



# 70S2 SERIES SOLID STATE RELAYS

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

UL Recognized  
File No. E52197



### 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

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
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 Http://www.100y.com.tw

### 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**

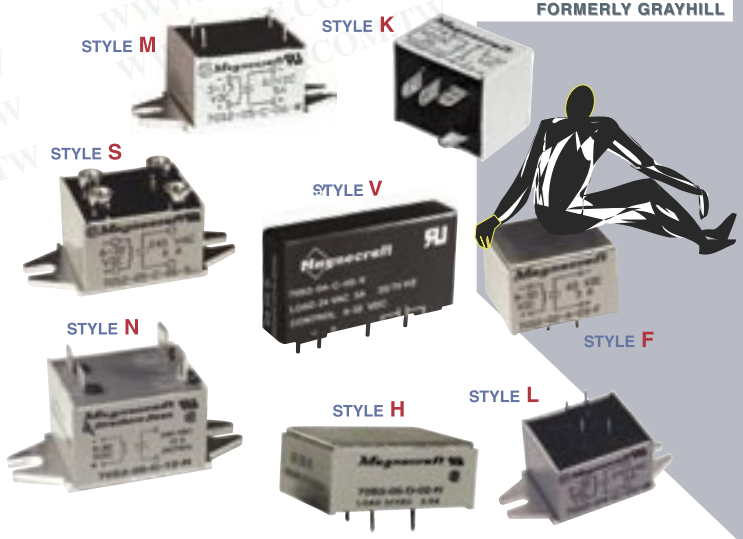
**CLASS:** \_\_\_\_\_

**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.



FORMERLY GRAYHILL

LIFETIME WARRANTY.

# 70S2 SERIES SOLID STATE "N" & "S" STYLE RELAYS



## DC/AC, SPST-N.O. 5, 6, 12 & 25 AMPS

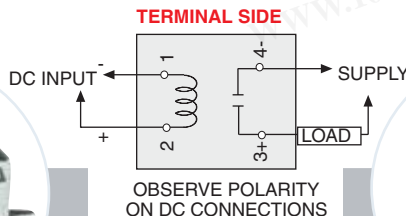
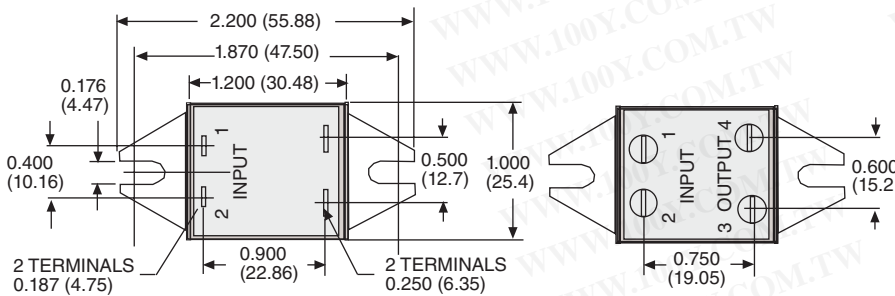
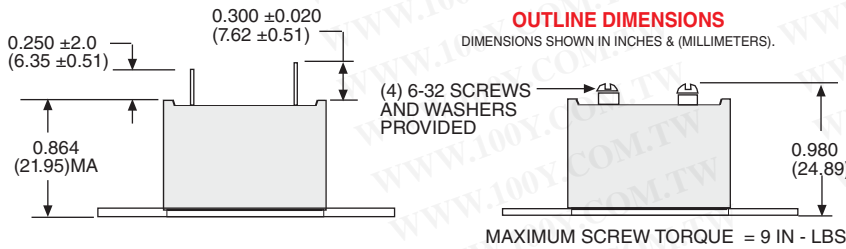
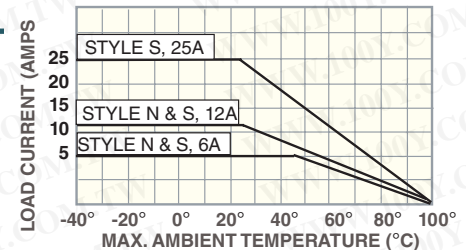


