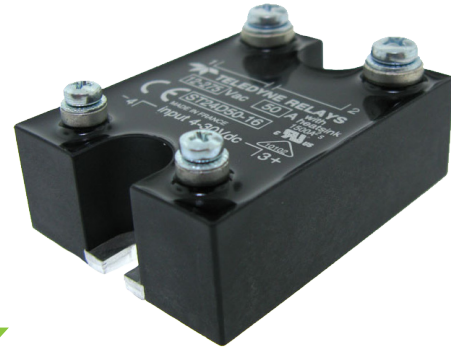


Part Number	Description
ST24D12	12A, 4-30 Vdc
ST24D25	25A, 4-30 Vdc
ST48D50	50A, 5-30Vdc

For RoHS Compliant Contact Factory

**NOTES**

- 1) Line Voltage (nominal): 24 = 240 Vac; 48 = 480 Vac
- 2) Switch Type: D = Zero-cross turn-on;



**MECHANICAL SPECIFICATION**

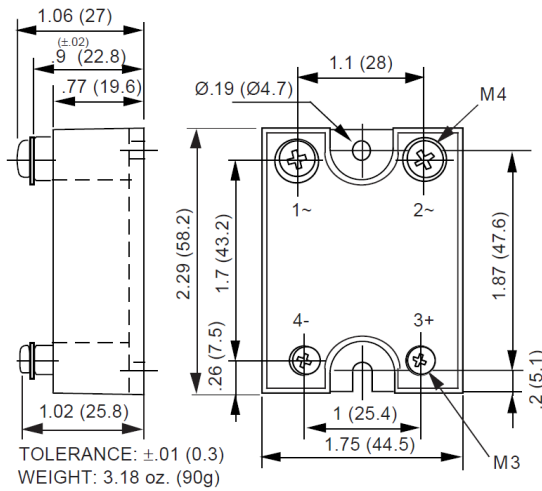


Figure 1 — ST relays, dimensions in inches (mm)

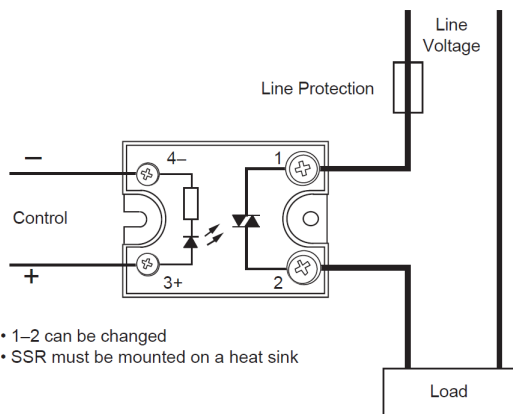


Figure 2 - ST relays

**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.

**ELECTRICAL SPECIFICATIONS**

(+25°C ambient temperature unless otherwise specified)

**INPUT (CONTROL) SPECIFICATIONS**

	Input Type	Min	Max	Units
<b>Control Range</b>				
ST24	D	4	30	Vdc
ST48	D	5	30	Vdc
<b>Input Current Range</b>				
ST24	D	3	30	mA
ST48	D	5	46	mA
<b>Must Turn-Off Voltage</b>				
ST	D		1	Vdc
<b>Input Resistance (Typical)</b>				
ST	D		1000	Ohms
<b>Reverse Voltage Protection</b>				
S	D		30	V

**OUTPUT (LOAD) SPECIFICATIONS**

	Input Type	Min	Max	Units
<b>Operating Range</b>				
ST24		12	280	Vrms
ST48		24	600	Vrms
<b>Peak Voltage</b>				
ST24			600	Vpeak
ST48			1200	Vpeak
<b>Load Current Range (Resistive)</b>				
12A output current		.005	12	Arms
25A output current		.005	25	Arms
50A output current		.005	50	Arms
<b>Maximum Surge Current Rating (Non-Replicative)</b>				
12A output current			120	A
25A output current			240	A
50A output current			550	A
<b>On-State Voltage Drop</b>				
12A output current			1.3	V
25A output current			1.2	V
50A output current			1.45	V
<b>Zero-Cross Window (Typical)</b>				
S	D		±12	Vac
<b>Off-State Leakage Current (60Hz)</b>				
All relays			3	mA
<b>Turn-On Time (60Hz)</b>				
ST	D		8.3	ms
<b>Off-State dv/dt</b>				
All relays			500	V/μS

**OUTPUT (LOAD) SPECIFICATIONS (continued)**

	Input Type	Min	Max	Units
<b>I<sup>2</sup>t for Match Fusing (&lt;8.3ms)</b>				
12A output current			72	A <sup>2</sup> S
25A output current			288	A <sup>2</sup> S
50A output current			1500	A <sup>2</sup> S

**ENVIRONMENTAL SPECIFICATIONS**

	Min	Max	Units
Storage Temperature	-40	100	°C
Operating Temperature	-40	100	°C
Input-Output Isolation	4000		Vrms
<b>Output-Case Isolation</b>			
12A output current	2500		Vrms
25A output current	2500		Vrms
50A output current	3300		Vrms

