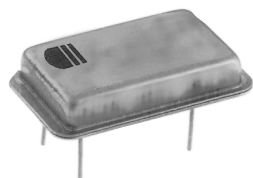
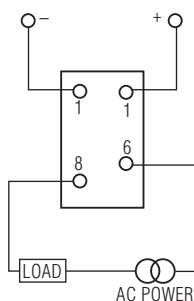


## JDS9 Series, AC Relays, 2A/250Vrms Rating



Terminal View

### Product Facts

- Hermetically sealed
- Thick film hybrid construction
- Optically isolated
- Zero voltage turn-on
- Qualified to MIL-R-28750/9

### Input Characteristics

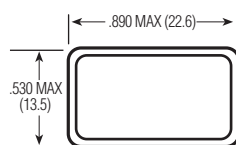
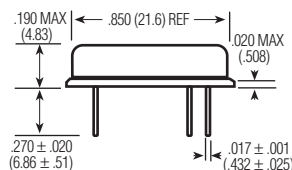
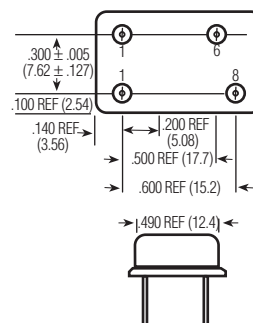
**Input Voltage Range** —  
3.8 – 32 Vdc  
**Pick-up Voltage** —  
3.8 Vdc  
**Dropout Voltage** — 1.5 Vdc  
**I/O Dielectric** — 1500 Vrms

### Output Characteristics

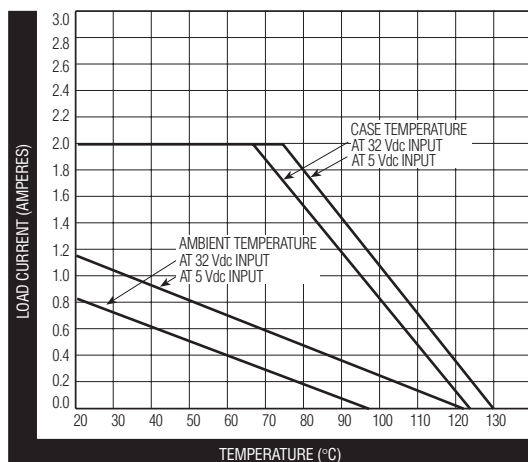
**Max. Output Current (Continuous, 25°C)** — 2 Arms  
**Max. Output Voltage** — 250 Vrms  
**Peak Over Voltage Rating** —  
500 Vpk  
**Frequency Range** — 40 – 440 Hz  
**Zero Switch Window** — 15 Vpk  
**Thermal Resistance** —  
Junction to Ambient — 65°C/Watt  
Junction to Case — 15°C/Watt

### Environmental Characteristics

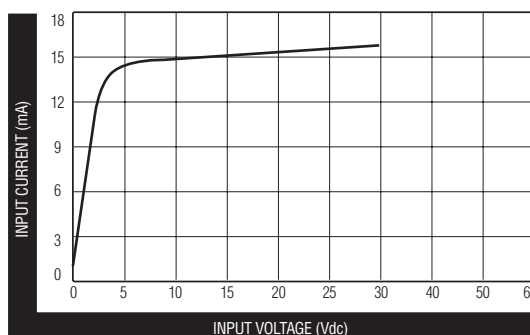
**Shock** — 1500 G's, 0.5 ms.  
**Vibration** — 30 G's, 10 to 3000 Hz  
**Operating Ambient Temperature** — -55 to +110°C



Screening levels: Y level for high reliability applications. P/NJDS9-1Y  
W level for general purpose applications. P/NS9-1W



JDS9 Max. Output Current vs. Temperature



JDS9 Typical Input Current vs. Input Voltage

10

KILOVAC Solid State Relays

## JDS9 Series, AC Relays, 2A/250Vrms Rating (Continued)

### Electrical Specifications (-55°C to +105°C unless otherwise specified)

#### Input

|                                  |                    |
|----------------------------------|--------------------|
| Input supply voltage range (Vcc) | 3.8 - 32 Vdc       |
| Input current (max.) @ 5Vdc      | 15mA <sub>dc</sub> |
| Must turn-on voltage             | 3.8Vdc             |
| Must turn-off voltage            | 1.5Vdc             |
| Reverse voltage protection       | -32Vdc             |

#### I/O

|                                       |                      |
|---------------------------------------|----------------------|
| Dielectric strength (min.)            | 1,500V rms/60 Hz.    |
| Insulation resistance (min.) @ 500Vdc | 10 <sup>9</sup> ohms |
| Capacitance (max.)                    | 10pF                 |

#### Output

|                                                     |                         |
|-----------------------------------------------------|-------------------------|
| Output current rating (max.)                        | 2A rms (Fig. 2, Note 1) |
| Surge current (max.), 16ms @ 25°C (max.)            | 8A pk (Fig. 1, Note 3)  |
| Continuous load voltage (max.)                      | 250V rms                |
| Transient blocking voltage (max.)                   | 500V pk                 |
| Frequency range                                     | 40 - 440 Hz.            |
| Output voltage drop (max.) @ 1A load current        | 1.5V rms                |
| Off-state leakage current (max.) @ 250V rms/400 Hz. | 1mA rms                 |
| Turn-on time (max.)                                 | 1/2 cycle               |
| Turn-off time (max.)                                | 1 cycle                 |
| Off-state dv/dt (min.), with snubber                | 200V /μs (Note 2)       |
| Zero voltage turn-on window (max.)                  | 10V                     |
| Wave distortion (max.)                              | 4V rms                  |
| Output chip junction temperature (max.)             | 130°C                   |
| Thermal resistance (max.), junction to ambient      | 65°C/W                  |
| Thermal resistance (max.), junction to case         | 15°C/W                  |

### Notes

1. Operation at elevated load currents up to 2 amps is dependent on the use of suitable heatsink to maintain case temperature.
2. Recommended output snubber: R = 100 ohms (1/2 W), C = .01μF (600V).
3. Heating of output chip during and after a surge may cause loss of output blocking capability until junction temperature falls below maximum rating.