>Off</sub>		0.05	0.5	ms	
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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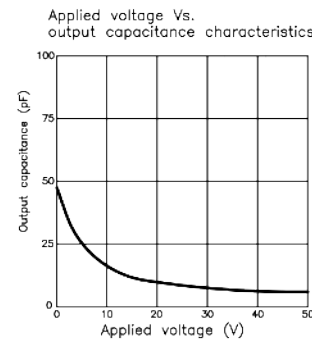
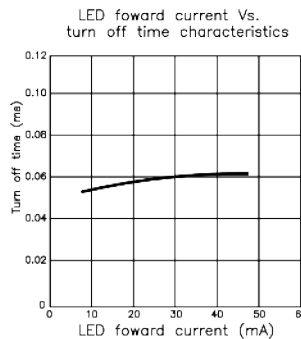
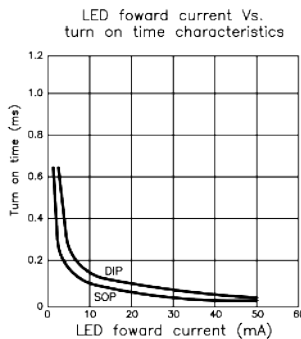
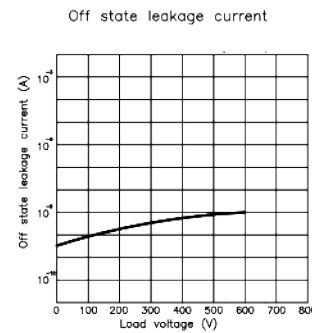
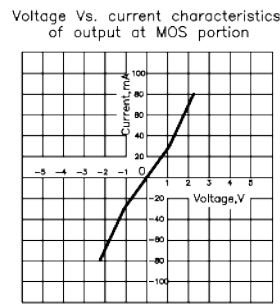
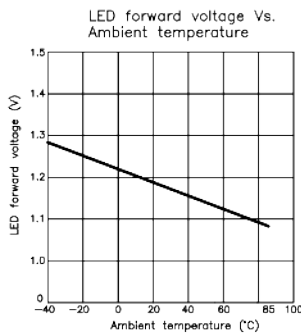
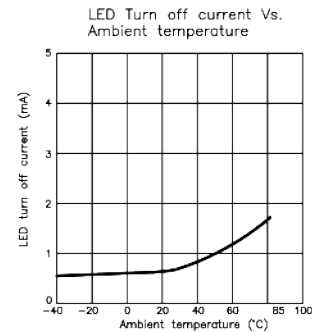
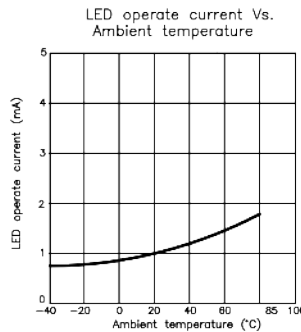
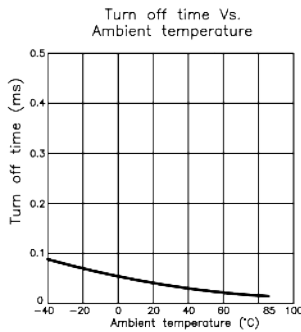
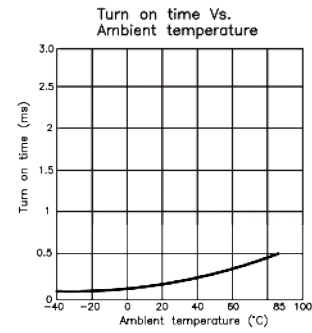
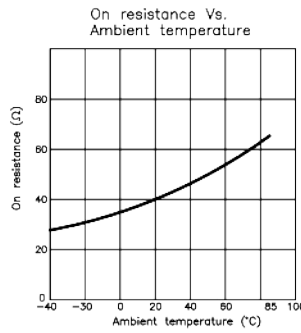
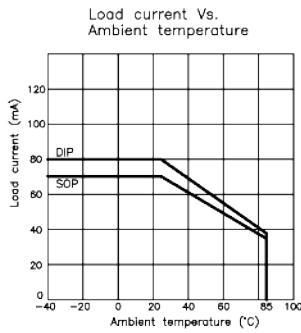
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**GRAPHS**



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