



Series 1-DC

7-40Amp • 0-500 Vdc • DC Output

- **MOSFET Output**
- **Low On-State Resistance**
- **Paralleling Capability for Higher Currents**
- **Panel Mount**

DC output relays feature MOSFET technology for low on-state resistance, assuring easy paralleling and switching capabilities to 40 amps at 100 Vdc. Lower current models are also available to 500 Vdc. All models come in Crydom's standard panel-mount package.

Manufactured in Crydom's ISO 9002 Certified facility for optimum product performance and reliability.

OUTPUT SPECIFICATIONS ①

| MODEL NUMBERS | D1D07 | D1D12 | D1D20 | D1D40 | D2D07 | D2D12 | D4D07 | D4D12 | D5D07 | D5D10 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Operating Voltage Range [Vdc] | 0-100 | 0-100 | 0-100 | 0-100 | 0-200 | 0-200 | 0-400 | 0-400 | 0-500 | 0-500 |
| Max. Load Current ③ [Adc] | 7 | 12 | 20 | 40 | 7 | 12 | 7 | 12 | 7 | 10 |
| Min. Load Current [mA] | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Max. Surge Current, [Adc] (10Msec) | 15 | 28 | 42 | 106 | 22 | 27 | 17 | 36 | 19 | 29 |
| Max. On-State Voltage Drop @ Rated Current [Vdc] | 2.0 | 1.6 | 2.1 | 2.1 | 2.0 | 2.8 | 4.2 | 4.2 | 5.7 | 5.5 |
| Thermal Resistance Junction to Case [R _{θJC}] °C/W | 2.2 | 1.34 | 1.06 | 0.83 | 1.5 | 1.06 | 1.06 | 0.8 | 1.0 | 0.8 |
| Max On-state Resistance @ Rated Current (R _{DS-ON}) [Ohms] | .29 | .13 | .10 | .05 | .29 | .23 | .6 | .35 | .8 | .55 |
| Max. Off-State Leakage Current @ Rated Voltage [mA] | 0.1 | 0.2 | 0.3 | 0.3 | 0.1 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 |
| Max. Turn-On Time [µsec] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Max. Turn-Off Time [msec] | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

INPUT SPECIFICATIONS ①

| | |
|--------------------------|----------------------------------|
| Control Voltage Range | 3.5-32 Vdc |
| Maximum Turn-On Voltage | 3.5 Vdc |
| Minimum Turn-Off Voltage | 1.0 Vdc |
| Nominal Input Impedance | See Note 4 |
| Maximum Input Current | 1.6 mA (5 Vdc), 28 mA (32 Vdc) ④ |

DC CONTROL

GENERAL NOTES

- ① All parameters at 25°C unless otherwise specified.
- ② Dielectric strength and insulation resistance are measured between input and output.
- ③ Heat sinking required, for derating curves see page 3.
- ④ Input circuitry incorporates active current limiter.

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For recommended applications and more information contact:

USA: (800) 8 CRYDOM • (800) 827-9366 • (619) 715-7200 • fax (619) 715-7280

Crydom Corp, 9525 Chesapeake Drive, San Diego, CA 92123 • e-mail: sales@crydom.com

WEB SITE: <http://www.crydom.com> FASTFAX Product Information: (888) 267-9191

UK: (44)1202 812300 • fax (44)1202 812340 Crydom International Ltd., 85, Condor Close, Woolsbridge Industrial Estate, Three-Legged Cross, Wimborne, Dorset, England BH21 6SU

GERMANY: (49)871 935405 • fax (49)871 935407, Aussere Parkstr.5, D-84032 Altdorf, Germany





Series 1-DC

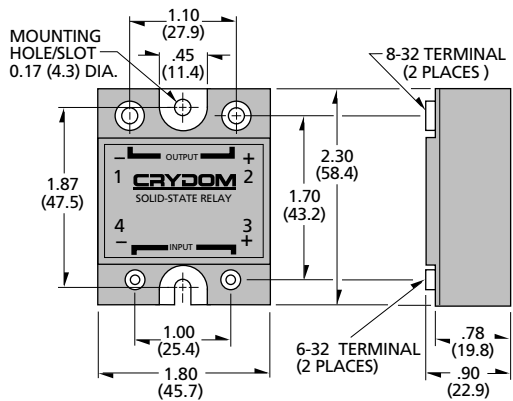
7-40Amp • 0-500 Vdc • DC Output

GENERAL SPECIFICATIONS

| | |
|--|---------------------|
| Dielectric Strength 60Hz | 2500 Vrms |
| Insulation Resistance (Min.) @ 500 Vdc | 10 ⁹ Ohm |
| Max. Capacitance Input/Output | 50 pF |
| Ambient Operating Temperature Range | -30 to 80°C |
| Ambient Storage Temperature Range | -40 to 125°C |

