



# Series DSD, DLD

Time Delay Relay • 10-50 Amp

- DC Control, AC Output
- External Adjustment
- Industry Standard Package
- Zero Voltage Turn-On
- Panel Mount

These “on-operate” (pull-in) time-delay solid state relays are housed in a single industry standard package. AC output is controlled by a DC input and has an externally adjustable time delay. Choices include models with two time-delay ranges.

Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

| MODEL NUMBERS                                                         | DSD2410               | DSD2425   | DSD2450   | DLD2410   | DLD2425   | DLD2450   |
|-----------------------------------------------------------------------|-----------------------|-----------|-----------|-----------|-----------|-----------|
| <b>OUTPUT SPECIFICATIONS<sup>①</sup></b>                              |                       |           |           |           |           |           |
| Operating Voltage Range (47-63 Hz) [Vrms]                             | 48-280                | 48-280    | 48-280    | 48-280    | 48-280    | 48-280    |
| Load Current Range <sup>③</sup> [Arms]                                | .04-10                | .04-25    | .04-50    | .04-10    | .04-25    | .04-50    |
| Transient Overvoltage [Vpk]                                           | 600                   | 600       | 600       | 600       | 600       | 600       |
| Max. Surge Current, (16.6ms) [Apk]                                    | 120                   | 250       | 625       | 120       | 250       | 625       |
| Max. On-State Voltage Drop @ Rated Current [Vpk]                      | 1.6                   | 1.6       | 1.6       | 1.6       | 1.6       | 1.6       |
| Thermal Resistance Junction to Case [R <sub>θJC</sub> ]               | 1.48                  | 1.02      | 0.63      | 1.48      | 1.02      | 0.63      |
| Maximum I <sup>2</sup> t for Fusing, (8.3 msec.) [A <sup>2</sup> sec] | 60                    | 260       | 1620      | 60        | 260       | 1620      |
| Max. Off-State Leakage Current @ Rated Voltage [mArms]                | 10                    | 10        | 10        | 10        | 10        | 10        |
| Min. Off-State dv/dt @ Max. Rated Voltage [V/μsec] <sup>②</sup>       | 500                   | 500       | 500       | 500       | 500       | 500       |
| Max. Turn-On Time <sup>④</sup>                                        | Adjustable, See Table |           |           |           |           |           |
| Max. Turn-Off Time                                                    | 1/2 cycle             | 1/2 cycle | 1/2 cycle | 1/2 cycle | 1/2 cycle | 1/2 cycle |
| Max. Reset Time [μsec] <sup>⑤</sup>                                   | 100                   | 100       | 100       | 100       | 100       | 100       |
| Power Factor (Min.) with Max. Load                                    | 0.5                   | 0.5       | 0.5       | 0.5       | 0.5       | 0.5       |

## INPUT SPECIFICATIONS <sup>①</sup> DC CONTROL

|                       |                               |
|-----------------------|-------------------------------|
| Control Voltage Range | 3.5-15Vdc                     |
| Max. Turn-On Voltage  | 3.5 Vdc                       |
| Min. Turn-Off Voltage | 1.0 Vdc                       |
| Min. Input Impedance  | 1500 Ohms                     |
| Typical Input Current | 3.4mA @ 5 Vdc, 11.4mA @ 15Vdc |

## GENERAL NOTES

- ① All parameters at 25°C unless otherwise specified.  
② Off-State dv/dt test method per EIA/NARM standard RS-443, paragraph 13.11.1  
③ Heat sinking required, for derating curves see page 2.  
④ Timing Resistor may be as high as 10M Ohm with performance dependent on resistor quality.  
⑤ Before and after time-out.

