



**Magnecraft & Struthers-Dunn**

*Your Contact for Relays*

# SOLID STATE RELAYS

## **CLASS 70S2 MINIATURE SSR's**

(FORMERLY GRAYHILL)

**2.5 Amp to 25 Amp Outputs**

## **CLASS 6 SSR's**

**2.5 Amp to 125 Amp Outputs**

**NEW!**

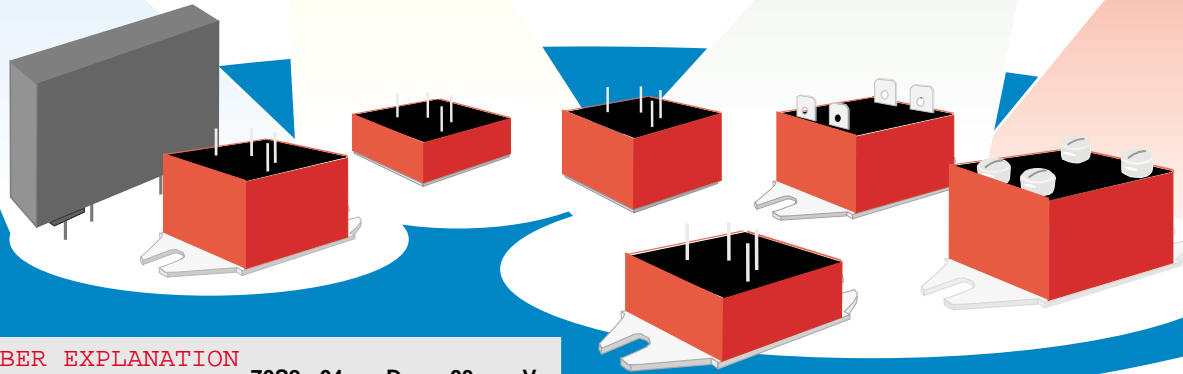
\* GRAYHILL SSR's.

\* CLASS 6 660 VOLT.  
SPST-N.O.

\* DUAL OUTPUT  
DPST-N.O.

\* CLASS 6 CLEAR  
SAFETY COVER.

# SOLID STATE RELAYS



## PART NUMBER EXPLANATION

	70S2-	04-	D-	03-	V
<b>Optically Isolated Solid State Relay</b>	[ ]				
<b>Control Voltage</b>	[ ]				
01 = 2 - 15 VDC, DC/DC Relays					
02 = 9 - 30 VDC, DC/DC Relays					
03 = 3 - 30 VDC, 25 A mini - puck					
04 = 3 - 30 VDC, DC/AC Relays					
05 = 6 - 30 VDC, DC/AC Relays					
<b>Nominal Voltage</b>	[ ]				
A = 3-60 VDC    B = 120 VAC					
C = 240 VAC    D = 24 VAC					
<b>Max Current Rating</b>	[ ]				
02 = 2.5 A    04 = 4 A    06 = 6 A    12 = 12 A					
03 = 3 A    05 = 5 A    10 = 10A    25 = 25 A					
<b>Package Style</b>	[ ]				
F, H, L, M, N, S or V. See selection below.					

## BENEFITS - CLASS 70S2 SSR's

- \* EXCELLENT TRANSIENT PROTECTION
- \* HIGH SURGE CURRENT CAPABILITY
- \* OPTICALLY ISOLATED
- \* HIGH BLOCKING VOLTAGE
- \* EXTREMELY LONG LIFE
- \* MINIATURE BUT MIGHTY; UP TO 25 AMP SWITCHING

### DC INPUT-AC OUTPUT

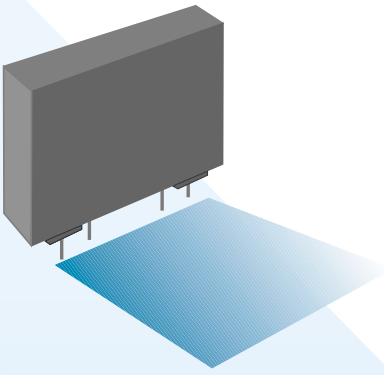
MAX. LOAD CURRENT	CONTROL VOLTAGE	NOMINAL LOAD VOLTAGE	DESCRIPTION AND FEATURES	STYLE
2.5 A	3-30 or 6-30 VDC	24, 120 or 240 VAC	MICRO CUBE RELAY, ONLY 0.500" HIGH	H
3 A	3-32 or 6-32 VDC	24, 120 or 240 VAC	SINGLE IN - LINE PACKAGE, USES ONLY 0.680 SQ. INCHES BOARD AREA	V
4 A	3-30 or 6-30 VDC	24, 120 or 240 VAC	MINI CUBE RELAY, PC MOUNT	F
6 A	3-30 or 6-30 VDC	120 or 240 VAC	USE HEAT SINK OR PANEL MOUNT	L
6 A	3-30 or 6-30 VDC	120 or 240 VAC	USE HEAT SINK OR PANEL MOUNT	M
6 A	3-30 or 6-30 VDC	120 or 240 VAC	MINI PUCK RELAY, PANEL MOUNT, FIT/FUNCTION REPLACEMENTS FOR LARGER HOCKEY PUCK STYLES, TAP TERMINALS	N
6 A	3-30 or 6-30 VDC	120 or 240 VAC	MINI PUCK RELAY, PANEL MOUNT, FIT/FUNCTION REPLACEMENTS FOR LARGER HOCKEY PUCK STYLES, SCREW TERMINALS	S
10 A	3-30 or 6-30 VDC	120 or 240 VAC	USE HEAT SINK OR PANEL MOUNT	M
12 A	3-30 or 6-30 VDC	120 or 240 VAC	MINI PUCK RELAY, PANEL MOUNT, FIT/FUNCTION REPLACEMENTS FOR LARGER HOCKEY PUCK STYLES, TAP TERMINALS	N
12 A	3-30 or 6-30 VDC	120 or 240 VAC	MINI PUCK RELAY, PANEL MOUNT, FIT/FUNCTION REPLACEMENTS FOR LARGER HOCKEY PUCK STYLES, SCREW TERMINALS	S
25 A	3-30 VDC		MINI PUCK RELAY, PANEL MOUNT, FIT/FUNCTION REPLACEMENTS FOR LARGER HOCKEY PUCK STYLES, SCREW TERMINALS	S

### DC INPUT-DC OUTPUT

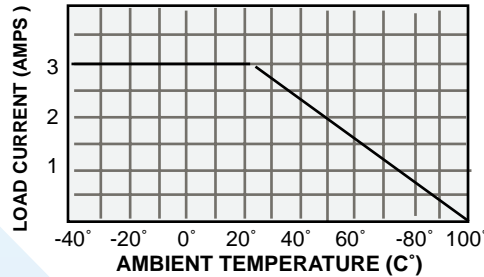
MAX. LOAD CURRENT	CONTROL VOLTAGE	NOMINAL LOAD VOLTAGE	DESCRIPTION AND FEATURES	STYLE
3 A	3-15 or 9-30 VDC	3 to 60 VDC	SINGLE IN - LINE PACKAGE, USES ONLY 0.680 SQ. INCHES BOARD AREA	V
3 A	3-15 or 9-30 VDC	3 to 60 VDC	MINI CUBE RELAY, PC MOUNT	F
5 A	3-15 VDC	3 to 60 VDC	MINI PUCK RELAY, PANEL MOUNT, FIT/FUNCTION REPLACEMENTS FOR LARGER HOCKEY PUCK STYLES, TAP TERMINALS	N
5 A	3-15 VDC	3 to 60 VDC	MINI PUCK RELAY, PANEL MOUNT, FIT/FUNCTION REPLACEMENTS FOR LARGER HOCKEY PUCK STYLES, SCREW TERMINALS	S

# STYLE "V"

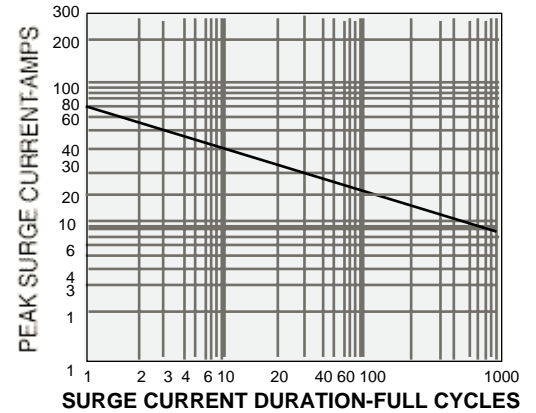
# "V" STYLE



**FIGURE 1:** Maximum Continuous Current vs. Ambient Temperature



**Figure 2:** Maximum Peak Surge Current vs. Surge Duration



## OUTLINE DIMENSIONS

Dimensions Shown in Inch and (Millimeter).

