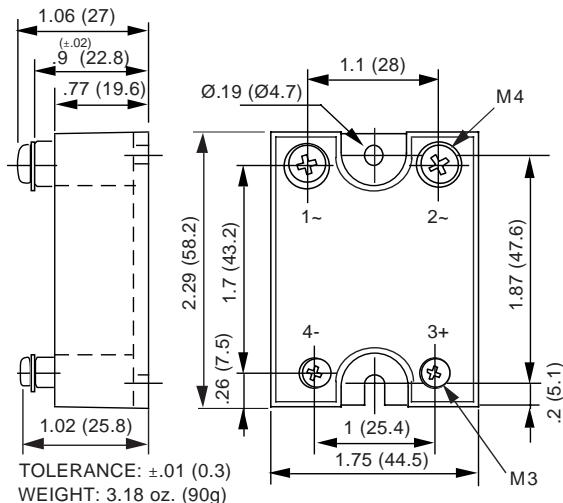


Part Numbers

Package & Chip Type	Line Voltage ¹	Switch Type ²	Output Current	Feature ³
ST	24	D	12	-02
			25	-16
			40	
			50	
			75	
ST	24	A	25	
			50	
ST	48	A	25	-22

Part Number Example: ST48A25-22**NOTES**

- 1) Line Voltage (nominal): 24 = 240 Vac; 48 = 480 Vac
- 2) Switch Type: D = Zero-cross turn-on; A = AC control, Zero-cross turn-on
- 3) Feature: -02 = Control LED: Standard on all ST48D
Only available on ST24D 12A and 40A (standard)
-16 = Internal MOV: Available only on ST24D 25A and 50A
-22 = 24 Vac Control

MECHANICAL SPECIFICATION*Figure 1 — ST relays, dimensions in inches (mm)***FEATURES/BENEFITS**

- Industry standard package
- Internal MOV (certain models)
- Control LED (certain models)
- AC or DC control available
- Excellent thermal performance
- Tight zero-cross window for low EMI
- High immunity to surges

DESCRIPTION

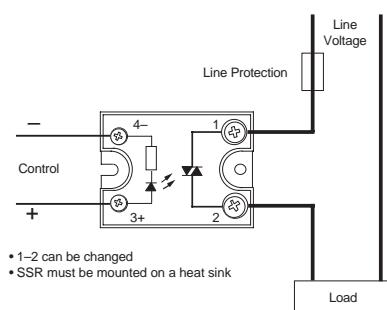
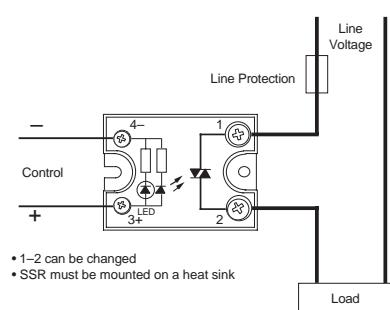
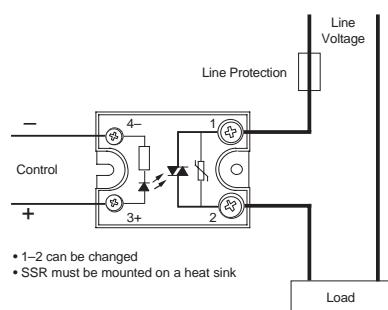
The Series ST single-phase relays are designed for high-power applications. The design incorporates an SCR or triac output. The Series ST relays utilize optical isolation to protect the control from load transients. Control LED is available on certain models. All Series ST relays are zero crossing. Internal MOV is also available on ST24D 25A and 50A models.

APPLICATIONS

- Heating control
- Industrial and process control
- On/Off controls of AC equipment

APPROVALS

All models are UL recognized.
UL File Number: E128555.

TYPICAL APPLICATION*Figure 2a — ST relays**Figure 2b — ST -02 option relays**Figure 2c — ST -16 option relays*

INPUT (CONTROL) SPECIFICATION

	Input Type	Min	Max	Units
Control Range				
ST24	D	4	30	Vdc
	A	90	240	Vac/Vdc
ST48	D	5	30	Vdc
	A	17	80	Vac/Vdc

Input Current Range

ST24D	3	30	mA
ST24DXX-02	4	48	mA
ST24A	3	8	mA
ST48D	5	46	mA
ST48A25-22	5.6	26	mA

Must Turn-Off Voltage

ST	D	1	Vdc
ST24	A	15	Vac
ST48	A	3	Vac

Input Resistance (Typical)

ST	D	1000	Ohms
ST	D-02	600	Ohms
ST	A	3000	Ohms

Reverse Voltage Protection

S	D	30	V
S	A		NA

OUTPUT (LOAD) SPECIFICATION

	Input Type	Min	Max	Units
Operating Range				
ST24		12	280	Vrms
ST48		24	600	Vrms

Peak Voltage

ST24	600	Vpeak
ST48	1200	Vpeak

Load Current Range (Resistive)

12A output current	.005	12	Arms
25A output current	.005	25	Arms
40A output current	.005	40	Arms
50A output current	.005	50	Arms
75A output current	.005	75	Arms