## TYPICAL TURN-ON DELAY <sup>①</sup>

| RESISTOR           | TIME (DSD) | TIME (DLD) |
|--------------------|------------|------------|
| O (Short)          | 0.10 sec   | 1.6 sec    |
| 10K Ω              | 0.19 sec   | 3.1 sec    |
| 100KΩ              | 0.94 sec   | 15 sec     |
| 470KΩ              | 4.0 sec    | 64 sec     |
| 1.0MΩ <sup>④</sup> | 8.3 sec    | 133 sec    |

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# CRYDOM

Control over power

## Series DSD, DLD

Time Delay Relay • 10-50 Amp

### GENERAL SPECIFICATIONS

Dielectric Strength, Input section/output/base 4000 Vrms

Insulation Resistance @ 500Vdc  $10^{10}$

Ambient Operating Temperature Range -30 to 80°C

Ambient Storage Temperature Range -40 to 125°C

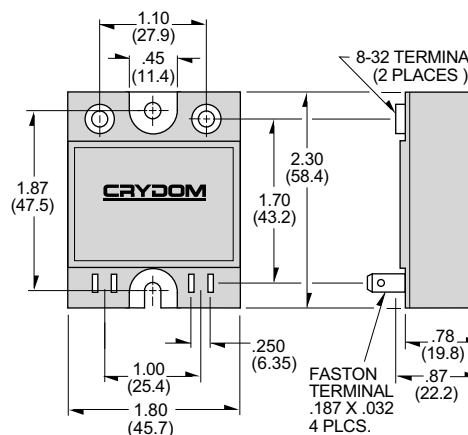
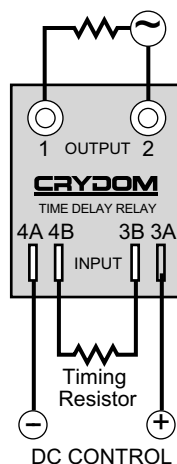
### MECHANICAL SPECIFICATIONS

Weight: (typical) 3.0 oz. (43g)

Encapsulation: Thermally Conductive Epoxy

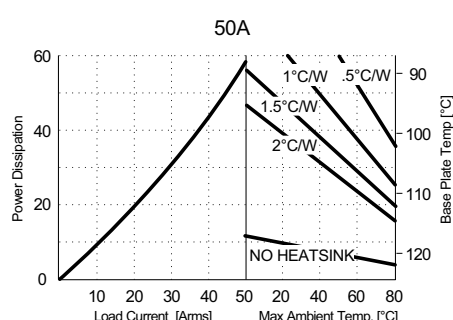
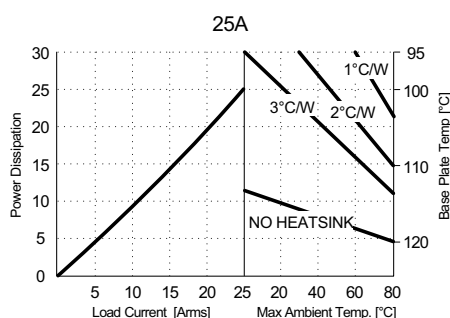
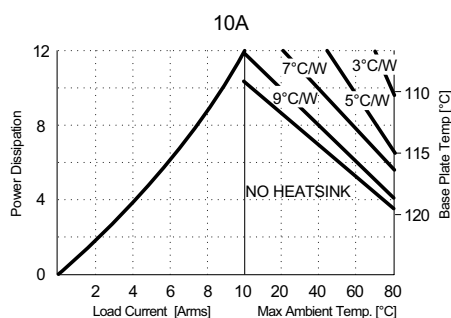
Terminals: Screws and Saddle Clamps Furnished, Unmounted

### WIRING DIAGRAM



All dimensions are in inches (millimeters)

### CURRENT DERATING CURVES



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### APPROVALS

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FastFax Document No. 201  
DSD,DLD.  
Rev.021302  
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For recommended applications and more information contact:

USA: Sales Support (877) 502-5500 Tech Support (877) 702-7700 FAX (619) 710-8540  
Crydom Corp, 2320 Paseo de las Americas, Ste. 201, San Diego, CA 92154

Email: sales@crydom.com WEB SITE: <http://www.crydom.com>

UK: +44 (0)1202 365070 • FAX +44 (0)1202 365090 Crydom International Ltd., 7 Cobham Road, Ferndown Industrial Estate, Ferndown, Dorset BH21 7PE, Email: [intsales@crydom.com](mailto:intsales@crydom.com)

GERMANY: +49 (0)180 3000 506