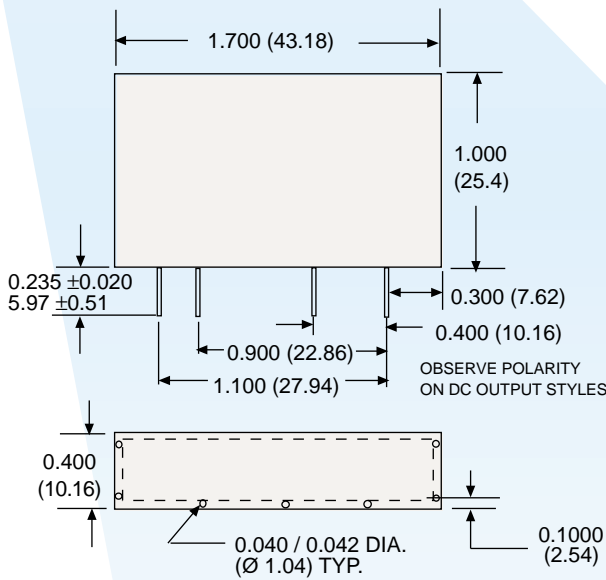


FIGURE 1 CHART INDICATES CONTINUOUS CURRENT TO LIMIT THE JUNCTION TEMPERATURES TO 100° C. INFORMATION IS BASED ON STEADY STATE HEAT TRANSFER IN A 2 CUBIC FOOT SEALED ENCLOSURE.

FIGURE 2 CHART INFORMATION IS BASED ON A SUPPLY FREQUENCY OF 60 HERTZ SINUSOIDAL AND A RESISTIVE OR INDUCTIVE LOAD. APPLICATION OF MAXIMUM SURGE CURRENT MAY NOT BE REPEATED UNTIL THE RELAY TEMPERATURE HAS RETURNED TO ITS STEADY STATE VALUE.

## FEATURES

- \* SINGLE IN LINE PACKAGE RELAY
- \* OPTICALLY ISOLATED
- \* PC MOUNT FOR LOADS UP TO 3 AMPS
- \* MINIMAL BOARD SPACE REQUIRED
- \* TUV RHEINLAND CERTIFIED TO EN60947 - 5 - 1 SAFETY REQUIREMENTS ( 24VAC, 120 VAC, 240 VAC STYLES.)
- \* LIFETIME WARRANTY

## GENERAL SPECIFICATIONS

### INPUT CHARACTERISTICS

Input voltage range:	3-32 VDC	6-32 VDC
Max.Reverse Control voltage:	5 VDC	5 VDC
Input current:	1.0 -19.0 mA	1.0 -6.0 mA
Average Input Impedance:	2000 Ω	6000 Ω

### OUTPUT CHARACTERISTICS

Max. Load Current :	3 Amps
Load Voltage Range (VAC):	24 V=10-50 V, 120 V=24-140 V, 240 V=24-280 V
Minimum Load Current $I_{TMIN}$ (RMS) to maintain "ON":	65 mA
Maximum Off State Leakage current $I_D$ (RMS):	24 V=4 mA, 120 V=6 mA, 240 V=6 mA
Maximum On-State Voltage $V_T$ drop:	1.5 V Peak Max.
Maximum off-state dv/dt:	3000 V/ microsecond.
Operating Frequency Range:	25 Hz to 70 Hz
One Cycle surge current:	60 Amps Peak Max.(@ 25°C)
Minimum Peak Blocking voltage:	24 V= 200 V, 120 V= 400 V, 240 V= 600 V
Turn - On Time (60Hz):	8.3 mS Maximum.
Turn - Off Time (60Hz):	8.3 mS Maximum.

### MISCELLANEOUS CHARACTERISTICS

Output configuration:	Normally Open
Dielectric Strength $V_{ISO}$ (Input-Output Isolation):	3000 V rms. Min.
Insulation Resistance :	$10^9 \Omega$
Operating temperature Range:	-40°C to +100°C
Storage temperature Range:	-40°C to +125°C
Weight:	19 g.



# "N" & "S" STYLE

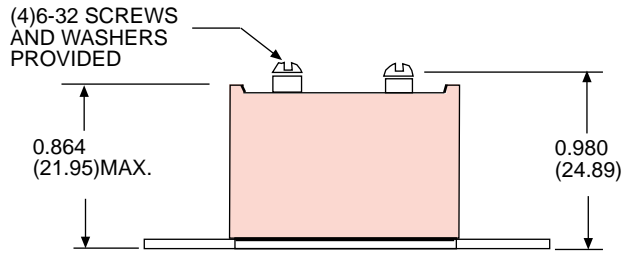
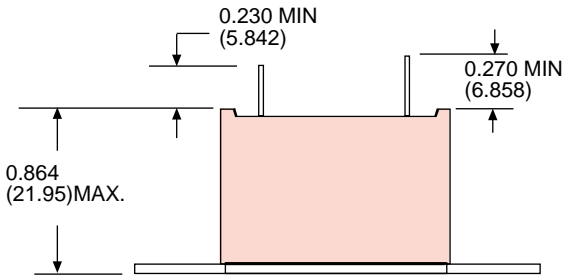


**STYLE N**

**STYLE S**

## OUTLINE DIMENSIONS

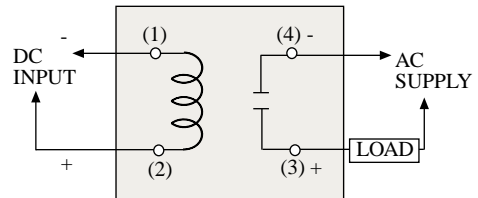
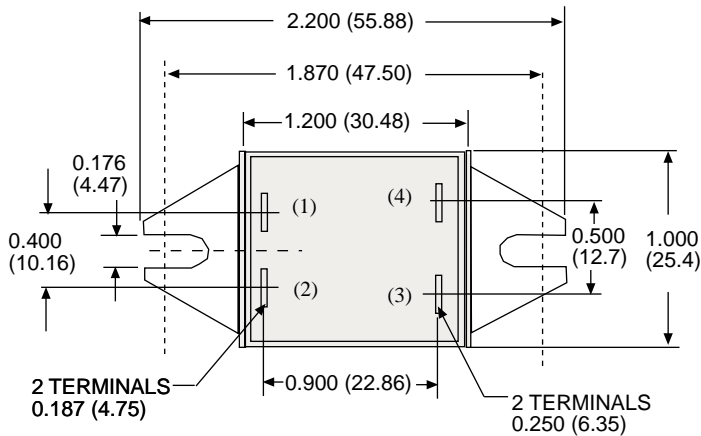
Dimensions shown in Inch and (Millimeter).



