

- Zero Voltage and Random Turn-On Switching
- Panel Mount
- 600V Transient Capability
- Internal Snubber
- 110 & 125A Models Available
- Integrated Overvoltage Protection by Automatic Self Turn-On (Suffix P)

Featuring state-of-the-art Surface Mount Technology, these SPST-NO relays deliver proven reliability in the most demanding applications. Output consists of an SCR AC switch and is available in zero-cross, random turn-on (phase controllable) and normally closed (Form B) versions with either AC or DC input (coil) control. Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

| MODEL NUMBERS | AC CONTROL | A1210 | A1225 | A1240 | A2410 | A2425 | A2450 | A2475 | A2490 |
|---|------------|--|--------|--------|--------|--------|--------|--------|--------|
| | DC CONTROL | D1210 | D1225 | D1240 | D2410 | D2425 | D2450 | D2475 | D2490 |
| OUTPUT SPECIFICATIONS ① | | | | | | | | | |
| Operating Voltage (47-63 Hz) [Vrms] | | 24-140 | 24-140 | 24-140 | 24-280 | 24-280 | 24-280 | 24-280 | 24-280 |
| Max. Load Current ③ [Arms] | | 10 | 25 | 40 | 10 | 25 | 50 | 75 | 90 |
| Min. Load Current, [mArms] | | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| Transient Overvoltage [Vpk] | | 400 | 400 | 400 | 600 | 600 | 600 | 600 | 600 |
| Max. Surge Current, (16.6ms) [Apk] | | 120 | 250 | 625 | 120 | 250 | 625 | 1000 | 1200 |
| Max. On-State Voltage Drop @ Rated Current [Vpk] | | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| Thermal Resistance Junction to Case (R _{θJC}) [°C/W] | | 1.48 | 1.02 | 0.63 | 1.48 | 1.02 | 0.63 | 0.31 | 0.28 |
| Maximum I ² t for Fusing, (8.3 msec.) [A ² sec] | | 60 | 260 | 1620 | 60 | 260 | 1620 | 4150 | 6000 |
| Max. Off-State Leakage Current @ Rated Voltage [mArms] | | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 10 |
| Min. Off-State dv/dt @ Max. Rated Voltage [V/μsec] ② | | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| Max. Turn-On Time ④ | | 1/2 Cycle (DC Control), 10.0 msec (AC Control) | | | | | | | |
| Max. Turn-Off Time | | 1/2 Cycle (DC Control), 40.0 msec (AC Control) | | | | | | | |
| Power Factor (Min.) with Max. Load | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |

| INPUT SPECIFICATIONS | DC CONTROL | AC CONTROL | 24V AC/DC CONTROL |
|-------------------------|-----------------------------|--------------------------------|-------------------|
| | | | (E SUFFIX) |
| Control Voltage Range | 3-32 Vdc | 90-280 Vrms (60Hz) | 18-36 Vrms/Vdc |
| Max. Reverse Voltage | -32 Vdc | — | — |
| Max. Turn-On Voltage | 3.0 Vdc | 90 Vrms | 18 Vrms/Vdc |
| Min. Turn-Off Voltage | 1.0 Vdc | 10 Vrms | 4.0 Vrms/Vdc |
| Nominal Input Impedance | 1500 Ohms | 60K Ohms | 9.0K Ohms |
| Typical Input Current | 3.4mA @ 5 Vdc, 20mA @ 28Vdc | 2mA @ 120 Vrms, 4mA @ 240 Vrms | 3mA @ 24 V |

GENERAL NOTES

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- 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 3.
- ④ Turn-on time for random turn-on versions is 0.02 msec (DC Control Models).

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.
GERMANY: +49 (0)180 3000 506



GENERAL SPECIFICATIONS

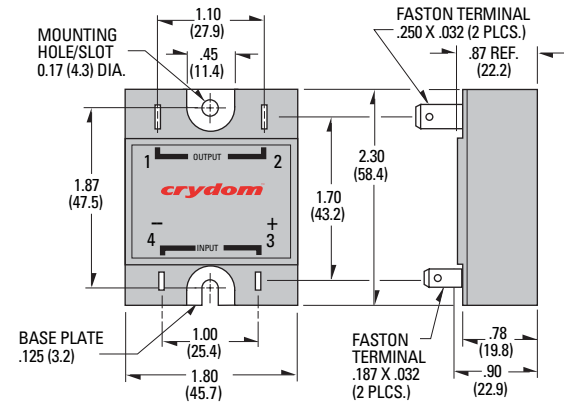
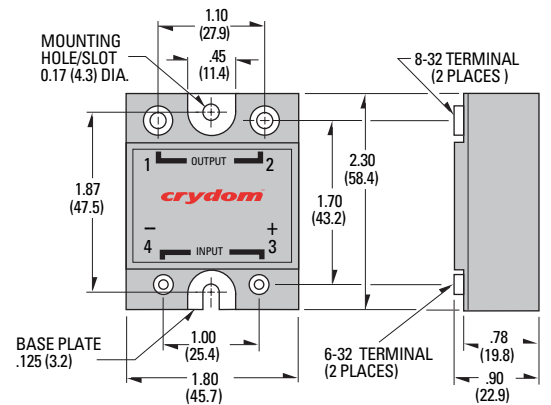
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|---|---------------------|
| Dielectric Strength 50/60Hz Input/Output/Base | 4000 Vrms |
| Insulation Resistance (Min.) @ 500 Vdc | 10 ⁹ Ohm |
| Max. Capacitance Input/Output | 8 pF |
| Ambient Operating Temperature Range | -40 to 80°C |
| Ambient 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 |

