

| Part Number | Description |
|-------------|-------------|
| BS24D4A | 4A, 280 Vac |
| BS24D4F | 4A, 280 Vac |
| BS60D4A | 4A, 280 Vac |

Part Number Explanation

| BS | 24 | D | 4 | A |
|--------|---------------------------|--------------------------|-----------------------|----------------------------|
| Series | Line Voltage ¹ | Switch Type ² | Output Current – Amps | Control Range ³ |

NOTES

- 1) Line Voltage 24 = 280 Vac
- 2) Switch Type: D = Zero-cross turn-on
- 3) Control Range: A = 3.0-10 Vdc for BS24D4A; F = 8-30 Vdc

MECHANICAL SPECIFICATION

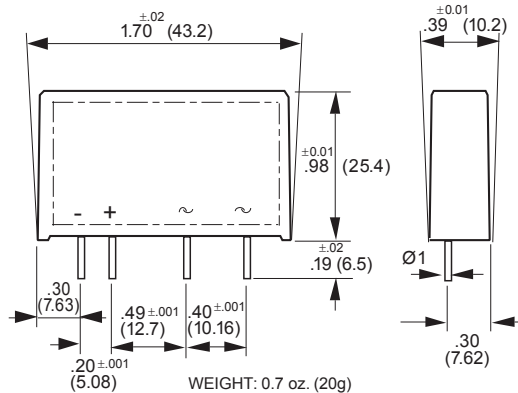
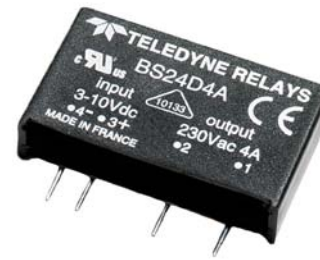


Figure 1 — BS Relays; Dimensions in inches [mm]

INPUT (CONTROL) SPECIFICATION

| | Min | Max | Units |
|----------------------------|-----|------|-------|
| Control Range | | | |
| BS24D4A | 3 | 10 | Vdc |
| BS24D4F | 8 | 30 | Vdc |
| Input Current Range | 5 | 30 | mAdc |
| Must Turn-Off Voltage | | 0.8 | Vdc |
| Input Resistance (Typical) | | | |
| BS24D4A | | 330 | Ohms |
| BS24D4A | | 1200 | Ohms |



FEATURES/BENEFITS

- Industry standard package
- High in-rush capabilities
- Low input current draw
- High dv/dt capability

DESCRIPTION

The BS 4-amp solid-state single inline (SIP) four-pin relays are designed for mounting on a printed circuit board. The relays offer built-in voltage protection and can withstand very high current overloads. The Series BS4 relays have a low zero-cross window. The compact size and triac output make the BS relay the perfect retrofit for electromechanical relays.

APPLICATIONS

- Interface applications
- Vending machines
- Light/lamp control
- HVAC controls

APPROVALS

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

TYPICAL APPLICATION

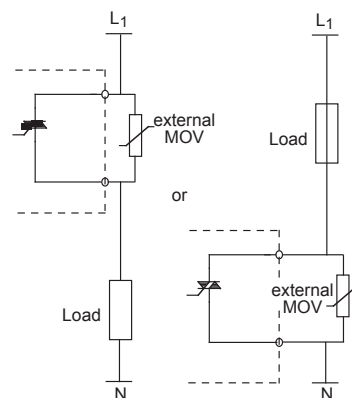


Figure 3 — BS relays

OUTPUT (LOAD) SPECIFICATION

| | Min | Max | Units |
|---|-----|-----|-------|
| Operating Range | 15 | 280 | Vrms |
| Peak Voltage | | 600 | Vpeak |
| Load Current Range | .05 | 4 | Arms |
| Maximum Surge Current Rating (Non-Repetitive) (See Figure 5) | | | |
| On-State Voltage Drop | | 1.6 | V |
| Off-State Leakage Current (60 Hz) | | 0.3 | mArms |
| Turn-On Time (60Hz) | | 8.3 | ms |
| Turn-Off Time (60Hz) | | 8.3 | ms |
| Operating Frequency Range | 10 | 63 | Hz |
| Off-State dv/dt | 200 | | V/μs |

