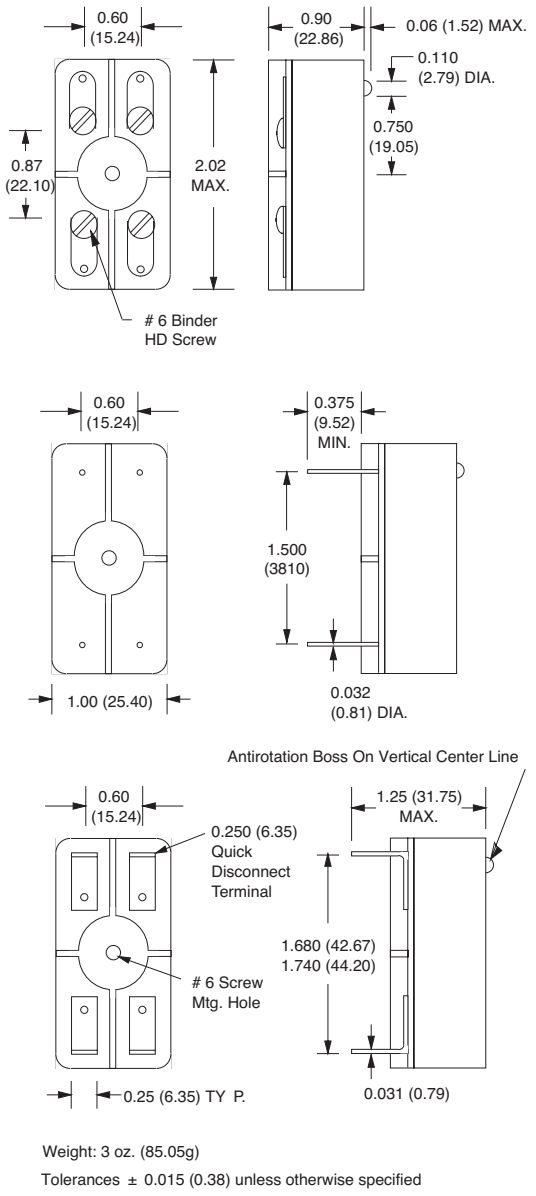
Part Number	Description
603-1	2A, 50Vdc optically isolated solid-state relay
603-2	5A, 50Vdc optically isolated solid-state relay
603-3	5A, 250Vdc high-voltage, transformer isolated solid-state relay
603-4	5A, 250Vdc high-voltage, transformer isolated solid-state relay

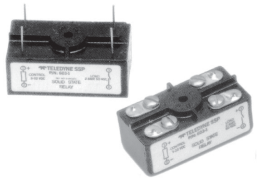
MECHANICAL SPECIFICATION



Weight: 3 oz. (85.05g)

Tolerances ± 0.015 (0.38) unless otherwise specified

Figure 1 – 603 relays; dimensions in inches (mm)



FEATURES

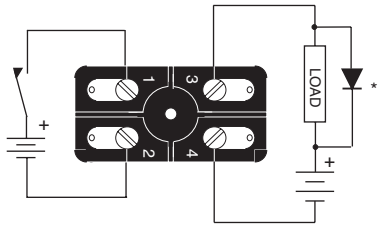
- Fast Switching Speed: Where speed is important
- Floating Output: Eliminates ground loops and signal-level ground noise.
- Low Off-State Leakage Current: High offstate impedance
- High Dielectric Strength: For safety and protection of signal-level circuits.

DESCRIPTION

The 603-1 and 603-2 optically coupled solid-state relays are rated at 2 Adc and 5 Adc at 50 Vdc, and are available with TTL compatible inputs. Packages are available in three different configurations with a choice of screw terminals, quick disconnect terminals or through hole solder pins. This allows for maximum flexibility for mounting onto printed circuit boards, panels, or heat sink mounting with optimal mechanical and thermal considerations.

The 603-3 and 603-4 relays were designed specifically for high-voltage loads up to 5A at 250 Vdc. They utilize a Teledyne transformer coupled driver/isolator to provide high input/output isolation and low offstate leakage. The adaptive package design offers a choice of screw or quick disconnect terminals for chassis, panel, or heat sink mounting, and solder pins for direct mounting on PC boards.

