TELEDYNE RELAYS
Everywhereyoulook™

Series AS4

5A to 600 Vac SIP Package
DC Control

Part Number	Description
AS24D4E/R	4A, 275 Vac
AS24D4E-X1	4A, 275 Vac
AS24D4E-X2	4A, 275 Vac

Part Number Explanation

AS	46	D	4	E
Series	*Line Voltage*[1]	*Switch Type*[2]	*Output Current*	*Control Range*[3]

NOTES
1) Line Voltage (nominal): 46 = 460 Vac
2) Switch Type: D = Zero-cross turn-on
3) Control Range: E = 4–30 Vdc (5-30 Vdc for AS60D4E)
4) RoHS Compliant = /R (AS24D4E/R)

MECHANICAL SPECIFICATION

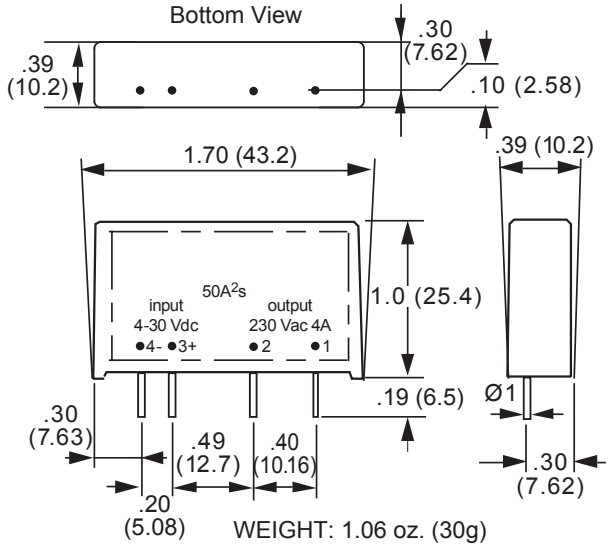


Figure 1 — AS relays; dimensions in inches (mm)

ELECTRICAL SPECIFICATIONS

	Min	Max	Units
Operating Temperature	-40	80	°C
Storage Temperature	-40	120	°C
Input-Output Isolation	4000		Vrms
Input-Output Capacitance		3	pF



FEATURES/BENEFITS

- Industry standard package
- Tight zero-cross window for low EMI
- Low input current draw
- High dv/dt capability
- Integral transient voltage protection
- High immunity to surges

DESCRIPTION

The AS 4-amp and 5-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 AS4 relays have a low zero-cross window. The compact size and triac output make the AS relay the perfect retrofit for electromechanical relays.

APPLICATIONS

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

APPROVALS

UL File Number: E128555. (Except AS60D4E)

BLOCK DIAGRAM

(Control LED available on AS46R4F-02 only.)

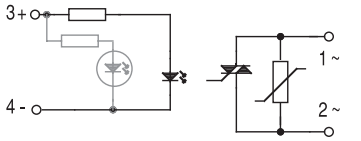


Figure 2a — All AS relays except AS60D4E

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INPUT (CONTROL) SPECIFICATIONS

	Min	Max	Units
Control Range			
AS24D4E/R	4	30	Vdc
AS46D4E	4	30	Vdc
AS60D4E	5	30	Vdc
Input Current Range			
AS24D4E/R	3	30	mA
AS46D4E	3	30	mA
AS60D4E	3	30	mA
Must Turn-Off Voltage			
AS24D4E/R		0.8	Vdc
AS46D4E		0.8	Vdc
AS60D4E		1	Vdc
Input Resistance (Typical)			
AS24D4E/R		1,000	Ohms
AS46D4E		1,000	Ohms
AS60D4E		1,000	Ohms

OUTPUT (CONTROL) SPECIFICATIONS

	Min	Max	Units
Operating Range			
AS24D4E/R	12	275	Vrms
AS46D4E	12	460	Vrms
AS60D4E	24	600	Vrms
Peak Voltage (Clamping Voltage)			
AS24D4E/R		600(450)	Vpeak
AS46D4E		900(720)	Vpeak
AS60D4E		1200	Vpeak
Load Current Range			
AS24D4E/R	.005	4	Arms
AS46D4E	.005	4	Arms
AS60D4E	.005	5	Arms

OUTPUT(CONTROL) SPECIFICATIONS (Continued)

	Min	Max	Units
Maximum Surge Current Rating (Non-Repetitive)			
(See Figure 5a and Figure 5b)			
AS24D4E/R		100	Apeak
AS46D4E		100	Apeak
AS60D4E		120	Apeak
On-State Voltage Drop		1.6	V
Zero-Cross Window (Typical)		±12	V
Off-State Leakage Current (60Hz)			
AS24D4E/R		0.3	mArms
AS46D4E		0.3	mArms
AS60D4E		1	mArms
Turn-On Time (60Hz)			
AS24D4E/R		8.3	ms
AS46D4E		8.3	ms
AS60D4E		8.3	ms
Turn-Off Time (60Hz)		8.3	ms
Off-State dv/dt	500		V/µs
Operating Frequency	10	440	Hz
I^2T for Match Fusing (<8.3ms)			
AS24D4E/R		50	A^2S
AS46D4E		50	A^2S
AS46D4E		72	A^2S