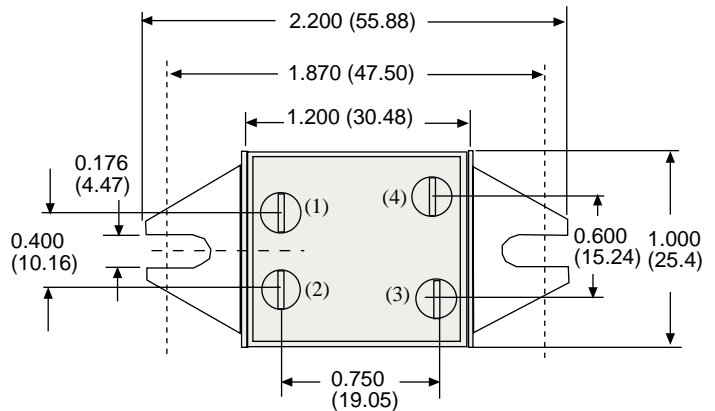
MAXIMUM SCREW TORQUE = 9 IN - LBS

### NOTE:

STYLE S IS NOT INTENDED FOR PC BOARD MOUNTING. CONSULT FACTORY



OBSERVE POLARITY ON DC OUTPUT STYLES



### FEATURES

- \* MINI PUCK SOLID RELAYS
- \* OPTICALLY ISOLATED
- \* PANEL MOUNT; UP TO 25 AMP LOADS
- \* MOUNTS ON HOCKEY PUCK RELAY CENTERS, YET NEEDS 1/2 THE SPACE
- \* SCREW TERMINALS OR PUSH - ON QC TERMINALS
- \* LIFETIME WARRANTY



**FIGURE 1:** Maximum Continuous Current vs. Ambient Temperature

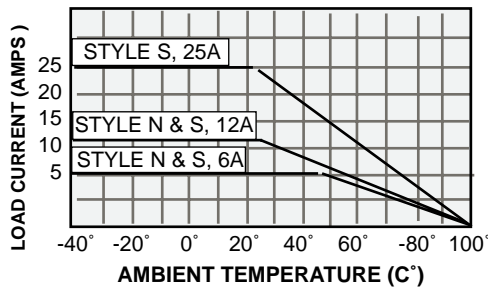
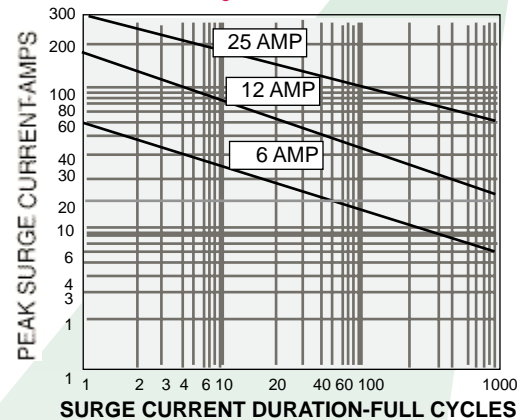


FIGURE 1 CHART INDICATES CONTINUOUS CURRENT TO LIMIT THE JUNCTION TEMPERATURES TO 100° C. INFORMATION IS BASED ON STEADY STATE HEAT TRANSFER IN A 2 CUBIC FOOT SEALED ENCLOSURE.

FIGURE 2 CHART INFORMATION IS BASED ON A SUPPLY FREQUENCY OF 60 HERTZ SINUSOIDAL AND A RESISTIVE OR INDUCTIVE LOAD. APPLICATION OF MAXIMUM SURGE CURRENT MAY NOT BE REPEATED UNTIL THE RELAY TEMPERATURE HAS RETURNED TO ITS STEADY STATE VALUE.

**Figure 2:** Maximum Peak Surge Current vs. Surge Duration



## GENERAL SPECIFICATIONS

### INPUT CHARACTERISTICS

Input Voltage Range:	3-30 VDC	6-30 VDC
Max. Reverse Control Voltage:	5 VDC	5 VDC
Input Current:	7.0 -16.0 mA	6.0 -10.0 mA
Average Input Impedance @ 24 VDC Typ.:	1777 Ω	2750 Ω

### OUTPUT CHARACTERISTICS

Max. Load Current :	6 , 12 & 25 Amps
Load Voltage Range (VAC):	120 = 24-140 VAC, 240= 24-280 VAC
Minimum Load Current $I_{T\text{MIN}}$ (RMS) to Maintain "ON":	6 Amps = 75 mA, 12 & 25 Amps = 100 mA
Maximum Off State Leakage Current $I_D$ (RMS):	120 V =6 mA, 240 V =6 mA
Maximum On-State Voltage $V_T$ Drop:	1.6 V Peak Max.
Maximum Off-State dv/dt:	3000 V/ microsecond typical.
Operating Frequency Range:	25 Hz to 70 Hz
One Cycle Surge Current:	60, 150 & 300 Amps Peak Max.
Minimum Peak Blocking Voltage:	120 = 400 V, 240 = 600 V
Turn - On Time (60Hz):	8.3 mS Maximum.
Turn - Off Time (60Hz):	8.3 mS Maximum.

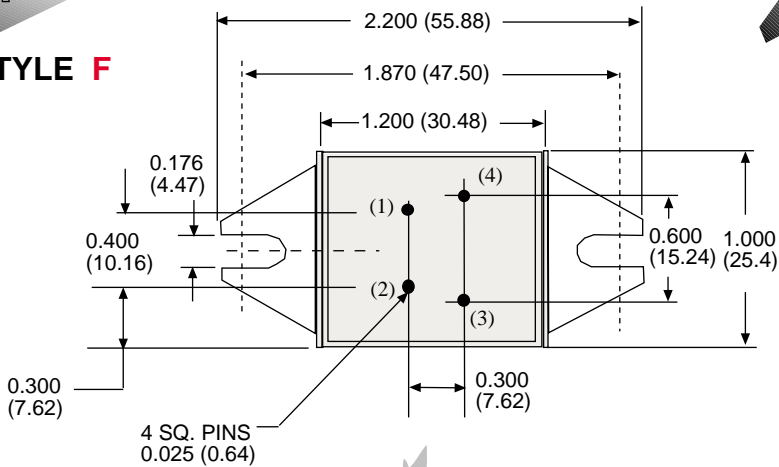
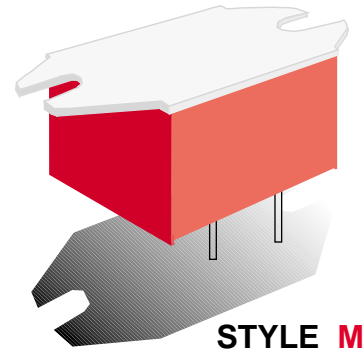
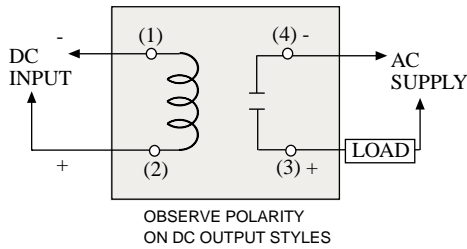
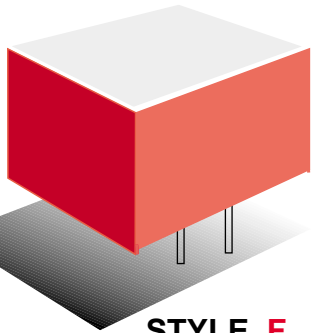
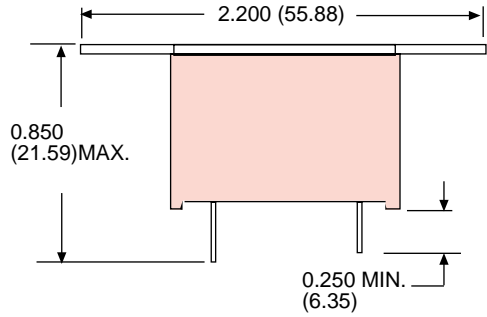
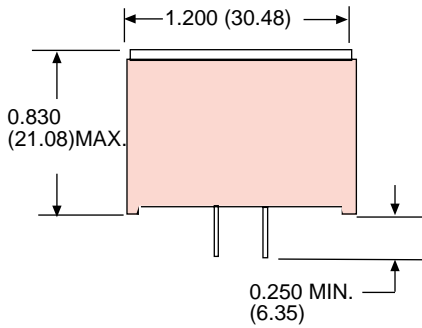
### MISCELLANEOUS CHARACTERISTICS

Output Configuration:	Normally Open.
Dielectric Strength $V_{ISO}$ (Input-Output Isolation):	3000 V rms. Min.
Insulation Resistance:	$10^9 \Omega$
Operating Temperature Range:	-40°C to +100°C
Storage Temperature Range:	-40°C to +125°C
Weight:	35 g. Style <b>N</b> , 56 g. Style <b>S</b> Appox.