WIRING DIAGRAM



* Input and output polarity must be observed.
Inductive loads must be diode suppressed.

Figure 2

INPUT (CONTROL) SPECIFICATIONS

	Min	Max	Units
Control Voltage Range (See Note 3)			
603-1, -2	3	32	Vdc
603-3	4	10	Vdc
603-4	10	32	Vdc
Input Current			
603-1, -2 @32Vdc		36	mA
603-3 @5Vdc		16	mA
603-4 @28Vdc		35	mA
Must Turn-On Voltage			
603-1, -2	3		Vdc
603-3	4		Vdc
603-4	10		Vdc
Must Turn-Off Voltage			
603-1, -2		0.8	Vdc
603-3, -4		0.4	Vdc
Reverse Voltage			
601-1, -2		–32	Vdc

ENVIRONMENTAL SPECIFICATION

	Min	Max	Units
Operating Temperature			
603-1, -2	–40	+80	°C
603-3, -4	–40	+100	°C
Storage Temperature	–55	+100	°C
Junction Temperature (T_J)		150	°C
Dielectric Strength	1500		Vac
Isolation	10^9		Ohms
Thermal Resistance (θ_{JA})		30	°C/W
Thermal Resistance (θ_{JC})		10	°C/W

OUTPUT (LOAD) SPECIFICATION

	Min	Max	Units
Load Voltage Rating			
603-1, -2	3	50	Vdc
603-3, -4		250	Vdc
Output Current Rating			
603-1		2	Adc
603-2		5	Adc
603-3, -4		5	Adc
On-State Voltage Drop			
603-1, -2		1.5	Vdc
603-3, -4		2	Vdc
Output Leakage Current			
603-1 (25°C)		10	mA
603-2 (25°C)		15	mA
603-3, 603-4 (25°C)		20	µA
603-3, 603-4 (100°C)		100	µA
Turn-On Time			
603-1, -2		100	µs
603-3, -4		120	µs
Turn-Off Time			
603-1, -2		300	µs
603-3, -4		150	µs
Capacitance (Input to Output)			
603-1, -2		20	pF
603-3, -4		15	pF

NOTES
1. The basic part number provides for screw terminals only. To order PC mounting pins, add suffix “P” to part number. For quick-disconnect terminals, add sufffix “Q” to part number.
2. Relays mounted on heat sink with silicon grease.
3. Rise and fall times of input signal must be less than 1 ms or damage to output stage may result.
4. All electrical parameters at 25°C unless otherwise specified.