**SURGE CURRENT**

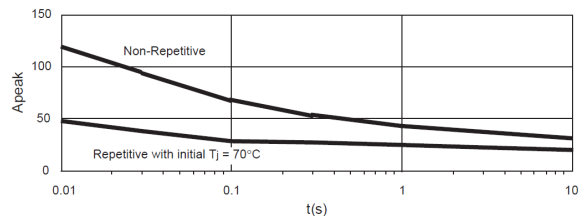


Figure 4a - 12A output current

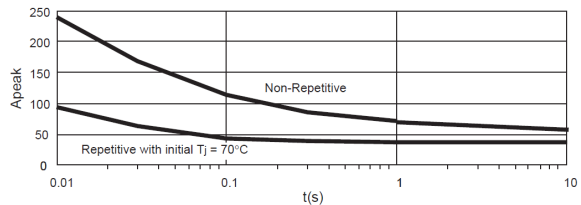


Figure 4b - 25A output current

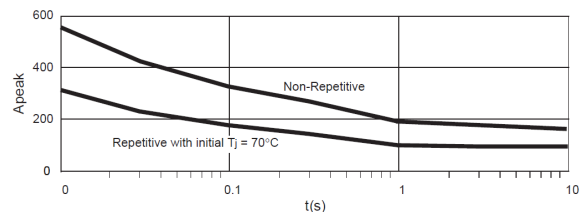


Figure 4c - 50A output current

**NOTES:**

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

**THERMAL CHARACTERISTICS**

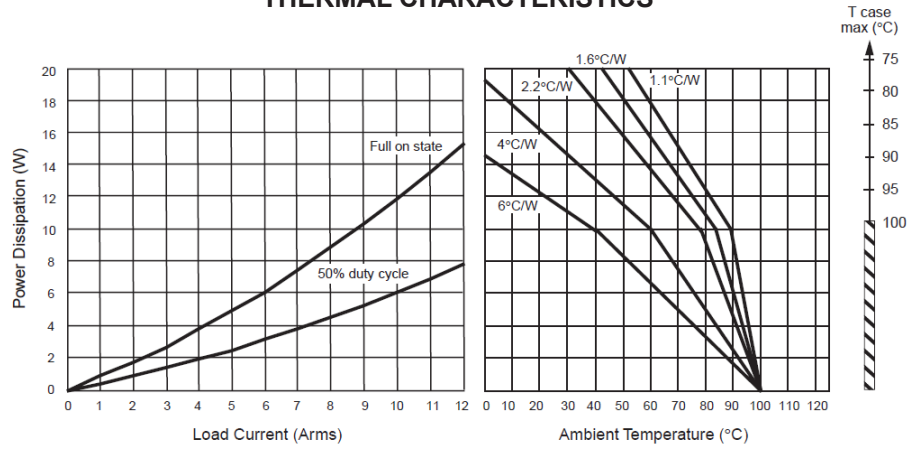


Figure 5a - 12A output current

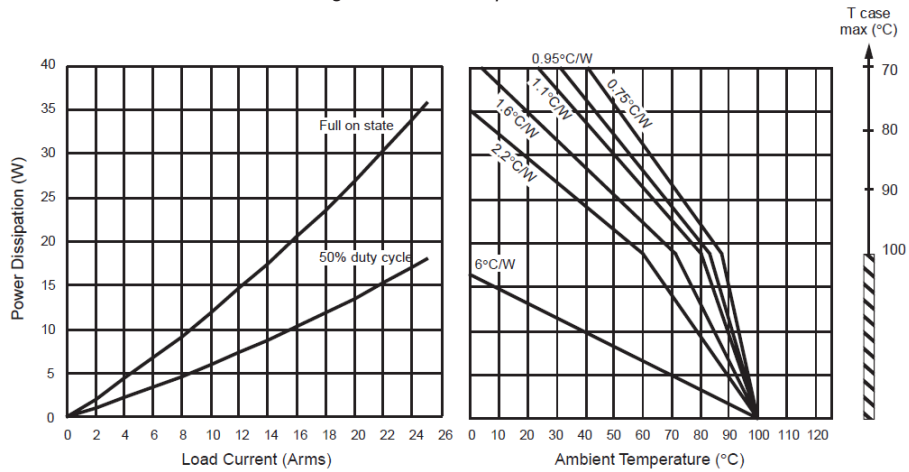


Figure 5b - 25A output current

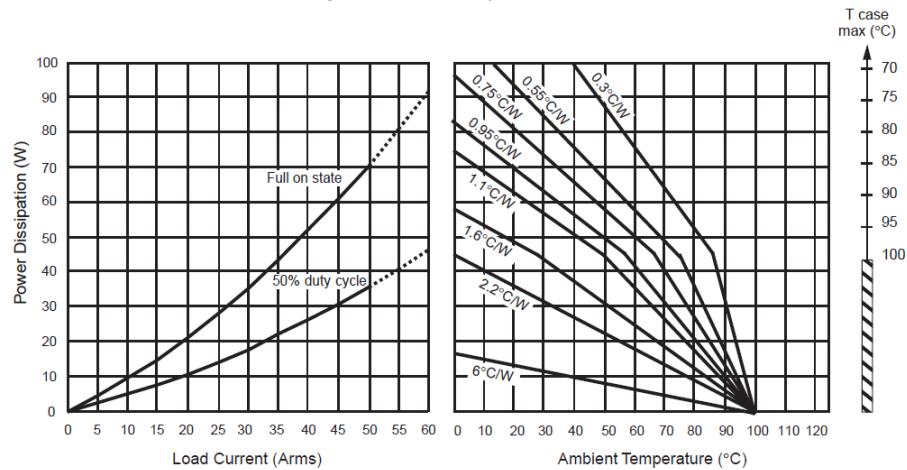


Figure 5c - 50A output current

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