**OUTLINE DIMENSIONS**

Dimensions shown in Inch and (Millimeter).



**FEATURES**

- \* CUBE RELAYS WITH EXTENDED CURRENT RATINGS
- \* PC MOUNT OPTICALLY ISOLATED
- \* INTEGRAL HEAT SINK ACCOMMODATES PANEL MOUNT OR ADD-ON HEAT SINK
- \* SWITCHES UP TO 4, 6 OR 10 AMP LOADS
- \* LIFETIME WARRANTY



**FIGURE 1:** Maximum Continuous Current vs. Ambient Temperature

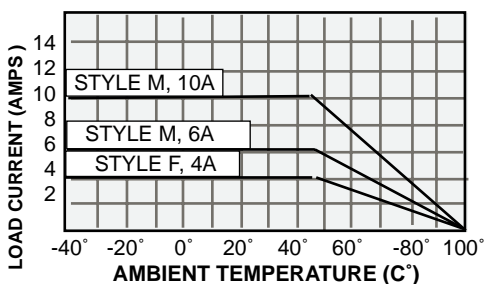


FIGURE 1 CHART INDICATES CONTINUOUS CURRENT TO LIMIT THE JUNCTION TEMPERATURES TO 100° C. INFORMATION IS BASED ON THE USE OF A 12" X 12" X 1/8" ALUMINUM HEAT SINK WITH SILICON GREASE IN A 2 CUBIC FOOT SEALED ENCLOSURE.

**Figure 2:** Maximum Peak Surge Current vs. Surge Duration

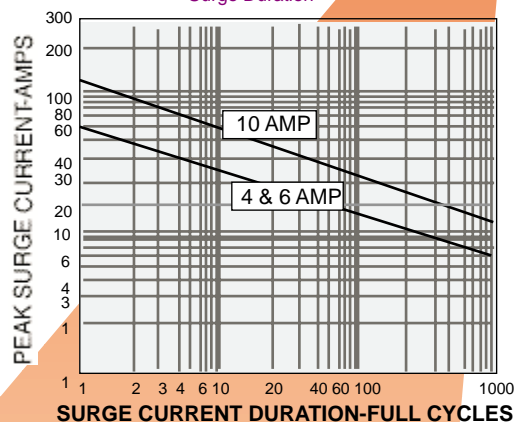


FIGURE 2 CHART INFORMATION IS BASED ON A SUPPLY FREQUENCY OF 60 HERTZ SINUSOIDAL AND A RESISTIVE OR INDUCTIVE LOAD. APPLICATION OF MAXIMUM SURGE CURRENT MAY NOT BE REPEATED UNTIL THE RELAY TEMPERATURE HAS RETURNED TO ITS STEADY STATE VALUE.

## GENERAL SPECIFICATIONS

### INPUT CHARACTERISTICS

Input Voltage Range:	3-30 VDC	6-30 VDC
Max Reverse Control Voltage:	5 VDC	5 VDC
Input Current:	7.0 -16.0 mA	6.0 -10.0 mA
Average Input Impedance @ 24 VDC Typ.:	1777 Ω	2750 Ω

### OUTPUT CHARACTERISTICS

Max. Load Current :	4, 6 & 10 Amps
Load Voltage Range (VAC)	24-140 VAC, 24-280 VAC
Minimum Load Current $I_{T\text{MIN}}$ (RMS) to Maintain "ON":	75 mA
Maximum Off State Leakage Current $I_D$ (RMS):	6 mA
Maximum On-State Voltage $V_T$ Drop:	1.5 V Peak Max.
Maximum Off-State dv/dt:	3000 V/ microsecond typical.
Operating Frequency Range:	25 Hz to 70 Hz
One Cycle Surge Current:	4 = 60, 6 = 60, 10 =110 Amps Peak Max.
Minimum Peak Blocking Voltage:	120=400 V, 240=600 V
Turn - On Time (60Hz):	8.3 mS Maximum.
Turn - Off Time (60Hz):	8.3 mS Maximum.

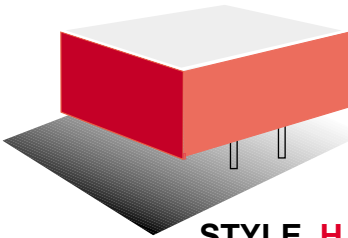
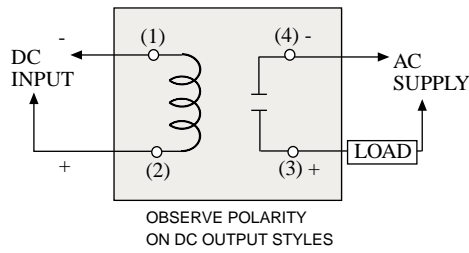
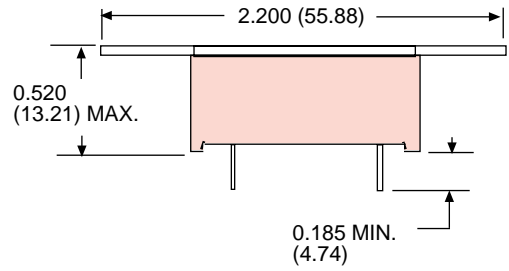
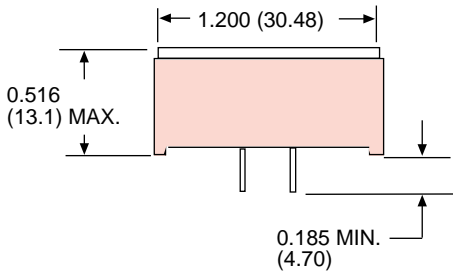
### MISCELLANEOUS CHARACTERISTICS

Output Configuration:	Normally Open.
Dielectric Strength $V_{\text{ISO}}$ (Input-Output Isolation):	3000 V rms. Min.
Insulation Resistance :	$10^9 \Omega$
Operating Temperature Range:	-40°C to +100°C
Storage Temperature Range:	-40°C to +125°C
Weight:	30 g. Style F, 52 g. Style M Appox.

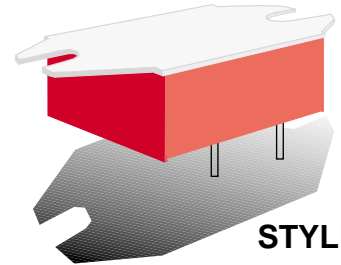


**OUTLINE DIMENSIONS**

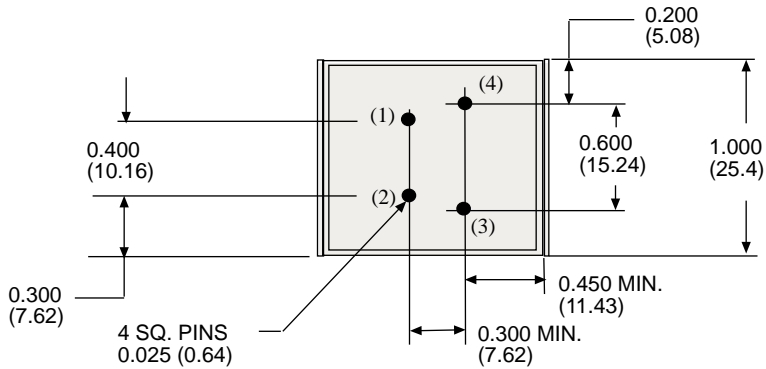
Dimensions shown in Inch and (Millimeter).