CHARACTERISTICS CURVES

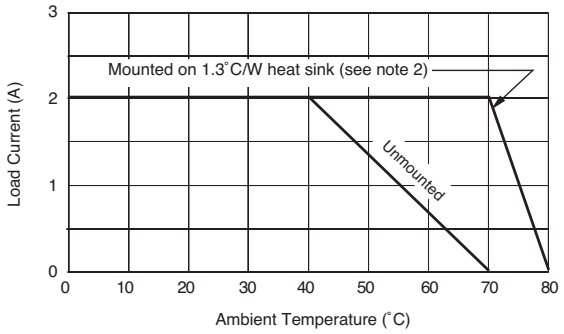


Figure 3 – 603-1 load current vs. temperature

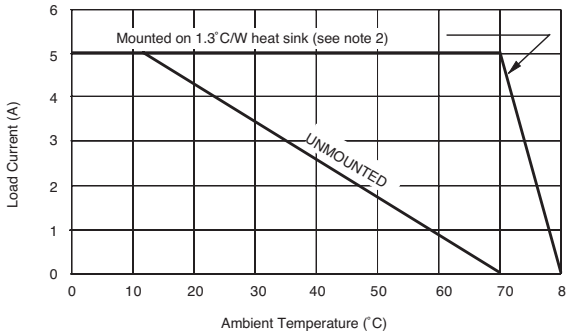


Figure 4 – 603-2 load current vs. temperature

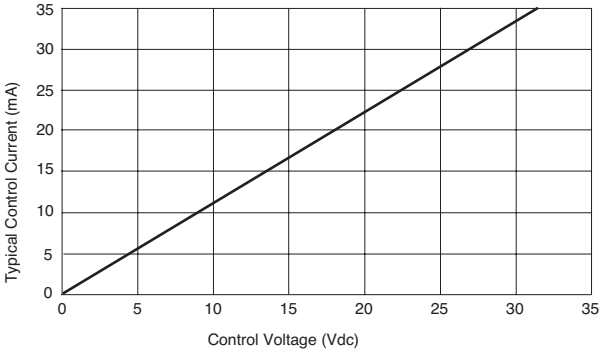


Figure 5 – 603-1, -2 input current vs. control voltage

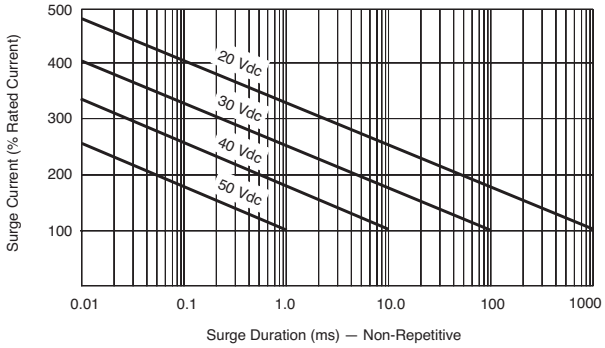


Figure 6 – 603-1, -2 maximum surge as function of load voltage

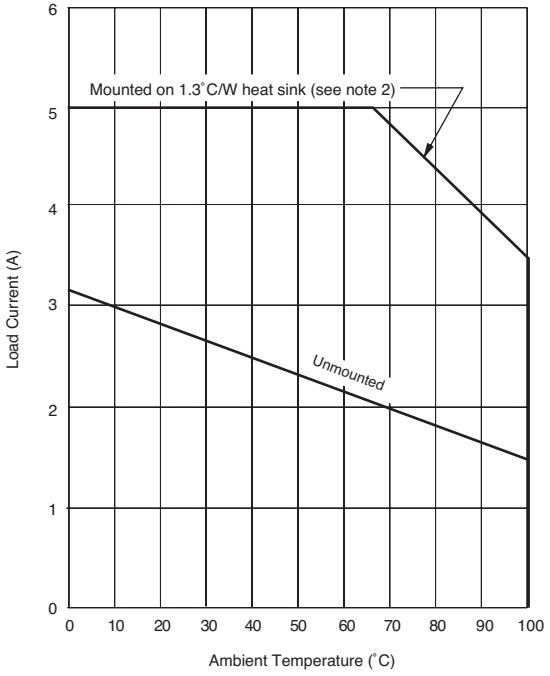


Figure 7 – 603-3, -4 load current vs. temperature

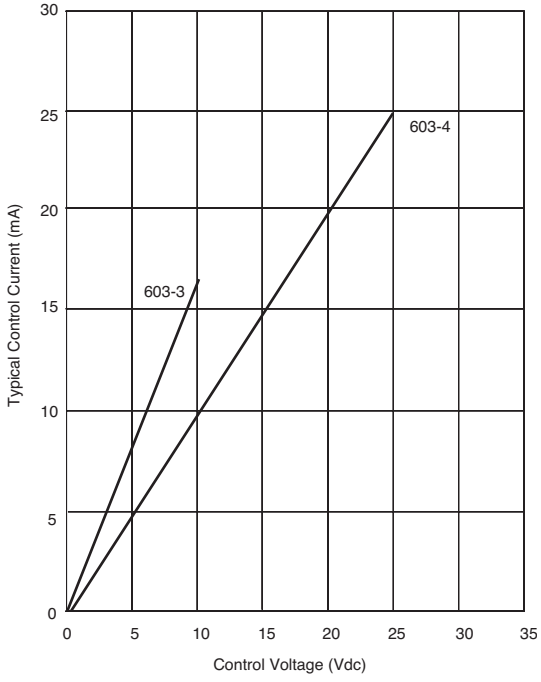


Figure 8 – 603-3, -4 input current vs. control voltage