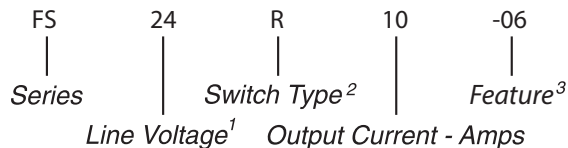


Part Number	Description
FS24R10-06	10A, 280 Vac
FS24D10-06	10A, 280 Vac
FS24D10	10A, 280 Vac
FS24D20-06	20A, 280 Vac

Part Number Explanation



NOTES

- 1) Line Voltage (nominal): 24 = 240
- 2) Switch Type: D = Zero-cross turn-on; R = Random turn-on
- 3) Feature: -06 = Faston Terminals

MECHANICAL SPECIFICATION

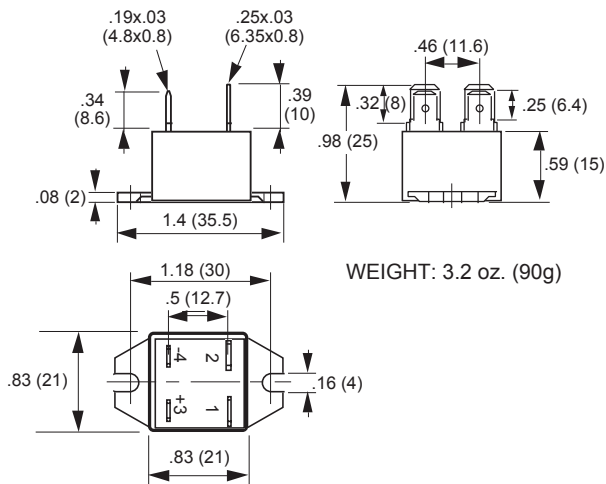


Figure 1 — FS relays except FS24D10

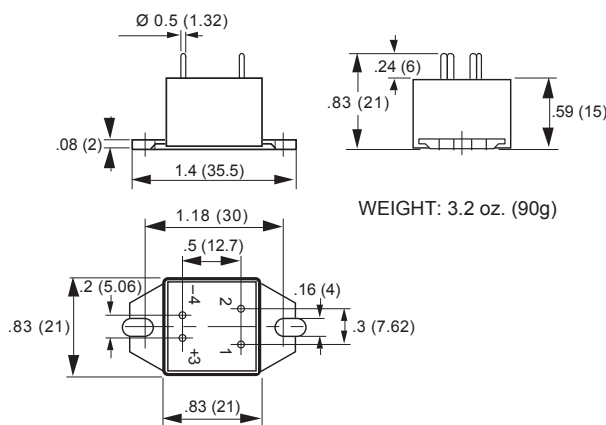


Figure 1b — FS24D10



FEATURES/BENEFITS

- Miniature size package
- Designed for medium-power applications
- Faston or PCB terminals available
- Tight zero-cross window for low EMI
- Excellent thermal performance
- High immunity to surges

DESCRIPTION

The Series FS relays are designed for medium-power loads. The design incorporates a triac output. The Series FS relays utilize optical isolation to protect the control from load transients. The FS compact package is available with faston or PCB terminals. Its compact size makes it ideal for designs where space is limited. The Series FS relays have excellent thermal performance.

APPLICATIONS

- Heating control
- Motor control
- Uninterruptible power supplies
- Light dimmers
- Industrial and process control
- On/Off controls of medium-power AC equipment
- Electromechanical line relay replacement

APPROVALS

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

EQUIVALENT CIRCUIT

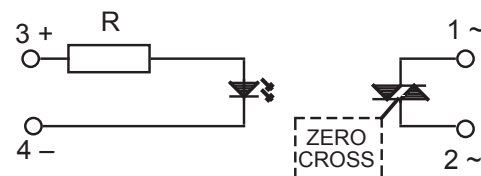


Figure 2 — FS relays

INPUT (CONTROL) SPECIFICATION

	Min	Max	Units
Control Range			
FS24R	3	30	Vdc
FS24D	4	30	Vdc
Input Current Range			
FS24R	2	30	mA _{dc}
FS24D	3	30	mA _{dc}
Must Turn-off Voltage			
All relays		1	Vdc
Input Resistance (Typical)			
All relays		1000	Ohms

Reverse Voltage Protection

All relays	30	V
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OUTPUT (LOAD) SPECIFICATION

Input Type	Min	Max	Unit
Operating Range			
All relays	12	280	V _{rms}
Peak Voltage			
All relays		600	V _{peak}
Load Current Range			
10A output current	.005	10	A _{rms}
20A output current	.005	20	A _{rms}
Inductive Load Current Range			
10A output current		2.5	A _{rms}
20A output current		4	A _{rms}
Maximum Surge Current Rating (Non-Repetitive)			
10A output current		120	A
20A output current		200	A
On-State Voltage Drop			
All relays output current		1.3	V

CONTROL CHARACTERISTIC

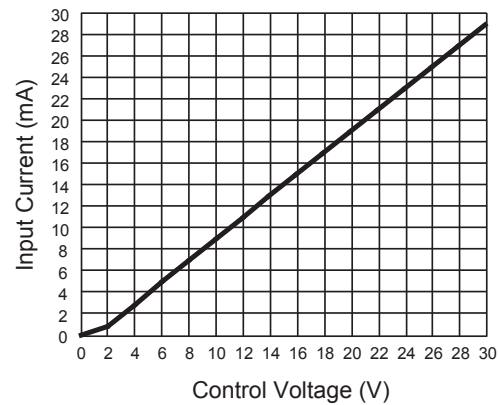


Figure 3 — FS relays

OUTPUT (LOAD) SPECIFICATION (Continued)