**STYLE H**



**STYLE L**



**FEATURES**

- \* MICRO CUBE SOLID STATE RELAY
- \* OPTICALLY ISOLATED
- \* PC MOUNT ONLY 0.5" ABOVE BOARD
- \* MINIMAL BOARD SPACE REQUIRED
- \* LIFETIME WARRANTY





**FIGURE 1:** Maximum Continuous Current vs. Ambient Temperature

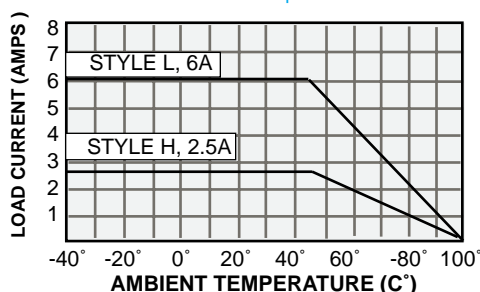


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**Figure 2:** Maximum Peak Surge Current vs. Surge Duration

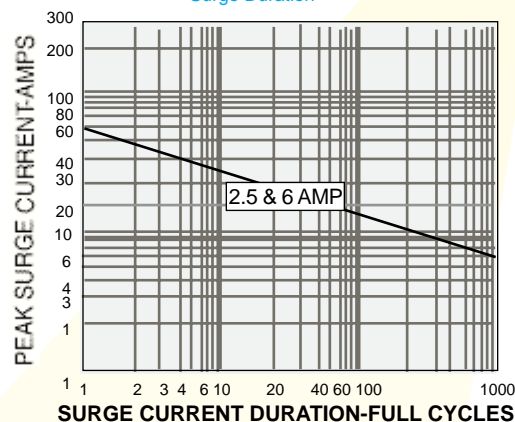


FIGURE 2 CHART INFORMATION IS BASED ON A SUPPLY FREQUENCY OF 60 HERTZ SINUSOIDAL AND A RESISTIVE OR INDUCTIVE LOAD. APPLICATION OF MAXIMUM SURGE CURRENT MAY NOT BE REPEATED UNTIL THE RELAY TEMPERATURE HAS RETURNED TO ITS STEADY STATE VALUE.

## GENERAL SPECIFICATIONS

### INPUT CHARACTERISTICS

Input Voltage Range:	3-32 VDC	6-30 VDC
Max Reverse Control Voltage:	5 VDC	5 VDC
Input current:	1.0 -18.0 mA	1.0 -6.0 mA
Average Input Impedance @ 24 VDC Typ.:	2777 Ω	6000 Ω

### OUTPUT CHARACTERISTICS

Max. Load Current :	2.5 & 6.0 Amps
Load Voltage Range (VAC):	24 V=10-50 V, 120 V=24-140 V, 240 V=24-280 V
Minimum Load Current IT MIN (RMS) to maintain "ON":	75 mA
Maximum Off State Leakage current ID (RMS):	24V= 4 mA 120 V=6 mA, 240 V=6 mA
Maximum On-State Voltage VT drop:	1.5 V Peak Max.
Maximum off-state dv/dt:	3000 V/microsecond typical.
Operating Frequency Range:	25 Hz to 70 Hz
One Cycle surge current:	60 Peak Max.
Minimum Peak Blocking voltage:	24 V= 200 V, 120 V= 400 V, 240 V= 600 V
Turn - On Time (60Hz):	8.3 mS Maximum.
Turn - Off Time (60Hz):	8.3 mS Maximum.

### MISCELLANEOUS CHARACTERISTICS

Output configuration:	Normally Open.
Dielectric Strength VISO (Input-Output Isolation):	2500 V rms. Min.
Insulation Resistance :	10 <sup>9</sup> Ω
Operating Temperature Range:	-40°C to +100°C
Storage Temperature Range:	-40°C to +125°C
Weight:	20 g. Style H, 22 g. Style L Appox.

