

## SPST-N.O., 2.5 TO 25 AMPS

**UL**  
UL Recognized  
File No. E52197

**SP**  
168986

### FEATURES

- SMALL PACKAGES
- EIGHT DIFFERENT PACKAGES
- OPTICALLY ISOLATED.
- ZERO CROSS SWITCHING
- INTERNAL SNUBBER

- IDEAL FOR TIGHT DESIGNS
- WIDE CHOICE OF DESIGN OPTIONS
- INPUT ISOLATED FROM OUTPUT
- REDUCED CURRENT SURGES FOR MOST LOADS
- EXCELLENT TRANSIENT PROTECTION

### DC INPUT-AC OUTPUT

MANUFACTURED UNDER ISO 9002

MAX. LOAD CURRENT	CONTROL VOLTAGE RANGE	NOMINAL LOAD VOLTAGE	DESCRIPTION AND FEATURES	STYLE
2.5 A	3-30 or 6-30 VDC	24, 120 or 240 VAC	MINIATURE PRINTED CIRCUIT MOUNT RELAY, ONLY 0.500" HIGH	H
3 A	3-32 or 6-32 VDC	24, 120 or 240 VAC	SINGLE IN - LINE PACKAGE, USES ONLY 0.680 SQ. INCHES BOARD AREA	V
4 A	3-30 or 6-30 VDC	24, 120 or 240 VAC	COMPACT RELAY, PRINTED CIRCUIT MOUNT	F
<b>NEW</b> 5 A	<b>3-32 VDC</b>	<b>24 to 280 VAC</b>	<b>SINGLE IN-LINE PACKAGE, USES ONLY 0.680 SQ. INCHES BOARD AREA</b>	<b>V</b>
6 A	3-30 or 6-30 VDC	120 or 240 VAC	LOW PROFILE RELAY, PANEL OR PRINTED CIRCUIT MOUNT	L
6 A	3-30 or 6-30 VDC	120 or 240 VAC	COMPACT RELAY, PANEL OR PRINTED CIRCUIT MOUNT	M
6 A	3-30 or 6-30 VDC	120 or 240 VAC	COMPACT RELAY, MEETS FIT/FUNCTION REPLACEMENTS FOR LARGER CLASS 6 STYLE RELAYS, QUICK CONNECT TERMINALS	N
6 A	3-30 or 6-30 VDC	120 or 240 VAC	COMPACT RELAY, MEETS FIT/FUNCTION REPLACEMENTS FOR LARGER CLASS 6 STYLE RELAYS, SCREW TERMINALS	S
10 A	3-30 or 6-30 VDC	120 or 240 VAC	COMPACT RELAY, PANEL OR PRINTED CIRCUIT MOUNT 10 AMP	M
12 A	3-30 or 6-30 VDC	120 or 240 VAC	COMPACT RELAY, MEETS FIT/FUNCTION REPLACEMENTS FOR LARGER CLASS 6 STYLE RELAYS, QUICK CONNECT TERMINALS	N
12 A	3-30 or 6-30 VDC	120 or 240 VAC	COMPACT RELAY, MEETS FIT/FUNCTION REPLACEMENTS FOR LARGER CLASS 6 STYLE RELAYS, SCREW TERMINALS	S
25 A	3-30 VDC	120 or 240 VAC	HIGH OUTPUT VERSION OF ABOVE STYLE "S"	S

### DC INPUT-DC OUTPUT

MAX. LOAD CURRENT	CONTROL VOLTAGE RANGE	NOMINAL LOAD VOLTAGE	DESCRIPTION AND FEATURES	STYLE
3 A	3-15 or 9-30 VDC	3 to 60 VDC	SINGLE IN - LINE PACKAGE, USES ONLY 0.680 SQ. INCHES BOARD SPACE	V
3 A	3-15 or 9-30 VDC	3 to 60 VDC	COMPACT RELAY, PRINTED CIRCUIT MOUNT	F
5 A	3-15 VDC	3 to 60 VDC	COMPACT RELAY, MEETS FIT/FUNCTION REPLACEMENTS FOR LARGER CLASS 6 STYLE RELAYS, QUICK CONNECT TERMINALS	N
5 A	3-15 VDC	3 to 60 VDC	COMPACT RELAY, MEETS FIT/FUNCTION REPLACEMENTS FOR LARGER CLASS 6 STYLE RELAYS, SCREW TERMINALS	S
<b>NEW</b> 5 A	<b>3-32 VDC</b>	<b>3 to 60 VAC</b>	<b>SINGLE IN-LINE PACKAGE, USES ONLY 0.680 SQ. INCHES BOARD AREA</b>	<b>V</b>