MECHANICAL SPECIFICATIONS

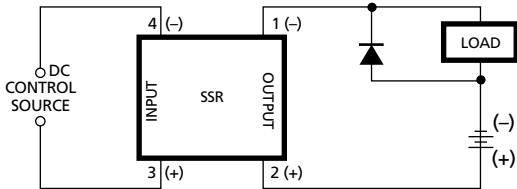
| | |
|-------------------|---|
| Weight: (typical) | 3.0 oz. (86.5g) |
| Encapsulation: | Thermally Conductive Epoxy |
| Terminals: | Screws and Saddle Clamps Furnished, Unmounted |



All dimensions are in inches (millimeters)

Screw Torque Requirements: 6-32 Screws - 10 in./lbs., 8-32 and 10-32 Screws - 20in./lbs. (Screws dry without grease.)

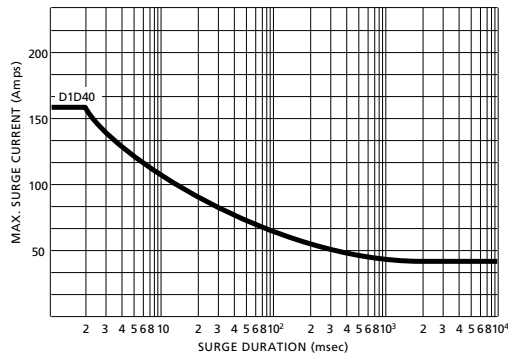
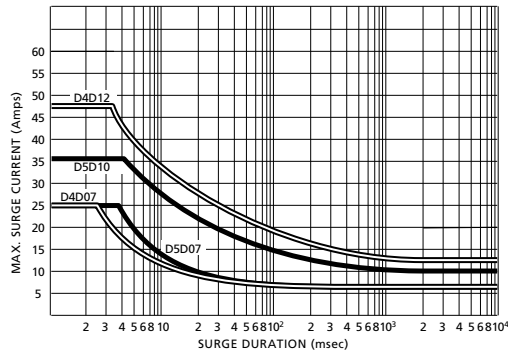
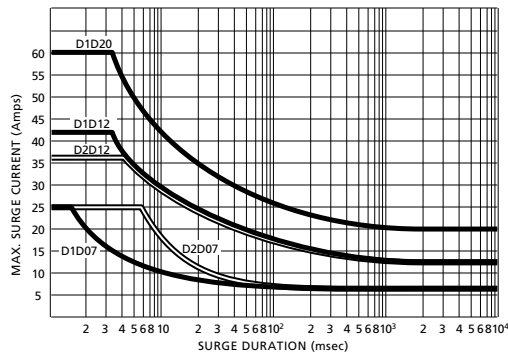
Input and output polarity must be observed.
Inductive loads must be diode suppressed.



Transient Protection

All loads are inductive, even ones that are not so labeled. An inductive load will produce harmful transient voltages when it is turned off. The more perfect the switch, the larger the transient voltages; the MOSFET output is so nearly an ideal switch that the transient voltages produced by seemingly "non-inductive" loads can cause damage if not suppressed. Diodes should be fast recovery type with PIV rated greater than supply voltage.

MAXIMUM SURGE vs. DURATION



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APPROVALS

UL E116950 (100 Volt Models Only)