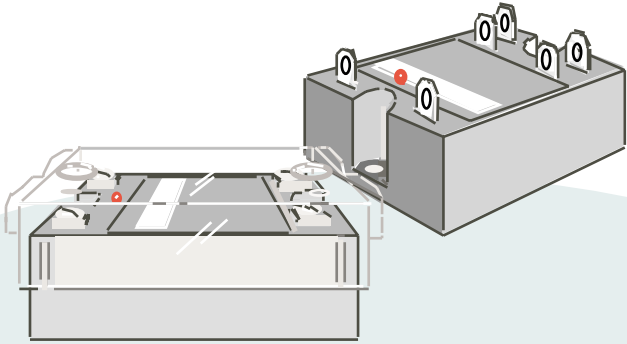


PART NUMBERS	INPUT (Over Operating Temperature Range)			OUTPUT (Over Operating Temperature Range)			
DC CONTROLLED AC OUTPUT	CONTROL VOLTAGE RANGE	MAX. PULL - IN	MIN DROP OUT	NOMINAL VOLTAGE RANGE	MAX. VOLTAGE	MAX. CURRENT RATING	STYLE TYPE
70S2-04-D-03-V	3-32 VDC	3 VDC	1 VDC	10 - 50 AC	50 VAC	3 AMPS	V
70S2-05-D-03-V	6-32 VDC	6 VDC	1 VDC	10 - 50 AC	50 VAC	3 AMPS	V
70S2-04-B-03-V	3-32 VDC	3 VDC	1 VDC	24 - 140 AC	140 VAC	3 AMPS	V
70S2-05-B-03-V	6-32 VDC	6 VDC	1 VDC	24 - 140 AC	140 VAC	3 AMPS	V
70S2-04-C-03-V	3-32 VDC	3 VDC	1 VDC	24 - 280 AC	280 VAC	3 AMPS	V
70S2-05-C-03-V	6-32 VDC	6 VDC	1 VDC	24 - 280 AC	280 VAC	3 AMPS	V
70S2-04-D-02-H	3-30 VDC	3 VDC	1 VDC	10 - 50 AC	50 VAC	2.5 AMPS	H
70S2-05-D-02-H	6-30 VDC	6 VDC	1 VDC	10 - 50 AC	50 VAC	2.5 AMPS	H
70S2-04-B-02-H	3-30 VDC	3 VDC	1 VDC	24 - 140 AC	140 VAC	2.5 AMPS	H
70S2-05-B-02-H	6-30 VDC	6 VDC	1 VDC	24 - 140 AC	140 VAC	2.5 AMPS	H
70S2-04-C-02-H	3-30 VDC	3 VDC	1 VDC	24 - 280 AC	280 VAC	2.5 AMPS	H
70S2-05-C-02-H	6-30 VDC	6 VDC	1 VDC	24 - 280 AC	280 VAC	2.5 AMPS	H
70S2-04-B-06-L	3-30 VDC	3 VDC	1 VDC	24 - 140 AC	140 VAC	6 AMPS	L
70S2-05-B-06-L	6-30 VDC	6 VDC	1 VDC	24 - 140 AC	140 VAC	6 AMPS	L
70S2-04-C-06-L	3-30 VDC	3 VDC	1 VDC	24 - 280 AC	280 VAC	6 AMPS	L
70S2-05-C-06-L	6-30 VDC	6 VDC	1 VDC	24 - 280 AC	280 VAC	6 AMPS	L
70S2-04-B-04-F	3-30 VDC	3 VDC	1 VDC	24 - 140 AC	140 VAC	4 AMPS	F
70S2-05-B-04-F	6-30 VDC	6 VDC	1 VDC	24 - 140 AC	140 VAC	4 AMPS	F
70S2-04-C-04-F	3-30 VDC	3 VDC	1 VDC	24 - 280 AC	280 VAC	4 AMPS	F
70S2-05-C-04-F	6-30 VDC	6 VDC	1 VDC	24 - 280 AC	280 VAC	4 AMPS	F
70S2-04-B-06-M	3-30 VDC	3 VDC	1 VDC	24 - 140 AC	140 VAC	6 AMPS	M
70S2-05-B-06-M	6-30 VDC	6 VDC	1 VDC	24 - 140 AC	140 VAC	6 AMPS	M
70S2-04-B-10-M	3-30 VDC	3 VDC	1 VDC	24 - 140 AC	140 VAC	10 AMPS	M
70S2-05-B-10-M	6-30 VDC	6 VDC	1 VDC	24 - 140 AC	140 VAC	10 AMPS	M
70S2-04-C-06-M	3-30 VDC	3 VDC	1 VDC	24 - 280 AC	280 VAC	6 AMPS	M
70S2-05-C-06-M	6-30 VDC	6 VDC	1 VDC	24 - 280 AC	280 VAC	6 AMPS	M
70S2-04-C-10-M	3-30 VDC	3 VDC	1 VDC	24 - 280 AC	280 VAC	10 AMPS	M
70S2-05-C-10-M	6-30 VDC	6 VDC	1 VDC	24 - 280 AC	280 VAC	10 AMPS	M
70S2-04-B-06-N	3-30 VDC	3 VDC	1 VDC	24 - 140 AC	140 VAC	6 AMPS	N
70S2-05-B-06-N	6-30 VDC	6 VDC	1 VDC	24 - 140 AC	140 VAC	6 AMPS	N
70S2-04-B-12-N	3-30 VDC	3 VDC	1 VDC	24 - 140 AC	140 VAC	12 AMPS	N
70S2-05-B-12-N	6-30 VDC	6 VDC	1 VDC	24 - 140 AC	140 VAC	12 AMPS	N
70S2-04-C-06-N	3-30 VDC	3 VDC	1 VDC	24 - 280 AC	280 VAC	6 AMPS	N
70S2-05-C-06-N	6-30 VDC	6 VDC	1 VDC	24 - 280 AC	280 VAC	6 AMPS	N
70S2-04-C-12-N	3-30 VDC	3 VDC	1 VDC	24 - 280 AC	280 VAC	12 AMPS	N
70S2-05-C-12-N	6-30 VDC	6 VDC	1 VDC	24 - 280 AC	280 VAC	12 AMPS	N
70S2-04-B-06-S	3-30 VDC	3 VDC	1 VDC	24 - 140 AC	140 VAC	6 AMPS	S
70S2-05-B-06-S	6-30 VDC	6 VDC	1 VDC	24 - 140 AC	140 VAC	6 AMPS	S
70S2-04-B-12-S	3-30 VDC	3 VDC	1 VDC	24 - 140 AC	140 VAC	12 AMPS	S
70S2-05-B-12-S	6-30 VDC	6 VDC	1 VDC	24 - 140 AC	140 VAC	12 AMPS	S
70S2-03-B-25-S	3-30 VDC	3 VDC	1 VDC	24 - 140 AC	140 VAC	25 AMPS	S
70S2-04-C-06-S	3-30 VDC	3 VDC	1 VDC	24 - 280 AC	280 VAC	6 AMPS	S
70S2-05-C-06-S	6-30 VDC	6 VDC	1 VDC	24 - 280 AC	280 VAC	6 AMPS	S
70S2-04-C-12-S	3-30 VDC	3 VDC	1 VDC	24 - 280 AC	280 VAC	12 AMPS	S
70S2-05-C-12-S	6-30 VDC	6 VDC	1 VDC	24 - 280 AC	280 VAC	12 AMPS	S
70S2-03-C-25-S	3-30 VDC	3 VDC	1 VDC	24 - 280 AC	280 VAC	25 AMPS	S
	CONTROL VOLTAGE RANGE	MAX. PULL - IN	MIN DROP OUT	NOMINAL VOLTAGE RANGE	MAX. VOLTAGE	MAX. CURRENT RATING	STYLE TYPE
70S2-01-A-03-V	3-15 VDC	3 VDC	1 VDC	3 - 60 VDC	60 VDC	3 AMPS	V
70S2-02-A-03-V	9-30 VDC	9 VDC	1 VDC	3 - 60 VDC	60 VDC	3 AMPS	V
70S2-01-A-03-F	3-15 VDC	3 VDC	1 VDC	3 - 60 VDC	60 VDC	3 AMPS	F
70S2-02-A-03-F	9-30 VDC	9 VDC	1 VDC	3 - 60 VDC	60 VDC	3 AMPS	F
70S2-01-A-05-N	3-15 VDC	3 VDC	1 VDC	3 - 60 VDC	60 VDC	5 AMPS	N
70S2-01-A-05-S	3-15VDC	3 VDC	1 VDC	3 - 60 VDC	60 VDC	5 AMPS	S
70S2-02-A-05-S	9-30 VDC	9 VDC	1 VDC	3 - 60 VDC	60 VDC	5 AMPS	S

# SOLID STATE RELAY

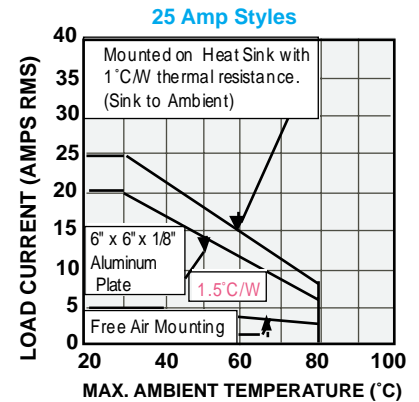
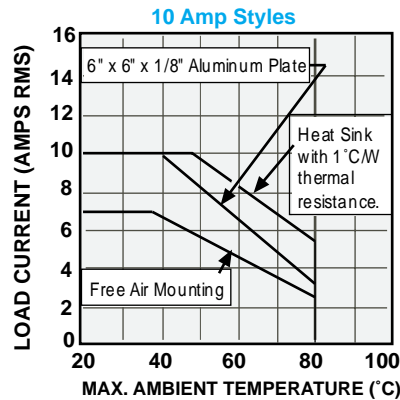
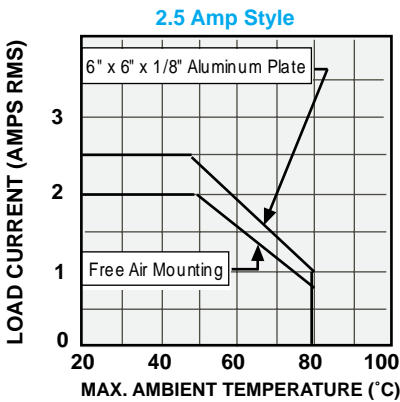


On selected Models.

