

## Solid State Relays - Panel Mount: CMD/CMA



### Features

SCR output • 25-125Amp •  
240/480/660 Vrms • AC switching •  
LED status indicator • Finger proof  
design • Standard Box clamp  
connections.

Product	INPUT SPECIFICATIONS	OUTPUT SPECIFICATIONS			
	Control Voltage Range	Load Current	Switching Voltage Type	Turn On	Load Voltage Range
<b>CMD24110</b>	3-32 Volts DC	0.25-110 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMD24110-10</b>	3-32 Volts DC	0.25-110 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMD24125</b>	3-32 Volts DC	0.25-125 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMD24125-10</b>	3-32 Volts DC	0.25-125 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMD2425</b>	3-32 Volts DC	0.15-25 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMD2425-10</b>	3-32 Volts DC	0.15-25 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMD2450</b>	3-32 Volts DC	0.15-50 Amps RMS	AC	Zero cross	24-280 Volts RMS

<b>CMD60110-10</b>	4-32 Volts DC	0.25-110 Amps RMS	AC	Random	48-660 Volts RMS
<b>CMD60125</b>	4-32 Volts DC	0.25-125 Amps RMS	AC	Zero cross	48-660 Volts RMS
<b>CMD60125-10</b>	4-32 Volts DC	0.25-125 Amps RMS	AC	Random	48-660 Volts RMS
<b>CMD6025</b>	4-32 Volts DC	0.15-25 Amps RMS	AC	Zero cross	48-660 Volts RMS
<b>CMD6025-10</b>	4-32 Volts DC	0.15-25 Amps RMS	AC	Random	48-660 Volts RMS
<b>CMD6050</b>	4-32 Volts DC	0.15-50 Amps RMS	AC	Zero cross	48-660 Volts RMS
<b>CMD6050-10</b>	4-32 Volts DC	0.15-50 Amps RMS	AC	Random	48-660 Volts RMS
<b>CMD6075</b>	4-32 Volts DC	0.25-75 Amps RMS	AC	Zero cross	48-660 Volts RMS
<b>CMD6075-10</b>	4-32 Volts DC	0.25-75 Amps RMS	AC	Random	48-660 Volts RMS
<b>CMD6090</b>	4-32 Volts DC	0.25-90 Amps RMS	AC	Zero cross	48-660 Volts RMS
<b>CMD6090-10</b>	4-32 Volts DC	0.25-90 Amps RMS	AC	Random	48-660 Volts RMS
<b>CMA24110</b>	90-140 Volts RMS	0.25-110 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMA24110-10</b>	90-140 Volts RMS	0.25-110 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMA24110E</b>	18-36 Volts RMS	0.25-110 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMA24110E-10</b>	18-36 Volts RMS	0.25-110 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMA24125</b>	90-140 Volts RMS	0.25-125 Amps RMS	AC	Zero cross	24-280 Volts RMS
<b>CMA24125-10</b>	90-140 Volts RMS	0.25-125 Amps RMS	AC	Random	24-280 Volts RMS
<b>CMA24125E</b>	18-36 Volts RMS	0.25-125 Amps RMS	AC	Zero cross	24-280 Volts RMS

<b>CMA48110-10</b>	90-140 Volts RMS	0.25-110 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMA48110E</b>	18-36 Volts RMS	0.25-110 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMA48110E-10</b>	18-36 Volts RMS	0.25-110 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMA48125</b>	90-140 Volts RMS	0.25-125 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMA48125-10</b>	90-140 Volts RMS	0.25-125 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMA48125E</b>	18-36 Volts RMS	0.25-125 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMA48125E-10</b>	18-36 Volts RMS	0.25-125 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMA4825</b>	90-140 Volts RMS	0.15-25 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMA4825-10</b>	90-140 Volts RMS	0.15-25 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMA4825E</b>	18-36 Volts RMS	0.15-25 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMA4825E-10</b>	18-36 Volts RMS	0.15-25 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMA4850</b>	90-140 Volts RMS	0.15-50 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMA4850-10</b>	90-140 Volts RMS	0.15-50 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMA4850E</b>	18-36 Volts RMS	0.15-50 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMA4850E-10</b>	18-36 Volts RMS	0.15-50 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMA4875</b>	90-140 Volts RMS	0.25-75 Amps RMS	AC	Zero cross	48-530 Volts RMS
<b>CMA4875-10</b>	90-140 Volts RMS	0.25-75 Amps RMS	AC	Random	48-530 Volts RMS
<b>CMA4875E</b>	18-36 Volts RMS	0.25-75 Amps RMS	AC	Zero cross	48-530 Volts RMS

