



THE DATASHEET OF AC38

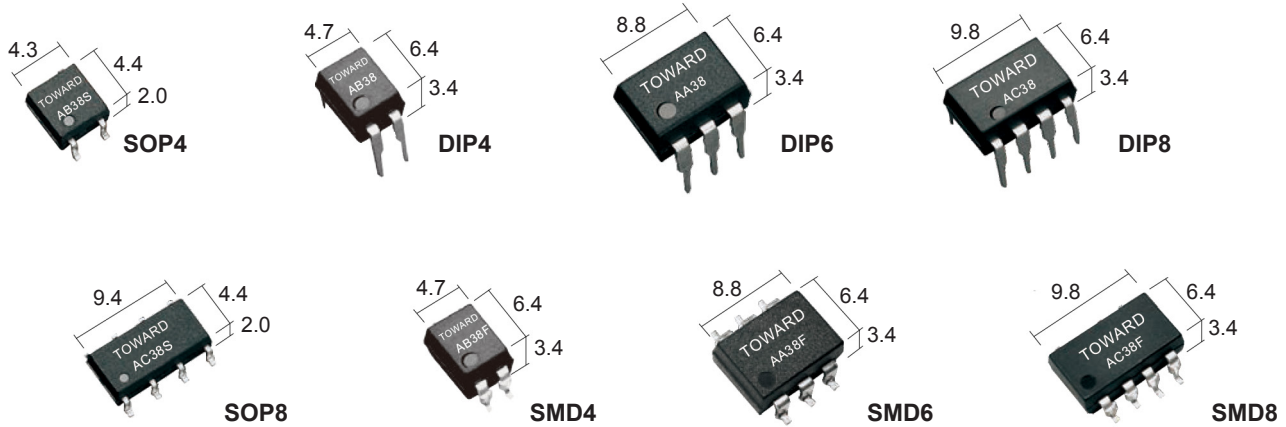


Part Number: 38 Series

**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

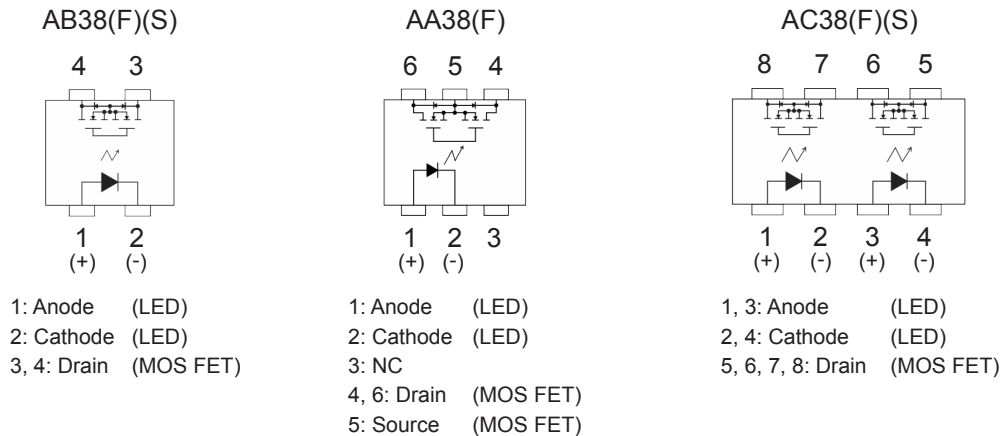
FEATURES

| 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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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 _F | 50 mA | | | | |
| | Peak LED Current (f=100 Hz, duty=1%) | 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 (mA) | I _L | 70 | 60 | 80 | 70 | 80 |
| | Peak Load Current (1 ms, 1 shot) (mA) | I _{Peak} | 200 | 200 | 200 | 200 | 200 |
| | Output Power Dissipation (mW) | P _{Out} | 300 | 450 | 450 | 600 | 450 |
| Total Power Dissipation (mW) | | P _T | 350 | 500 | 500 | 650 | 500 |
| I/O Breakdown Voltage (Vrms) | | V _{I/O} | 1500 | 1500 | 3750 | 3750 | 3750 |
| Operating Temperature | | T _{Opr} | -40° +85°C | | | | |
| Storage Temperature | | T _{Stg} | -40° +100°C | | | | |

ELECTRICAL SPECIFICATIONS (Ambient Temperature: 25°C)