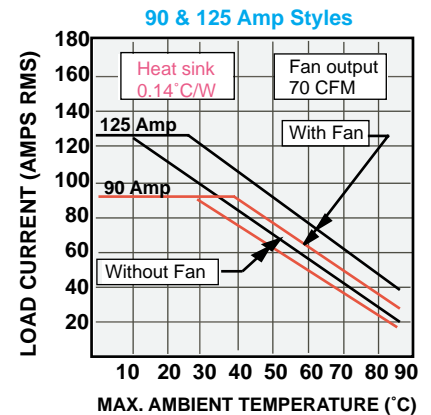
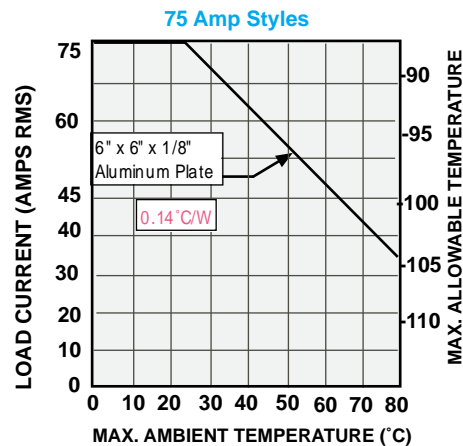
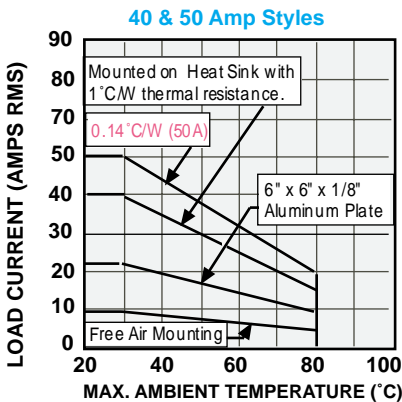


## BENEFITS- CLASS 6 SSR's

- \* L.E.D. STATUS LAMP
- \* CLEAR SAFETY COVER
- \* SINGLE AND DUAL OUTPUTS
- \* UP TO 660 VOLT OUTPUTS



## THERMAL DERATING CURVE & LOAD CHARACTERISTICS

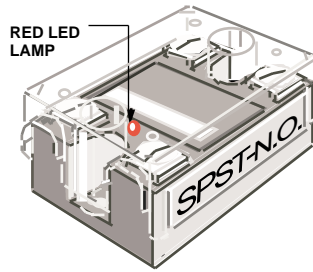
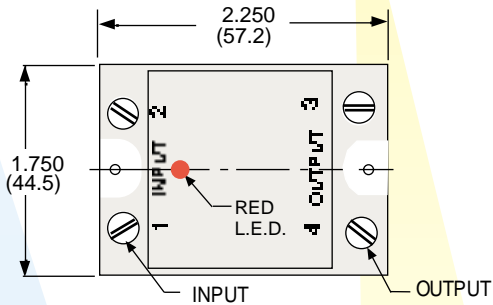


All current ratings in the following pages are based on use of suitable thermally conductive compound (e.g. silicone grease) between the SSR mounting base and mounting surface of suitable heat sink.

## OUTLINE DIMENSIONS

Dimensions Shown in Inch and (Millimeter).

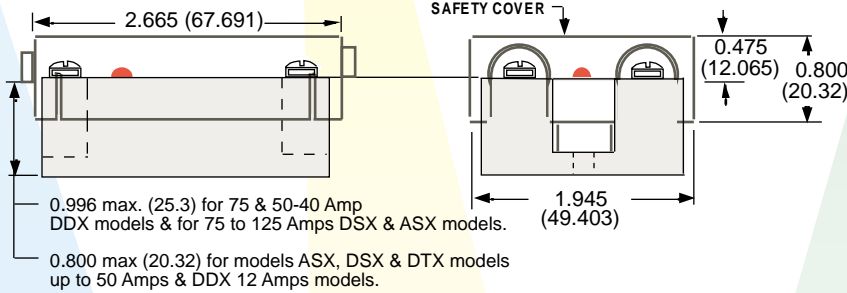
### SPST-N.O.



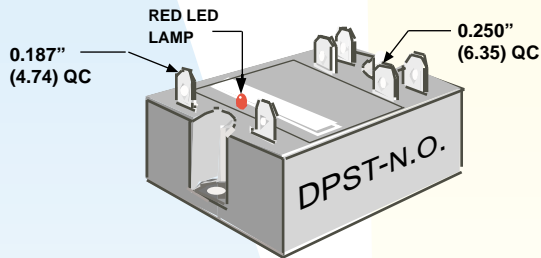
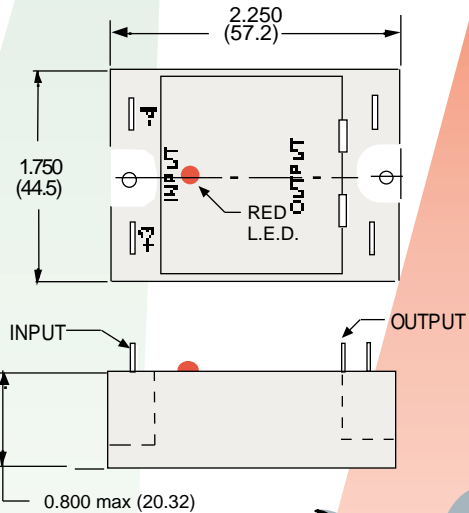
INPUT & OUTPUT SCREW SIZE  
(Shown in Millimeters)

UP TO 40 AMP	
INPUT	OUTPUT
3.5 mm	4 mm
ABOVE 40 AMP	
3.5 mm	6 mm

**LIFETIME WARRANTY**



### DPST-N.O.



## GENERAL SPECIFICATIONS

### INPUT CHARACTERISTICS

Input Voltage Range:  
Power Indicator:  
Reverse Polarity Protected:  
Input Filtered for Transients less than One Millisecond:  
Input Current:  
Input Impedance:

3-32 VDC, 90 - 280 VAC and 3.5 to 32 VDC (DDX)  
L.E.D. Indicator.  
Yes: DC Input with AC output styles only.  
Yes  
8mA@ 3VDC, 25mA @32 VDC.  
ASX-13K $\Omega$  Min., DSX-1.5K $\Omega$  Min., DTX and DDX-1K $\Omega$  Min.,

### OUTPUT CHARACTERISTICS

Max. Load Current :  
Load Voltage Range (VAC)  
Maximum Output Voltage (VAC):  
Minimum Load Current  $I_{T\_MIN}$  (RMS) to Maintain "ON"

2.5 Amps to 125 Amps  
W62 Models: 24-240 VAC, W64 Models: 48-480 VAC, W66 Models: 48-600 VAC  
W62: 280 VAC, W64: 560 VAC, W66: 660

Maximum Off State Leakage Current  $I_D$  (RMS):  
Maximum On-State Voltage Drop  $V_T$  (RMS):  
Maximum Off-State dv/dt:  
Turn - On Time (60Hz):  
Turn - Off Time (60Hz):

Up to 10 Amp Models: 50 mA, 25 Amp Models: 120 mA,  
40 to 75 Amp Models: 250mA, 90 to 125 Amp, 500 mA, DDX 20 mA.  
10 mA Max.  
Up to 50 Amp Models: 1.6 V, 75 to 125 Amp Models: 1.8 V, DDX 2.83 V.  
Up to 500 V/usec.  
ASX, DSX & DTX, 1/2 Cycle, (DDX) 600  $\mu$ S Max.  
ASX, DSX & DTX, 1/2 Cycle, (DDX) 2.6 mS Max.

### MISCELLANEOUS CHARACTERISTICS

Output Configuration:  
Dielectric Strength  $V_{ISO}$  (Input-Output Isolation):  
Insulation Resistance  $R_{ISO}$  @ 500VDC:  
Operating Temperature Range:  
Storage Temperature Range:  
Life:  
Weight:

(ASX, DSX & DDX) SPST-NO. (DTX) DPST-NO.  
4000 VAC, DDX Models 2500 VAC.  
10<sup>10</sup> $\Omega$   
-40°C to +80°C  
-40°C to +100°C  
Greater than 100 Million Operations  
2.5 to 50 Amp Models: 4 oz. (110 g) 75 Amp to 125 Amp Models: 6.8 oz.  
(192 g), 12 Amps, 25 Amps & 40 Amps, DDX Models: 4.76 oz. (135 g).