### ORDERING CODE

**70S2-** **04-** **D-** **03-** **V**

**CLASS:** \_\_\_\_\_

**CONTROL VOLTAGE:** \_\_\_\_\_

01 = 3 - 15 VDC, DC/DC RELAYS  
 02 = 9 - 30 VDC, DC/DC RELAYS  
 03 = 3 - 30 VDC, 25 A S PACK  
 04 = 3 - 30 VDC (OR 32 VDC), DC/AC RELAYS  
 05 = 6 - 30 VDC (OR 32 VDC), DC/AC RELAYS

**LOAD VOLTAGE RANGE:** \_\_\_\_\_

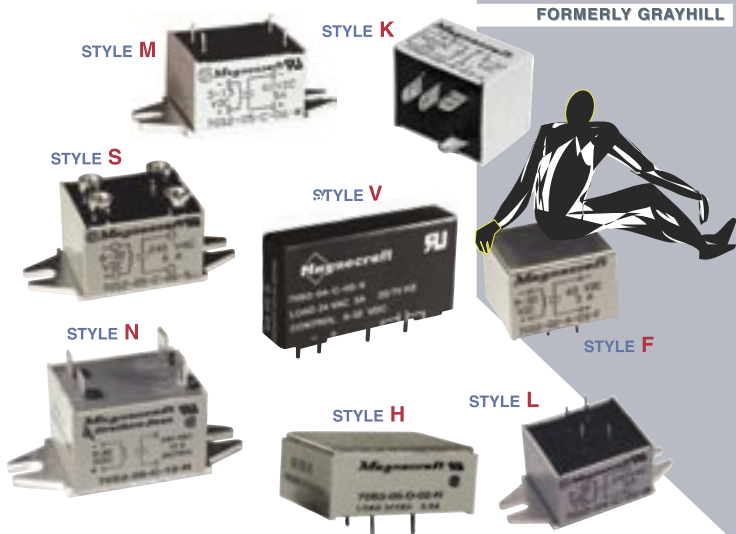
A = 3-60 VDC B = 120 VAC  
 C = 240 VAC D = 24 VAC

**MAX CURRENT RATING** \_\_\_\_\_

02 = 2.5 A 04 = 4 A 06 = 6 A 12 = 12 A  
 03 = 3 A 05 = 5 A 10 = 10A 25 = 25 A

**PACKAGE STYLE** \_\_\_\_\_

F, H, L, M, N, S OR V.

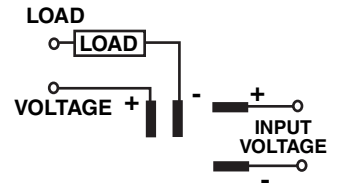


# 70S2 SERIES SOLID STATE "K" STYLE RELAY



## DC/AC, SPST-N.O., 4 AMPS

WIRING DIAGRAM  
(VIEWED FROM PIN END)



OBSERVE POLARITY

## GENERAL SPECIFICATIONS (@ 25°C)

### INPUT CHARACTERISTICS

Style:	<b>70S2-04-B</b>	<b>70S2-04-C</b>	<b>70S2-04-D</b>	<b>70S2-04-B</b>	<b>70S2-05-C</b>	<b>70S2-05-D</b>	<b>70S2-01-A</b>	<b>70S2-02-A</b>
Control Voltage Range:	3 - 30 VDC	3 - 30 VDC	3 - 30 VDC	6 - 30 VDC	6 - 30 VDC	6 - 30 VDC	3 - 15 VDC	9 - 30 VDC
Typical Input Current:	1.0 - 17 mA	1.0 - 6.0 mA	1.0 - 17 mA	1.0 - 6.0 mA	1.0 - 17 mA	1.0 - 6.0 mA	5 - 40 mA	5 - 17 mA
Must Release Voltage:	1.0 VDC	1.0 VDC	1.0 VDC	1.0 VDC	1.0 VDC	1.0 VDC	1.0 VDC	2 VDC
Max. Reverse Control Voltage:	5 VDC	5 VDC	5 VDC	5 VDC	5 VDC	5 VDC	5 VDC	5 VDC