Zero-Cross Window ±50 V

I²T for matching fuse (<8.3ms)
50 A²s

ENVIRONMENTAL SPECIFICATION

| | Min | Max | Units |
|--------------------------|------|-----|-------|
| Operating Temperature | -40 | 80 | °C |
| Storage Temperature | -40 | 150 | °C |
| Input-Output Isolation | 4000 | | Vrms |
| Input-Output Capacitance | | 8 | pF |

BLOCK DIAGRAM

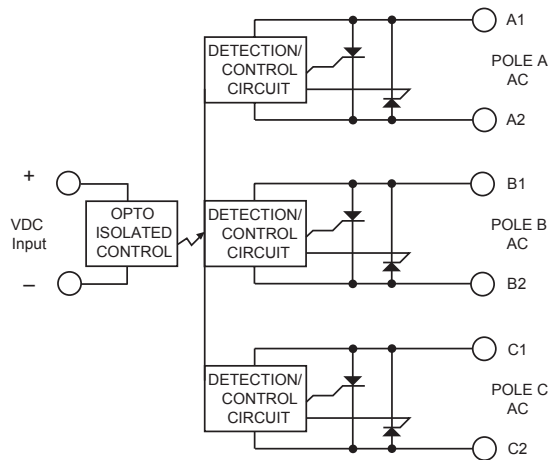


Figure 3

NOTES

1. Electrical specifications at 25 °C unless otherwise specified.
2. See figure 6 for output protection recommendation
3. For additional/custom options, contact factory

BLOCK DIAGRAM

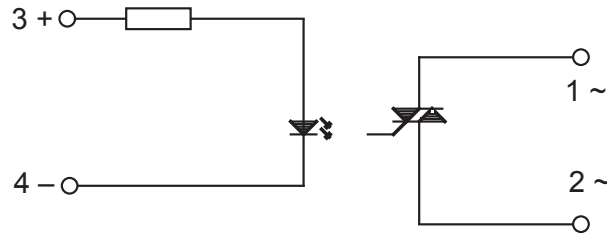


Figure 2 – BS relays

LOAD CURRENT DERATING CURVE

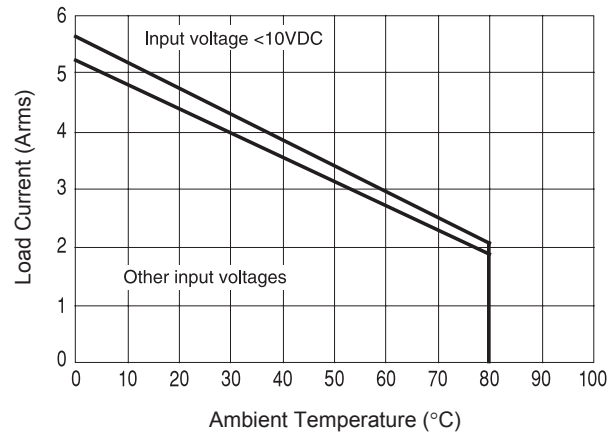


Figure 4 – Thermal curves

SURGE CURRENT RATING

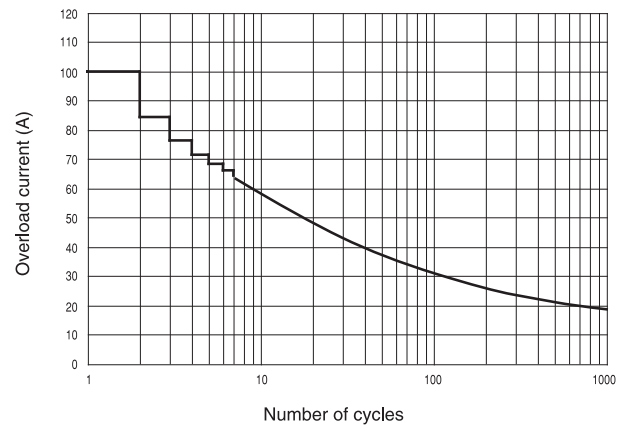


Figure 5 – Non-repetitive surge current