PART NUMBERS		INPUT (Over Operating Temperature Range)			OUTPUT (Over Operating Temperature Range)			CROSS REFERENCE		
DC CONTROLLED AC OUTPUT		CONTROL VOLTAGE RANGE	MAX PULL-IN	MIN DROP OUT	NOMINAL VOLTAGE RANGE	MAX. VOLTAGE	MAX. CURRENT RATING	CRYDOM	IDEC	POTTER & BRUMFIELD
W6202DSX-1		3-32 VDC	3 VDC	1 VDC	24-240 VAC	280 VAC	2.5 AMPS	D2402	-	-
W6210DSX-1		3-32 VDC	3 VDC	1 VDC	24-240 VAC	280 VAC	10 AMPS	D2410	RSSD-10A	EOM1DA44-4-32
*W6225DSX-1		3-32 VDC	3 VDC	1 VDC	24-240 VAC	280 VAC	25 AMPS	D2425	RSSD-25A	SSR240D25
W6240DSX-1		3-32 VDC	3 VDC	1 VDC	24-240 VAC	280 VAC	40 AMPS	D2440	RSSD-40A	-
W6250DSX-1		3-32 VDC	3 VDC	1 VDC	24-240 VAC	280 VAC	50 AMPS	D2450	-	SSR240D50
W6275DSX-1		3-32 VDC	3 VDC	1 VDC	24-240 VAC	280 VAC	75 AMPS	D2475	-	-
W6410DSX-1		3-32 VDC	3 VDC	1 VDC	48-480 VAC	560 VAC	10 AMPS	-	-	-
W6425DSX-1		3-32 VDC	3 VDC	1 VDC	48-480 VAC	560 VAC	25 AMPS	-	-	SSR480D25
W6440DSX-1		3-32 VDC	3 VDC	1 VDC	48-480 VAC	560 VAC	40 AMPS	-	-	-
W6450DSX-1		3-32 VDC	3 VDC	1 VDC	48-480 VAC	560 VAC	50 AMPS	HD4850	-	SSR480D50
W6475DSX-1		3-32 VDC	3 VDC	1 VDC	48-480 VAC	560 VAC	75 AMPS	HD6075	-	-

\*CE Certified

PART NUMBERS		INPUT (Over Operating Temperature Range)			OUTPUT (Over Operating Temperature Range)			CROSS REFERENCE		
AC CONTROLLED AC OUTPUT		CONTROL VOLTAGE RANGE	MAX PULL-IN	MIN DROP OUT	NOMINAL VOLTAGE RANGE	MAX. VOLTAGE	MAX. CURRENT RATING	CRYDOM	IDEC	POTTER & BRUMFIELD
W6202ASX-1		90 -280 VAC	90 VAC	10 VAC	24-240 VAC	280 VAC	2.5 AMPS	A2402	-	-
W6210ASX-1		90 -280 VAC	90 VAC	10 VAC	24-240 VAC	280 VAC	10 AMPS	A2410	RSSA-10A	-
*W6225ASX-1		90 -280 VAC	90 VAC	10 VAC	24-240 VAC	280 VAC	25 AMPS	A2425	RSSA-25A	SSR240A25
W6240ASX-1		90 -280 VAC	90 VAC	10 VAC	24-240 VAC	280 VAC	40 AMPS	A2440	RSSA-40A	-
W6250ASX-1		90 -280 VAC	90 VAC	10 VAC	24-240 VAC	280 VAC	50 AMPS	A2450	-	SSR240A50
W6275ASX-1		90 -280 VAC	90 VAC	10 VAC	24-240 VAC	280 VAC	75 AMPS	A2475	-	-
W6410ASX-1		90 -280 VAC	90 VAC	10 VAC	48-480 VAC	560 VAC	10 AMPS	-	-	-
W6425ASX-1		90 -280 VAC	90 VAC	10 VAC	48-480 VAC	560 VAC	25 AMPS	HA4825	-	SSR480A25
W6440ASX-1		90 -280 VAC	90 VAC	10 VAC	48-480 VAC	560 VAC	40 AMPS	-	-	-
W6450ASX-1		90 -280 VAC	90 VAC	10 VAC	48-480 VAC	560 VAC	50 AMPS	HA4850	-	SSR480A50
W6475ASX-1		90 -280 VAC	90 VAC	10 VAC	48-480 VAC	560 VAC	75 AMPS	HA4875	-	-

\*CE Certified

PART NUMBERS		INPUT (Over Operating Temperature Range)			OUTPUT (Over Operating Temperature Range)			CROSS REFERENCE	
DC CONTROLLED AC OUTPUT		CONTROL VOLTAGE RANGE	MAX PULL-IN	MIN DROP OUT	NOMINAL VOLTAGE RANGE	MAX. VOLTAGE	MAX. CURRENT RATING	CRYDOM	POTTER & BRUMFIELD
W6690DSX-1		3-32 VDC	3 VDC	1 VDC	48-600 VAC	660 VAC	90 AMPS	HD6090	-
W66125DSX-1		3-32 VDC	3 VDC	1 VDC	48-600 VAC	660 VAC	125 AMPS	HD60125	-

PART NUMBERS		INPUT (Over Operating Temperature Range)			OUTPUT (Over Operating Temperature Range)			CROSS REFERENCE	
AC CONTROLLED AC OUTPUT		CONTROL VOLTAGE RANGE	MAX PULL-IN	MIN DROP OUT	NOMINAL VOLTAGE RANGE	MAX. VOLTAGE	MAX. CURRENT RATING	CRYDOM	POTTER & BRUMFIELD
W6690ASX-1		90-280 VAC	90 VDC	10 VDC	48-600 VAC	660 VAC	90 AMPS	HA6090	-
W66125ASX-1		90-280 VAC	90 VDC	10 VDC	48-600 VAC	660 VAC	125 AMPS	HA60125	-

PART NUMBERS		INPUT (Over Operating Temperature Range)			OUTPUT (Over Operating Temperature Range)			CROSS REFERENCE	
DC CONTROLLED AC TRIAC OUTPUT		CONTROL VOLTAGE RANGE	MAX PULL-IN	MIN DROP OUT	NOMINAL VOLTAGE RANGE	MAX. VOLTAGE	MAX. CURRENT RATING	CRYDOM	POTTER & BRUMFIELD
W6210DTX-1		3-32 VDC	3 VDC	1 VDC	24-240 VAC	280 VAC	10 AMPS	TD2410	SSRT240D10
W6225DTX-1		3-32 VDC	3 VDC	1 VDC	24-240 VAC	280 VAC	25 AMPS	-	-
W6410DTX-1		3-32 VDC	3 VDC	1 VDC	48-480 VAC	500 VAC	10 AMPS	-	-

PART NUMBERS		INPUT (Over Operating Temperature Range)			OUTPUT (Over Operating Temperature Range)		CROSS REFERENCE	
DC CONTROLLED DC OUTPUT		CONTROL VOLTAGE RANGE	MAX PULL-IN	MIN DROP OUT	NOMINAL VOLTAGE RANGE	MAX. CURRENT RATING	CRYDOM	
W6212DDX-1		3.5 - 32 VDC	3.5VDC	1 VDC	0 -200 VDC	12 AMPS	D2D12	
W6225DDX-1		3.5 - 32 VDC	3.5VDC	1 VDC	0 -200 VDC	25 AMPS	D1D20*	
W6240DDX-1		3.5 - 32 VDC	3.5VDC	1 VDC	0 -200 VDC	40 AMPS	D1D40*	

\*Crydom relays only rated at 0-100 VDC

PART NUMBERS		INPUT (Over Operating Temperature Range)			OUTPUT (Over Operating Temperature Range)		
DC CONTROLLED AC OUTPUT DPST NO		CONTROL VOLTAGE RANGE	MAX PULL-IN	MIN DROP OUT	NOMINAL VOLTAGE RANGE	MAX. VOLTAGE	MAX. CURRENT RATING
W6210DTX-3		3.5-32 VDC	3VDC	1 VDC	24-240 VAC	280 VAC	10 AMPS