TYPICAL APPLICATIONS

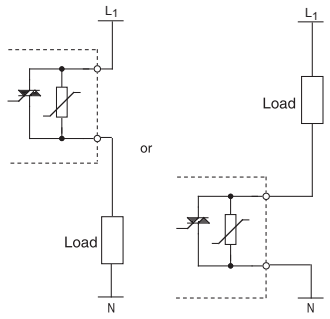


Figure 3a

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE
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LOAD CURRENT DERATING CURVE

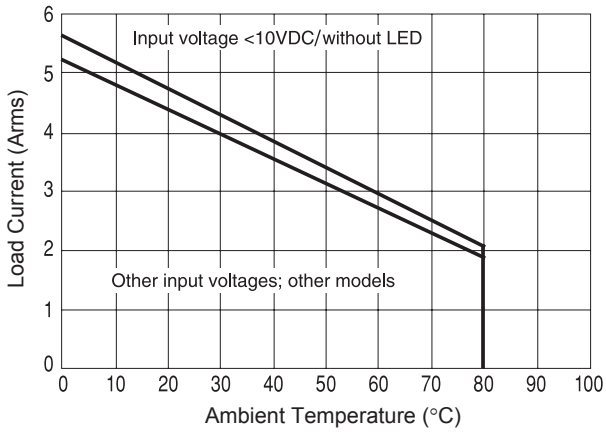


Figure 4 — Thermal curves

SURGE CURRENT RATING

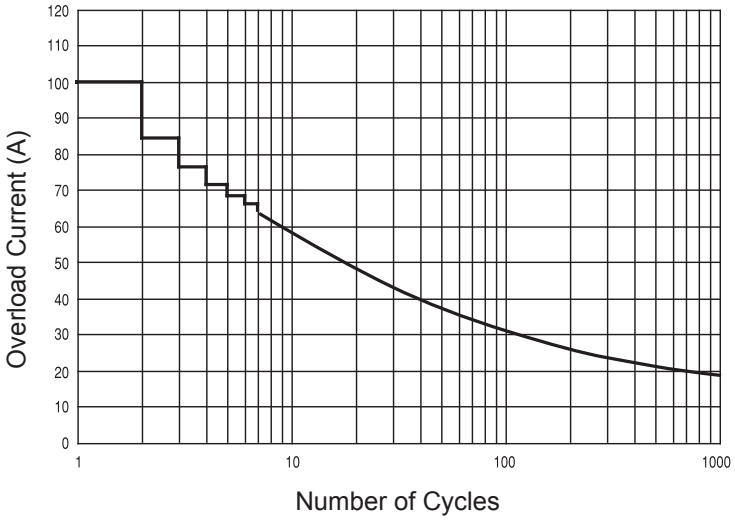


Figure 5a — Non-repetitive surge current

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

SURGE CURRENT

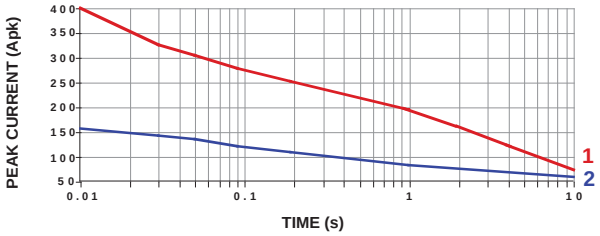


Figure 4c — 35A output current

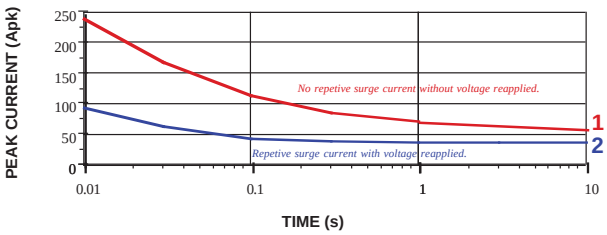


Figure 4b — 25A output current

THERMAL CURVES

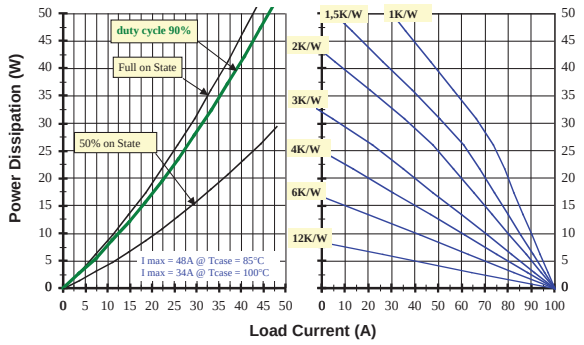


Figure 5c — 35A output power

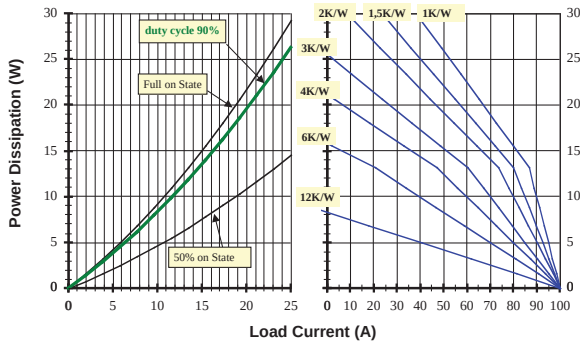


Figure 5b — 25A output power

12°C/W corresponds to a relay without heat sink
6°C/W corresponds to a relay mounted on a DIN-rail adaptor (Teledyne P/N DL12)

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