AVAILABLE OPTIONS

- B** Normally Closed (Form B)
Example: **D2450-B, A2450-B**
- E** 24V AC/DC Input
Example: **A2450E**
- F** Faston Terminals (Up to 50A Models)
Example: **D1225F**
- G** Input Status LED.
Agencies Approval Pending
Example: **D2450G**
Note: Control Voltage Range 4.5-32Vdc
for DC Control Models.
- P** Internal Overvoltage Protection.
Relay Will Self Trigger Between
450-600 Vpk. Not Suitable For Capacitive Loads.
Not Available with -B Option
Agencies Approval Pending.
Example: **D2425P**
- 4D** 400 Hz Operation
10-50 Amp Models Only
Zero Cross Switching Only
Example: **4D2450**
- 10** Random Turn-On (AC & DC Control)
Phase Controllable (DC Control)
Example: **D2450-10**
- H** Heat Transfer Pad (Attached)
Example: **D2450H**



Screw Torque Requirements:

6-32 Screws - 10 in. lbs.,
8-32 and 10-32 Screws - 20in. lbs.
(Screws dry without grease.)

Fastons:

Single pair (up to 25A)
Double pair* (up to 50A).

***Caution: User must connect to both pairs**

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.

All dimensions are in inches (millimeters)

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APPROVALS

UL E116949
CSA LR81689
VDE 10143 UG (Not Applicable: -B and 4D)



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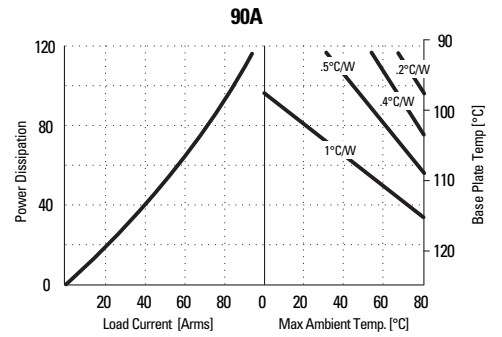
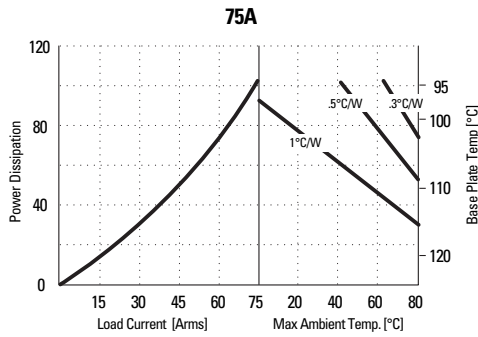
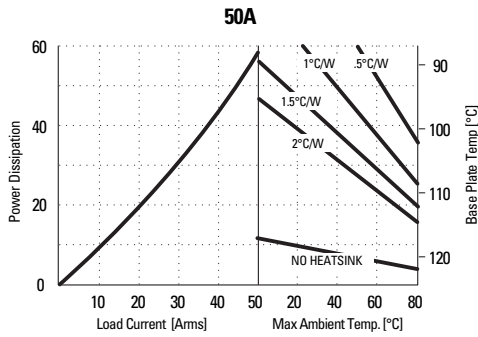
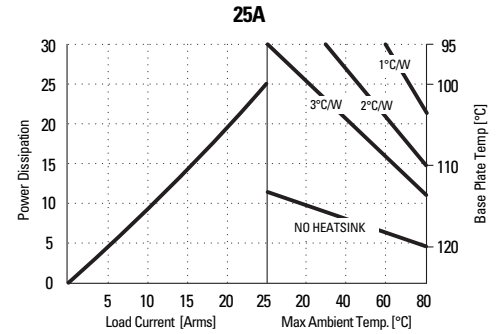
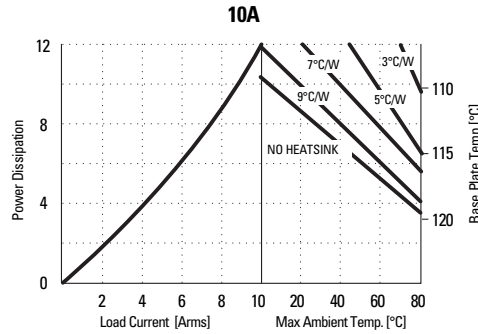
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CURRENT DERATING CURVES



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