- **Zero Voltage and Random Turn-On Switching**
- **Panel Mount**
- **Status Indicating LED**
- **DC or AC Control**
- **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 or random turn-on versions. Manufactured in Crydom's ISO 9001 Certified facility for optimum product performance and reliability.

MODEL NUMBERS	CMD2425 CMA2425	CMD2450 CMA2450	CMD2475 CMA2475	CMD2490 CMA2490	CMD24110 CMA24110	CMD24125 CMA24125
<b>OUTPUT SPECIFICATIONS</b> ①						
Operating Voltage (47-63 Hz) [Vrms]	24-280	24-280	24-280	24-280	24-280	24-280
Max. Load Current <sup>③</sup> [Arms]	25	50	75	90	110	125
Min. Load Current, [Arms]	0.15	0.15	0.25	0.25	0.25	0.25
Transient Overvoltage [Vpk]	600	600	600	600	600	600
Max. Surge Current, (16.6ms) [Apk]	250	625	1000	1200	1500	1750
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> ) [°C/W]	1.02	0.63	0.31	0.28	0.25	0.22
Maximum I <sup>2</sup> t for Fusing, (8.3 msec.) [A <sup>2</sup> sec]	260	1620	4150	6000	9340	12700
Max. Off-State Leakage Current @ Rated Voltage [mArms]	10	10	10	10	10	10
Min. Off-State dv/dt @ Max. Rated Voltage [V/μsec] ②	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

<b>INPUT SPECIFICATIONS</b> ①	<b>DC CONTROL</b>	<b>AC CONTROL</b>
Control Voltage Range	3-32 Vdc	90-140 Vrms
Max. Reverse Voltage	32 Vdc	—
Max. Turn-On Voltage	3.0 Vdc	90 Vrms
Min. Turn-Off Voltage	1.0 Vdc	10 Vrms
Max. Input Current	30.0mA ⑤	—
Typical Input Current	17mA @ 5 Vdc	15mA @ 120 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 Turn-on time for DC control random turn-on versions is 0.02msec.  
 ⑤ Input circuitry incorporates active current limiter.

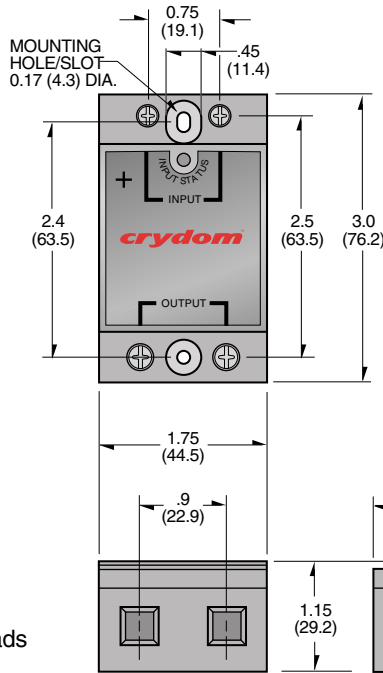
## GENERAL SPECIFICATIONS

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
Status Indicating Display	Green LED