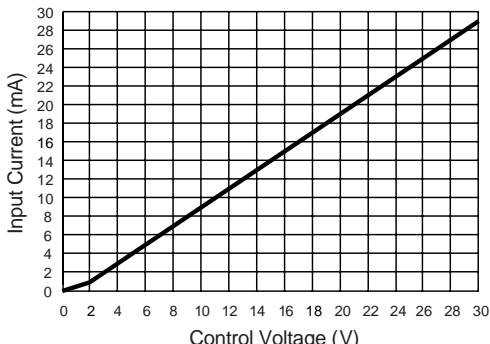
CONTROL CHARACTERISTICS


Figure 3a — ST24D relays

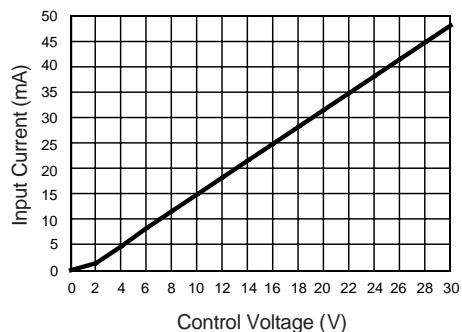


Figure 3b — ST -02 relays

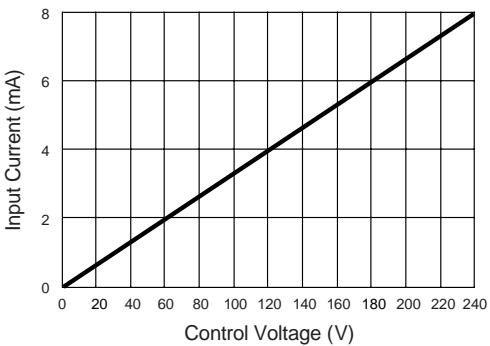


Figure 3c — ST24A relays

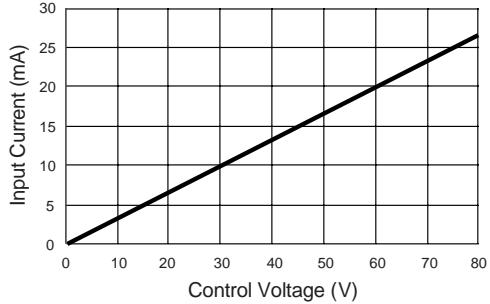
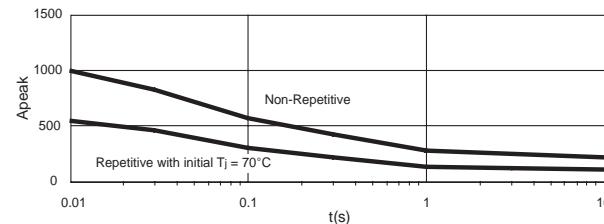
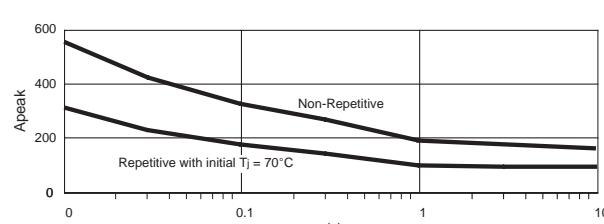
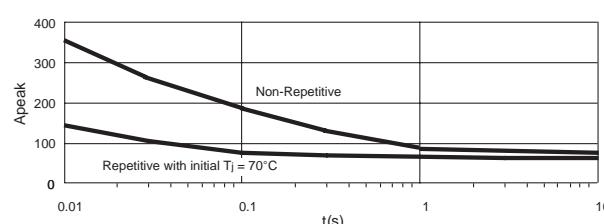
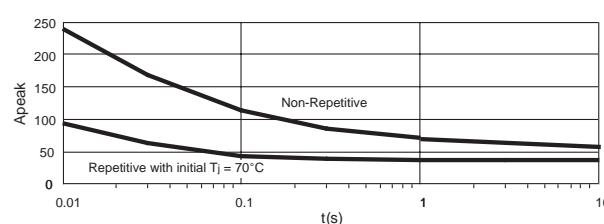
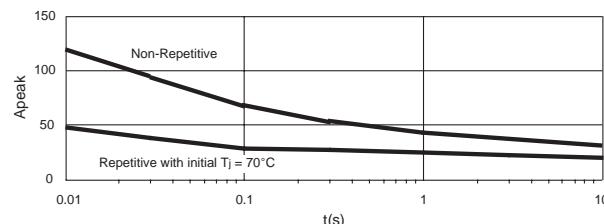


Figure 3d — ST24A25-22

OUTPUT (LOAD) SPECIFICATION (continued)

Input Type	Min	Max	Units
Maximum Surge Current Rating (Non-Repetitive)			
12A output current	120	A	
25A output current	240	A	
40A output current	350	A	
50A output current	550	A	
75A output current	1000	A	
On-State Voltage Drop			
12A output current	1.3	V	
25A output current	1.2	V	
40A output current	1.4	V	
50A output current	1.45	V	
ST48D50-02	1.4	V	
75A output current	1.4	V	
Zero-Cross Window (Typical)			
S	D/A	±12	Vac
Off-State Leakage Current (60Hz)			
All relays	3	mA	
Turn-On Time (60 Hz)			
ST D	8.3	ms	
ST A	24.9	ms	
Turn-Off Time (60 Hz)			
ST D	8.3	ms	
ST A	24.9	ms	
Off-State dv/dt			
All relays	500	V/μs	
Maximum di/dt (Non-Repetitive)			
All relays	50	A/μs	
Operating Frequency Range			
All relays	0.1	440	Hz

SURGE CURRENT

NOTES:

1. Electrical specifications at 25°C unless otherwise specified.
2. For 800Hz applications, contact factory.
3. For additional/custom options, contact factory.

OPTIONAL ADD-ONS

Please order add-ons separately:

- -12 — Thermal pad installed.
- -14 — Plastic touch-proof cover.