### GENERAL SPECIFICATIONS (@ 25°C)

INPUT CHARACTERISTICS	70S2-04-B	70S2-05-B	70S2-04-C	70S2-05-C	70S2-03-B	70S2-03-C	70S2-01-A	70S2-02-A
Style:								
Control Voltage Range:	3 - 30 VDC	6 - 30 VDC	3 - 30 VDC	6 - 30 VDC	3 - 30 VDC	3 - 30 VDC	3 - 15 VDC	9 - 30 VDC
Typical Input Current:	7.0 -16 mA	6.0 -10 mA	7.0 -16 mA	6.0 -10 mA	7.0 -16 mA	7.0 -16 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	1.0 VDC
Maximum. Reverse Control Voltage:	3 VDC	3 VDC	3 VDC	3 VDC	3 VDC	3 VDC	3 VDC	3 VDC
OUTPUT CHARACTERISTICS								
Load Voltage Range:	24 - 140 VAC	24 - 140 VAC	24 - 280 VAC	24 - 280 VAC	24 - 140 VAC	24 - 280 VAC	3 - 60 VDC	3 - 60 VDC
Rated Load Current :	6 Amp   12 Amp	6 Amp   12 Amp	6 Amp   12 Amp	6 Amp   12 Amp	25 Amps	25 Amps	5 Amps	5 Amps
Maximum off-State Voltage dv/dt:	300 V/u Sec Typ							
Minimum Load Current:	75 mA   100 mA	75 mA   100 mA	75 mA   100 mA	75 mA   100 mA	100 mA	100 mA	100 mA	100 mA
Non-Repetitive Surge Current (1 Cycle):	60 Amp   150 Amp	60 Amp   150 Amp	60 Amp   150 Amp	60 Amp   150 Amp	300 Amps	300 Amps	7 Amps/sec	10 7 Amps/sec
Maximum Off State Leakage Current (Rms):	6 mA	6 mA	6 mA	6 mA	6 mA	6 mA	uA	10 uA
Typical On-State Voltage Drop(Rms):	1.6 V	1.6 V	1.6 V	1.6 V	1.7 V	1.7 V	1.85 VDC	1.85 VDC
Minimum Peak Blocking Voltage:	400 V	400 V	600 V	600 V	400 V	600 V	105 VDC	105 VDC
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 mS	75 mS
Maximum Turn - Off Time:	8.3 mS	8.3 mS	8.3 mS	8.3 mS	8.3 mS	8.3 mS	750 mS	750 mS
MISCELLANEOUS CHARACTERISTICS								
Dielectric Strength (Input/Output/Base):	3000 V rms.	3000 V rms.	3000 V rms.	3000 V rms.	3000 V rms.	3000 V rms.	2500 V rms.	2500 V rms.
Insulation Resistance:	100 megohms minimum @ 500 VDC							
Operating Temperature Range:	-40°C to +100°C							
Storage Temperature Range:	-40°C to +125°C							
Weight:	47 grams approx.							

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Figure 1: Maximum Continuous Current vs. Ambient Temperature



STANDARD PART NUMBERS	LOAD VOLTAGE RANGE	RATED LOAD CURRENT
70S2-04-B-06-N	24 - 140 VAC	6 AMPS
70S2-05-B-06-N	24 - 140 VAC	6 AMPS
70S2-04-B-12-N	24 - 140 VAC	12 AMPS
70S2-05-B-12-N	24 - 140 VAC	12 AMPS
70S2-04-C-06-N	24 - 280 VAC	6 AMPS
70S2-05-C-06-N	24 - 280 VAC	6 AMPS
70S2-04-C-12-N	24 - 280 VAC	12 AMPS
70S2-05-C-12-N	24 - 280 VAC	12 AMPS
70S2-04-B-06-S	24 - 140 VAC	6 AMPS
70S2-05-B-06-S	24 - 140 VAC	6 AMPS
70S2-04-B-12-S	24 - 140 VAC	12 AMPS
70S2-05-B-12-S	24 - 140 VAC	12 AMPS
70S2-03-B-25-S	24 - 140 VAC	25 AMPS
70S2-04-C-06-S	24 - 280 VAC	6 AMPS
70S2-05-C-06-S	24 - 280 VAC	6 AMPS
70S2-04-C-12-S	24 - 280 VAC	12 AMPS
70S2-05-C-12-S	24 - 280 VAC	12 AMPS
70S2-03-C-25-S	24 - 280 VAC	25 AMPS
70S2-01-A-05-N	3 - 60 VDC	5 AMPS
70S2-01-A-05-S	3 - 60 VDC	5 AMPS
70S2-02-A-05-S	3 - 60 VDC	5 AMPS

CONSULT FACTORY FOR OTHER CONFIGURATIONS.  
 S & N STYLE ARE NOT INTENDED FOR PC BOARD