



# Series HA60/HD60

25-125Amp • 600 Vac • AC Output

- Zero Voltage and Random Turn-On Switching
- Panel Mount
- 1200V Blocking Capability
- 600Vac - the preferred choice in Canada

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 versions with either AC or DC input (coil) control.

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

MODEL NUMBERS	AC CONTROL DC CONTROL	HA6025 HD6025	HA6050 HD6050	HA6090 HD6090	HA60125 HD60125
<b>OUTPUT SPECIFICATIONS ①</b>					
Nominal Line Voltage ( $\pm 10\%$ ) [Vrms]		600	600	600	600
Operating Voltage Range (47-63 Hz) [Vrms]		48-660	48-660	48-660	48-660
Max. Load Current ③ [Arms]		25	50	90	125
Min. Load Current, [mArms]		40	40	40	150
Transient Overvoltage [Vpk]		1200	1200	1200	1200
Max. Surge Current, (16.6ms) [Apk]		250	625	1,200	1,750
Max. On-State Voltage Drop @Rated Current [Vpk]		1.7	1.7	1.7	1.7
Thermal Resistance Junction to Case ( $R_{\theta JC}$ ) [°CW]		1.02	0.63	0.28	0.22
Maximum $I^2 t$ for Fusing, (8.3 msec.) [A <sup>2</sup> sec]		260	1,620	6,000	12,700
Max. Off-State Leakage Current @Rated Voltage [mArms] ⑦		5	5	5	5
Min. Off-State dv/dt @Max. Rated Voltage [V/ $\mu$ sec] ②		500	500	500	500
Max. Turn-On Time ⑤		1/2 Cycle (DC Input), 10.0 msec (AC Input)			
Max. Turn-Off Time		1/2 Cycle (DC Input), 40.0 msec (AC Input)			
Power Factor (Min.) with Max. Load		0.5	0.5	0.5	0.5

INPUT SPECIFICATIONS ①	DC CONTROL (D PREFIX)	AC CONTROL (A PREFIX) ④	AC CONTROL (E SUFFIX)
Control Voltage Range	3-32 Vdc	90-280 Vrms (60Hz)	18-36 Vrms
Max. Reverse Voltage	-32 Vdc	---	---
Max. Turn-On Voltage	3.0 Vdc	90 Vrms	18 Vrms
Min. Turn-Off Voltage	1.0 Vdc	10 Vrms	4.0 Vrms
Nominal Input Impedance	See Note ⑥	60K Ohms	9.0K Ohms
Typical Input Current	2.0 mA ⑥	2mA @ 120 Vrms, 4mA @ 240 Vrms	3mA @ 24 Vrms

## 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 24 Vac Input option, E suffix.
- ⑤ Turn-on time for random turn-on versions is 0.02 msec (DC Control Models).
- ⑥ Input circuitry incorporates active current limiter.
- ⑦ No internal snubber.

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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 6SJ  
 GERMANY: (49) (0)6874 182580 • fax (49)(0)6874 182585 Crydom GmbH,  
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## GENERAL SPECIFICATIONS

Dielectric Strength 50/60Hz Input/Output/Base	4000 Vrms
Insulation Resistance (Min.) @500 Vdc	10 <sup>9</sup> 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

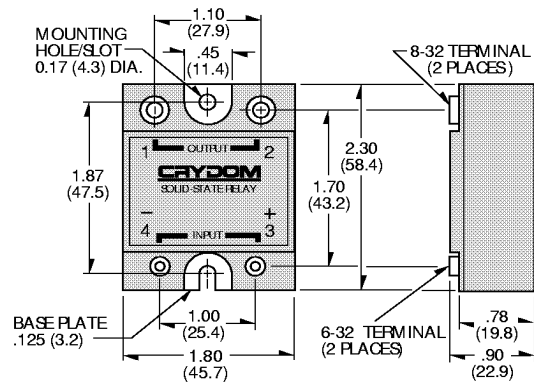
Weight: (typical)	3.0 oz. (86.5g)
Encapsulation:	Thermally Conductive Epoxy
Terminals:	Screws and Saddle Clamps Furnished, Unmounted

# CRYDOM

Control over power

## AVAILABLE OPTIONS

- E** 24 VAC Input (18-36 Vac)  
Example: **HA6025E**
- 10** Random Turn-On (AC & DC Control)  
Phase Controllable (DC Control)  
Example: **HD6090-10**
- F** Faston Terminals (Up to 50 Amp Models)



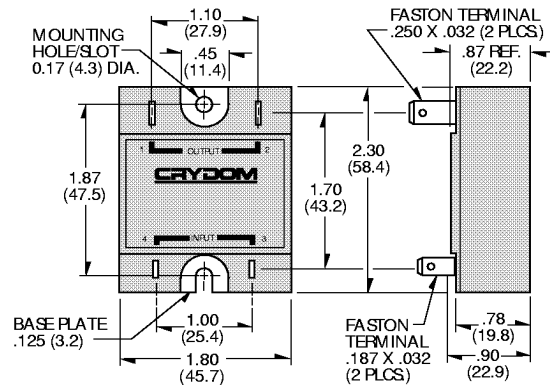
### Screw Torque Requirements:

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 E116950  
CSA LR81689  
VDE 10143 UG



FastFax Document No.159  
SERIES HA/HD60.032698, PAGE 2 OF 3

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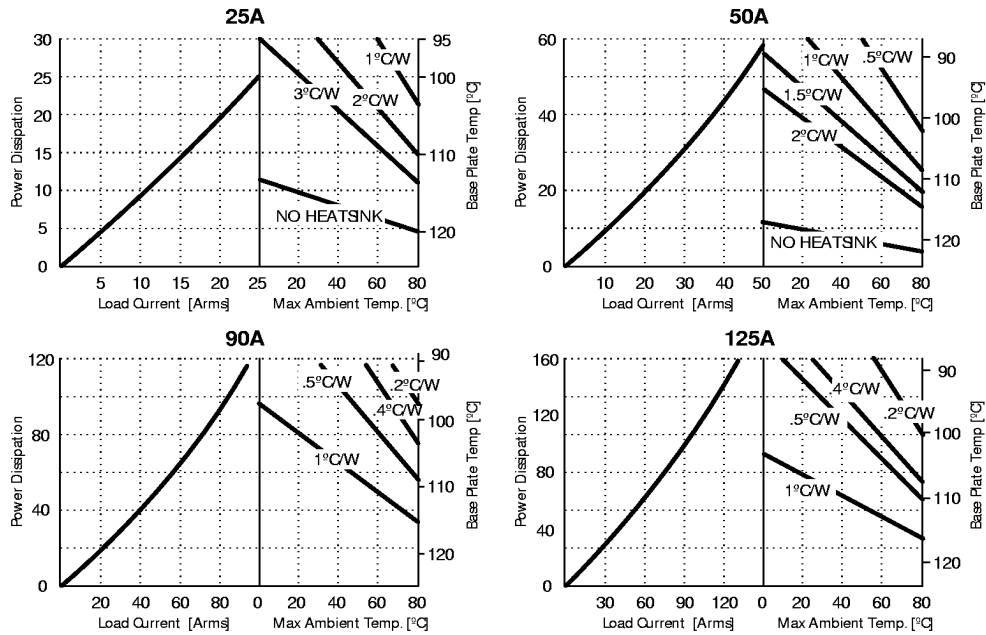
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## CURRENT DERATING CURVES



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FastFax Document No.159  
SERIES HA/HD60.032698, PAGE 3 OF 3