## MECHANICAL SPECIFICATIONS

Weight: (typical)	3.0 oz. (86.5g)
Encapsulation:	Thermally Conductive Epoxy
Terminals:	Cage Type
Maximum Wire Size- Output: AWG 8 (3.8mm) Input: AWG12 (2.5mm)	
Recommended Terminal Screw Torque Range:	
	Output: 10-15 in lb (1.1-1.7 Nm)
	Input: 5-6 in lb (0.6-0.7 Nm)

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## MECHANICAL SPECIFICATIONS

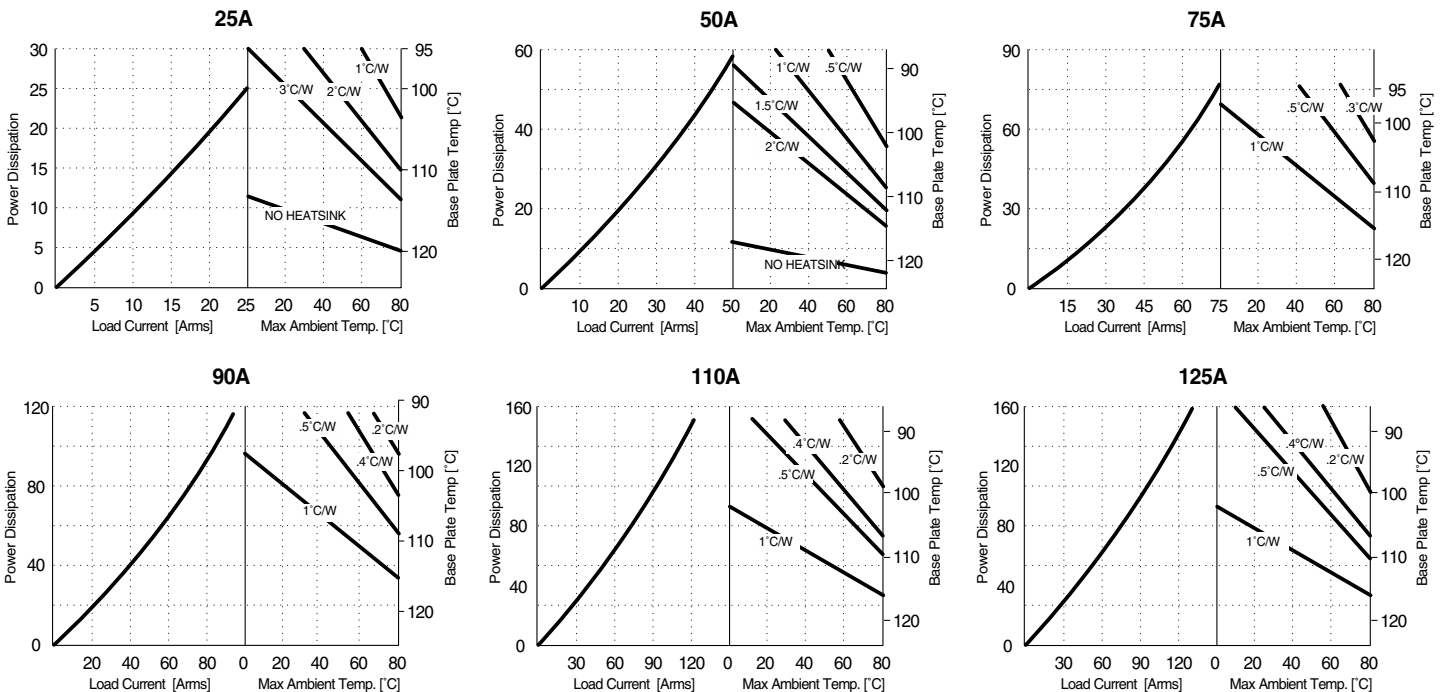
All dimensions are in inches (millimeters)

**CMRD24/CMRA24** available with factory mounted heat sink and DIN rail mounting clip. Specifications available via FastFax, request document No. 171.