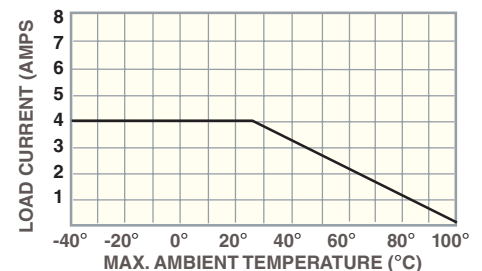
### OUTPUT CHARACTERISTICS

Load Voltage Range:	24 - 140 VAC	24-280 VAC	8 - 50 VAC	24 - 140 VAC	24 - 280 VAC	8 - 50 VAC	3 - 60 VDC	3 - 60 VDC
Rated Load Current :	4 Amp	4 Amp	4 Amp	4 Amp	4 Amp	4 Amp	3 Amp	3 Amp
Maximum off-State Voltage dv/dt:	300 V/u Sec							
Minimum Load Current:	75 mA	75 mA	75 mA	75 mA	75 mA	75 mA	100 mA	100 mA
Non-Repetitive Surge Current (1 Cycle):	60 Amp	60 Amp	60 Amp	60 Amp	60 Amp	60 Amp	7 Amp-1sec	7 Amp-1sec
Maximum Off State Leakage Current (Rms):	6 mA	6 mA	3 mA	6 mA	6 mA	6 mA	10 uA	10 uA
Typical On-State Voltage Drop (Rms):	1.6 V	1.6 V	1.6 V	1.6 V	1.6 V	1.6 V	1.2 V	1.2 V
Minimum Peak Blocking Voltage:	400 V	600 V	200 V	400 V	600 V	200 V	105 V	105 V
Operating Frequency Range:	25 to 70 Hz	25 to 70 Hz	25 to 70 Hz	25 to 70 Hz	25 to 70 Hz	25 to 70 Hz	DC	DC
Maximum Turn - On Time:	8.3 mS	8.3 mS	8.3 mS	8.3 mS	8.3 mS	8.3 mS	75 uS	75 uS
Maximum Turn - Off Time:	8.3 mS	8.3 mS	8.3 mS	8.3 mS	8.3 mS	8.3 mS	500 uS	500 uS

### MISCELLANEOUS CHARACTERISTICS

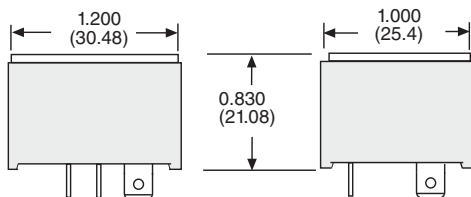
Dielectric Strength (Input/Output/Base):	3000 V rms. Min.
Insulation Resistance:	100 megohms minimum @ 500 VDC
Operating Temperature Range:	-40°C to +100°C
Storage Temperature Range:	-40°C to +125°C
Weight:	40 grams approx.

Figure 1: Maximum Continuous Current vs. Ambient Temperature

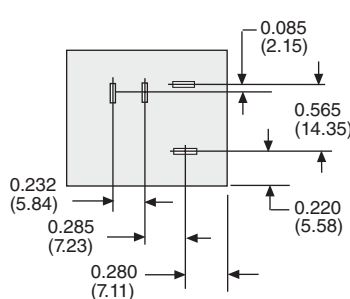


### OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



### TERMINAL BOTTOM VIEW



0.187 (4.74)  
**QUICK CONNECT TERMINALS**

Mating Sockets  
**70-459-1: SCREW/DIN**  
See Section 7

STANDARD PART NUMBERS	LOAD VOLTAGE RANGE	RATED LOAD CURRENT
<b>70S2-04-B-04-K</b>	24 - 140 VAC	4 AMPS
<b>70S2-04-C-04-K</b>	24 - 280 VAC	4 AMPS
<b>70S2-04-D-04-K</b>	8 - 50 VAC	4 AMPS
<b>70S2-05-B-04-K</b>	24 - 140 VAC	4 AMPS
<b>70S2-05-C-04-K</b>	24 - 280 VAC	4 AMPS
<b>70S2-05-D-04-K</b>	8 - 50 VAC	4 AMPS
<b>70S2-01-A-03-K</b>	3 - 60 VDC	3 AMPS
<b>70S2-02-A-03-K</b>	3 - 60 VDC	3 AMPS

CONSULT FACTORY FOR OTHER CONFIGURATIONS.