| ITEM | SYMBOL | MIN | TYP | MAX | UNITS | CONDITIONS |
|--------------|------------------------------|--------------------|-----------------|------|-------|--|
| Input | LED Forward Voltage | V _F | 1.0 | 1.17 | 1.5 | V I _F = 10mA |
| | Operation LED Current | I _{F On} | | 1.0 | 3.0 | mA |
| | Recovery LED Voltage | V _{F Off} | 0.5 | 1.0 | | V |
| Output | On-Resistance Drain to Drain | R _{On} | 40 | 60 | | Ω I _F = 5mA I _L = Rating Time to flow is within 1 sec. |
| | Off-State Leakage Current | I _{Leak} | | 1.0 | | μA V _L = 600V |
| | Output Capacitance | C _{Out} | | 47 | | pF V _L = 0V, f = 1MHz |
| Transmission | Turn-On Time | T _{On} | 0.2 | 0.5 | | ms I _F = 5mA I _L = Rating (for SOP type) |
| | Turn-Off Time | T _{Off} | 0.05 | 0.2 | | ms |
| | Turn-On Time | T _{On} | 0.1 | 1.0 | | ms I _F = 10mA I _L = Rating (for DIP/SMD type) |
| | Turn-Off Time | T _{Off} | 0.05 | 0.5 | | ms |
| Coupled | I/O Insulation Resistance | R _{I/O} | 10 ⁹ | | | Ω |
| | I/O Capacitance | C _{I/O} | 1.3 | | | pF f = 1MHz |

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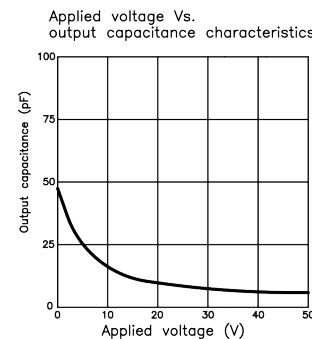
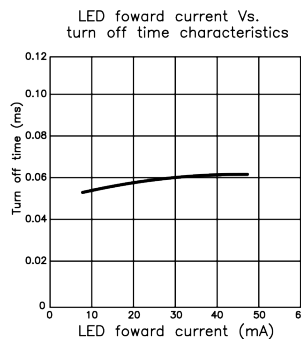
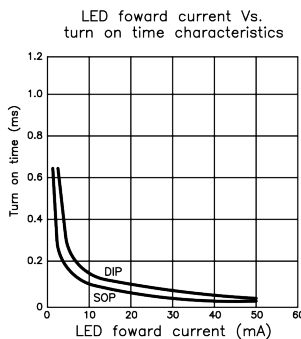
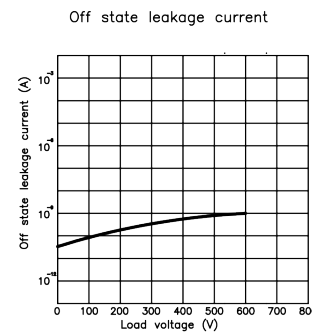
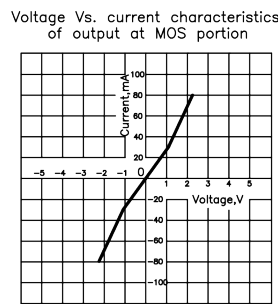
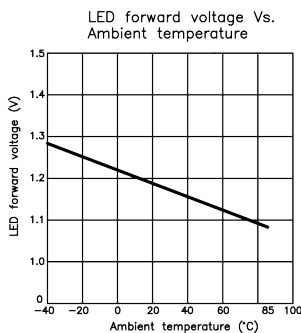
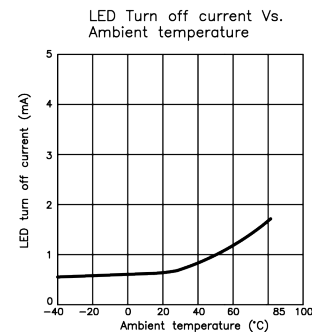
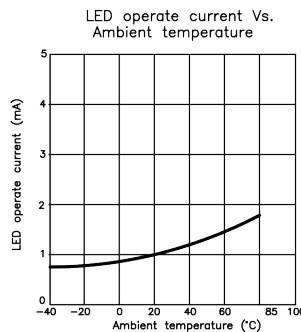
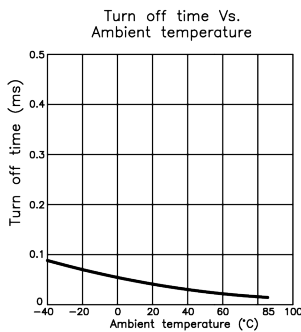
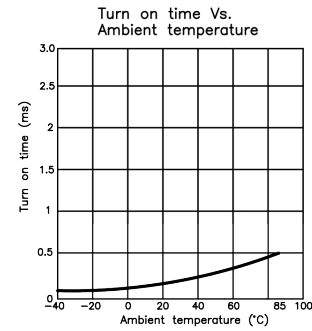
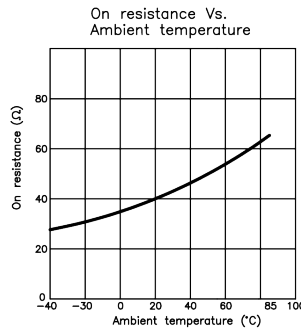
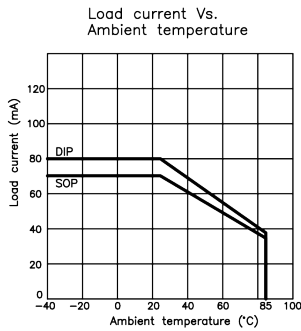
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GRAPHS



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