	Min	Max	Unit
Zero-Cross Window (Typical)			
FS24R		NA	
FS24D		±12	V _{ac}
Off-State Leakage Current (60Hz)			
All relays		1	mA
Turn-On Time (60Hz)			
FS24	R	0.1	ms
FS24	D	8.3	ms
Turn-Off Time (60Hz)			
All relays		8.3	ms
Off-State dv/dt			
All relays		500	V/μs
Maximum di/dt (Non-Repetitive)			
All relays		50	A/μs
Operating Frequency			
All relays	0.1	440	Hz
I²t for match fusing (<8.3ms)			
10A output current	.005	72	A ² S
20A output current	.005	200	A ² S

ENVIRONMENTAL SPECIFICATION

	Min	Max	Unit
Operating Temperature	-40	100	°C
Storage Temperature	-40	100	°C
Input-Output Isolation	4000		Vrms
Output-Case Isolation	2500		Vrms

NOTES:

1. External snubber is recommended when switching inductive loads.
2. Electrical specifications at 25°C unless otherwise specified.
3. For 800Hz applications, contact factory.
4. For additional/custom options, contact factory.

SURGE CURRENT

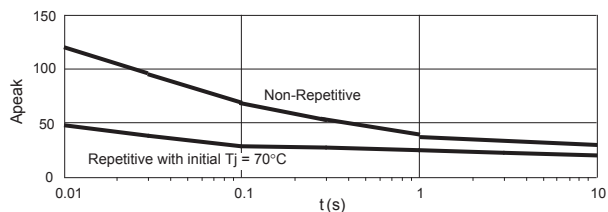


Figure 4a — All 10A FS relays output current

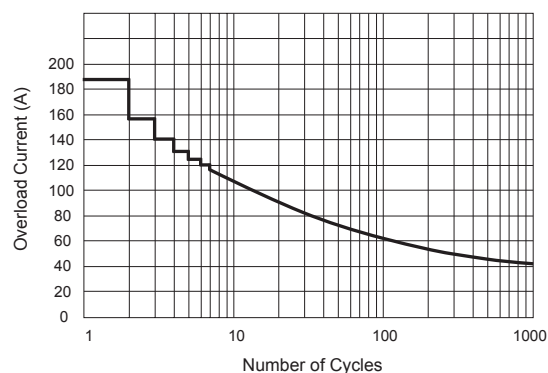


Figure 4b — FS24D20-06 output current

THERMAL CHARACTERISTICS

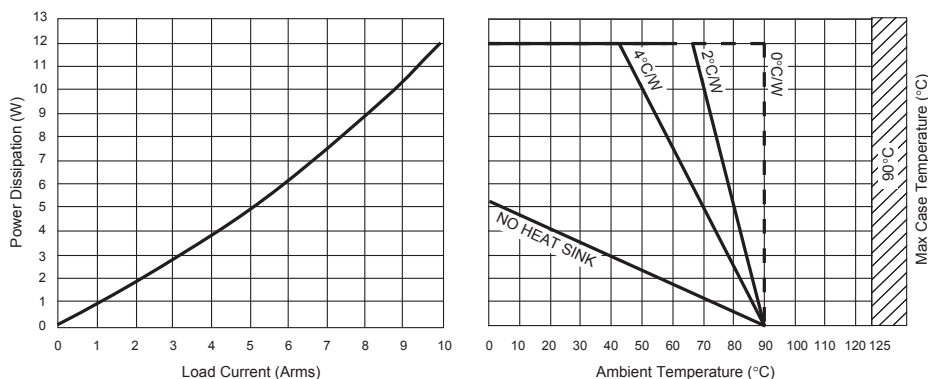


Figure 5a — All 10A FS relays output current

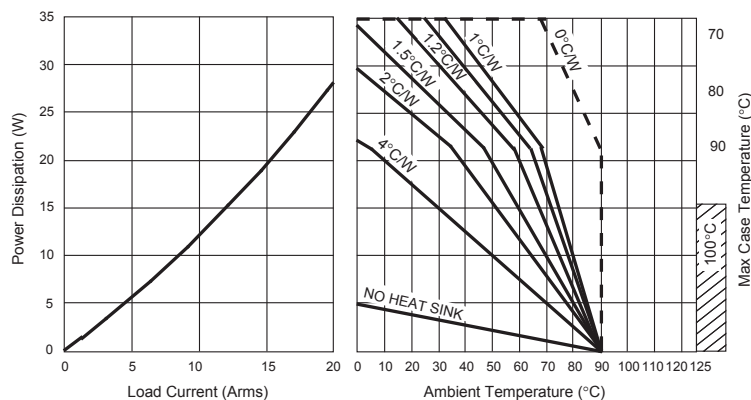


Figure 5b — FS24D20-06 output current

Mouser Electronics

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Teledyne Relays:

[FS24D10-06](#) [FS24D20-06/R](#) [FS24D10-06/R](#)