

Part Number	Description
BS24D4A	4A, 280 Vac
BS24D4F	4A, 280 Vac

#### Part Number Explanation

BS	24	D	4	A
Series	Line Voltage <sup>1</sup>	Switch Type <sup>2</sup>	Output Current – Amps	Control Range <sup>3</sup>

#### 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

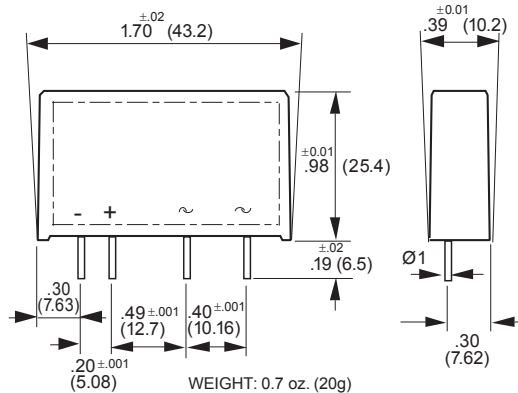
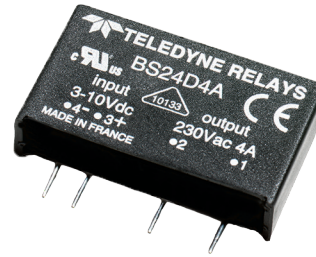


Figure 1 — BS Relays; Dimensions in inches [mm]

#### 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
BS24D4F		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

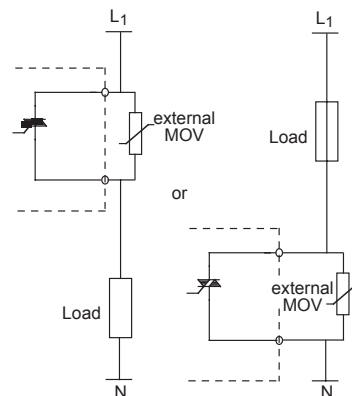


Figure 3 — BS relays

**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)		100	Apeak
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

I<sup>2</sup>T for matching fuse (<8.3ms)  
50 A<sup>2</sup>s

**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**

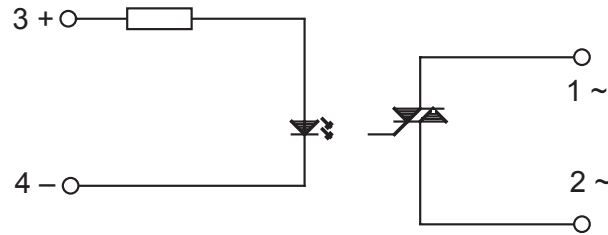


Figure 2 – BS relays

**LOAD CURRENT DERATING CURVE**

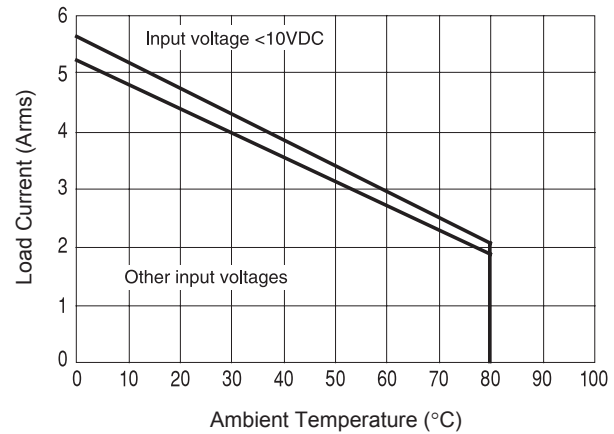


Figure 4 – Thermal curves

**SURGE CURRENT RATING**

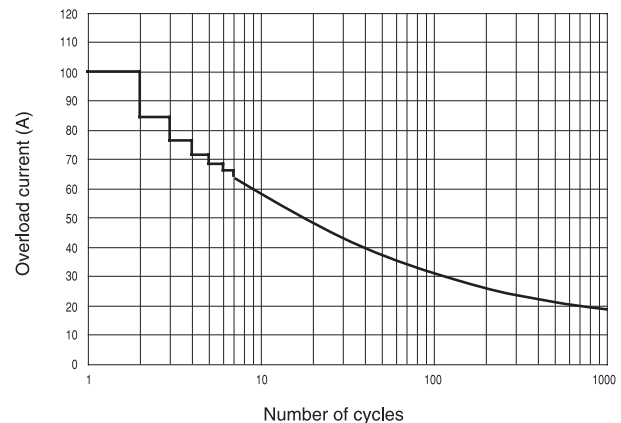


Figure 5 – Non-repetitive surge current

**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

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