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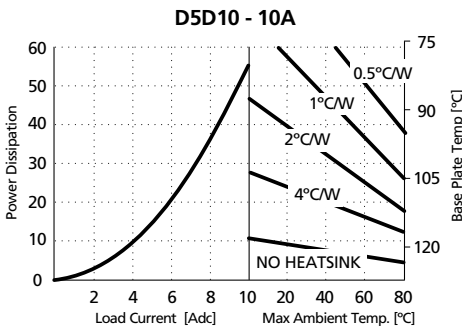
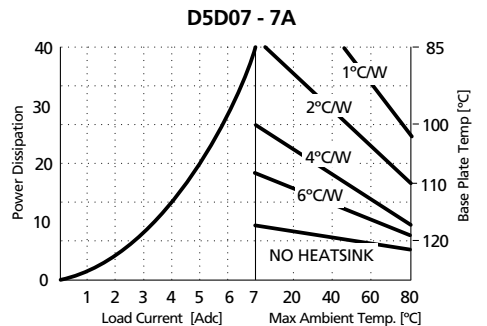
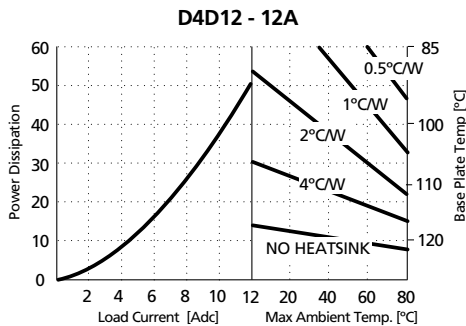
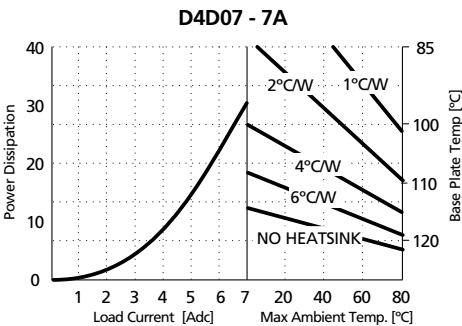
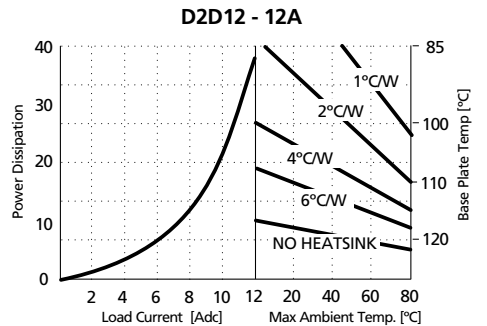
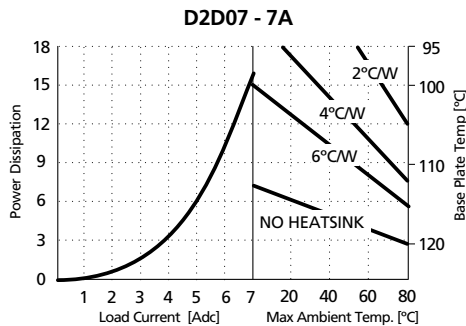
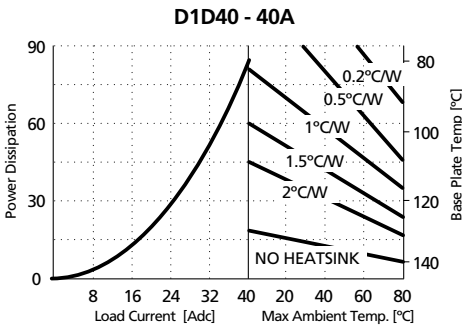
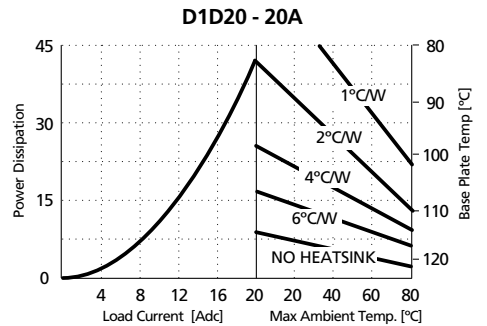
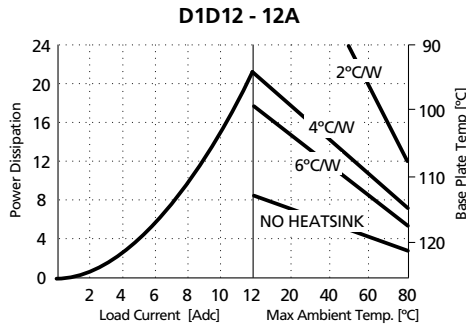
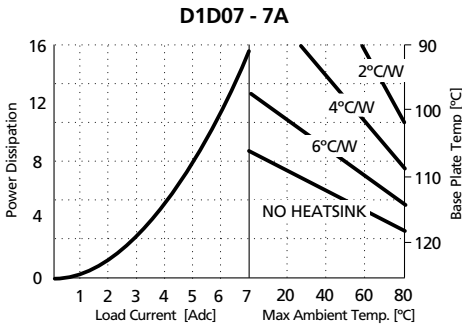


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Crydom Heat Sinks offer excellent thermal management and are perfectly matched to the load current ratings of Crydom panel mount relays. Request Crydom's Heat Sink specification sheet for all the details.

CURRENT DERATING CURVES



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