## AVAILABLE OPTIONS

- 10** Random Turn-On, Phase Controllable  
Example: **CMD2450-10**
- E** 24 Vac Input (18-36 Vac)  
Example: **CMA2450E**
- P** Internal Overvoltage Protection  
Relay Will Self Trigger Between 450-600 Vpk. Not Suitable For Capacitive Loads  
Example: **CMD2450P**

## CURRENT DERATING CURVES



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## APPROVALS

UL E116949, E116950  
 CSA LR81689  
 VDE 126921 UG (up to 90A models only)



- **Zero Voltage and Random Turn-On Switching**
- **Panel Mount**
- **Status Indicating LED**
- **DC or AC Control**
- **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 or random turn-on versions.

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

MODEL NUMBERS	CMD4825 CMA4825	CMD4850 CMA4850	CMD4875 CMA4875	CMD4890 CMA4890	CMD48110 CMA48110	CMD48125 CMA48125
<b>OUTPUT SPECIFICATIONS ①</b>						
Operating Voltage (47-63 Hz) [Vrms]	48-530	48-530	48-530	48-530	48-530	48-530
Max. Load Current ③ [Arms]	25	50	75	90	110	125
Min. Load Current, [Arms]	0.15	0.15	0.25	0.25	0.25	0.25
Transient Overvoltage [Vpk]	1200	1200	1200	1200	1200	1200
Max. Surge Current, (16.6ms) [Apk]	250	625	1000	1200	1500	1750
Max. On-State Voltage Drop @ Rated Current [Vpk]	1.7	1.7	1.7	1.7	1.7	1.7
Thermal Resistance Junction to Case (R <sub>θJC</sub> ) [° C/W]	1.02	0.63	0.31	0.28	0.25	0.22
Maximum I <sup>2</sup> t for Fusing, (8.3 msec.) [A <sup>2</sup> sec]	260	1620	4150	6000	9340	12700
Max. Off-State Leakage Current @ Rated Voltage [mArms]	10	10	10	10	10	10
Min. Off-State dv/dt @ Max. Rated Voltage [V/μsec] ②	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

<b>INPUT SPECIFICATIONS ①</b>	<b>DC CONTROL</b>	<b>AC CONTROL</b>
Control Voltage Range	4-32 Vdc	90-140 Vrms
Max. Reverse Voltage	32 Vdc	—
Max. Turn-On Voltage	4.0 Vdc	90 Vrms
Min. Turn-Off Voltage	1.0 Vdc	10 Vrms
Max. Input Current	30.0mA ⑤	—
Typical Input Current	14mA @ 5 Vdc	15mA @ 120 Vrms

## 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
Status Indicating Display	Green LED

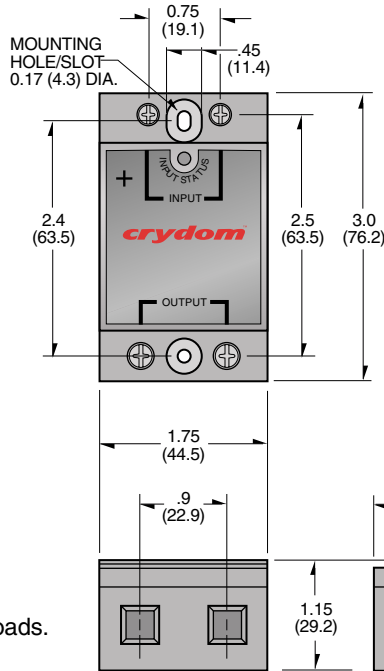
## MECHANICAL SPECIFICATIONS

Weight: (typical)	3.0 oz. (86.5g)
Encapsulation:	Thermally Conductive Epoxy
Terminals:	Cage Type
Maximum Wire Size- Output: AWG 8 (3.8mm) Input: AWG12 (2.5mm)	
Recommended Terminal Screw Torque Range:	Output: 10-15 in lb (1.1-1.7 Nm) Input: 5-6 in lb (0.6-0.7 Nm)

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## 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 Turn-on time for DC control random turn-on versions is 0.02msec.
- ⑤ Input circuitry incorporates active current limiter.



## MECHANICAL SPECIFICATIONS

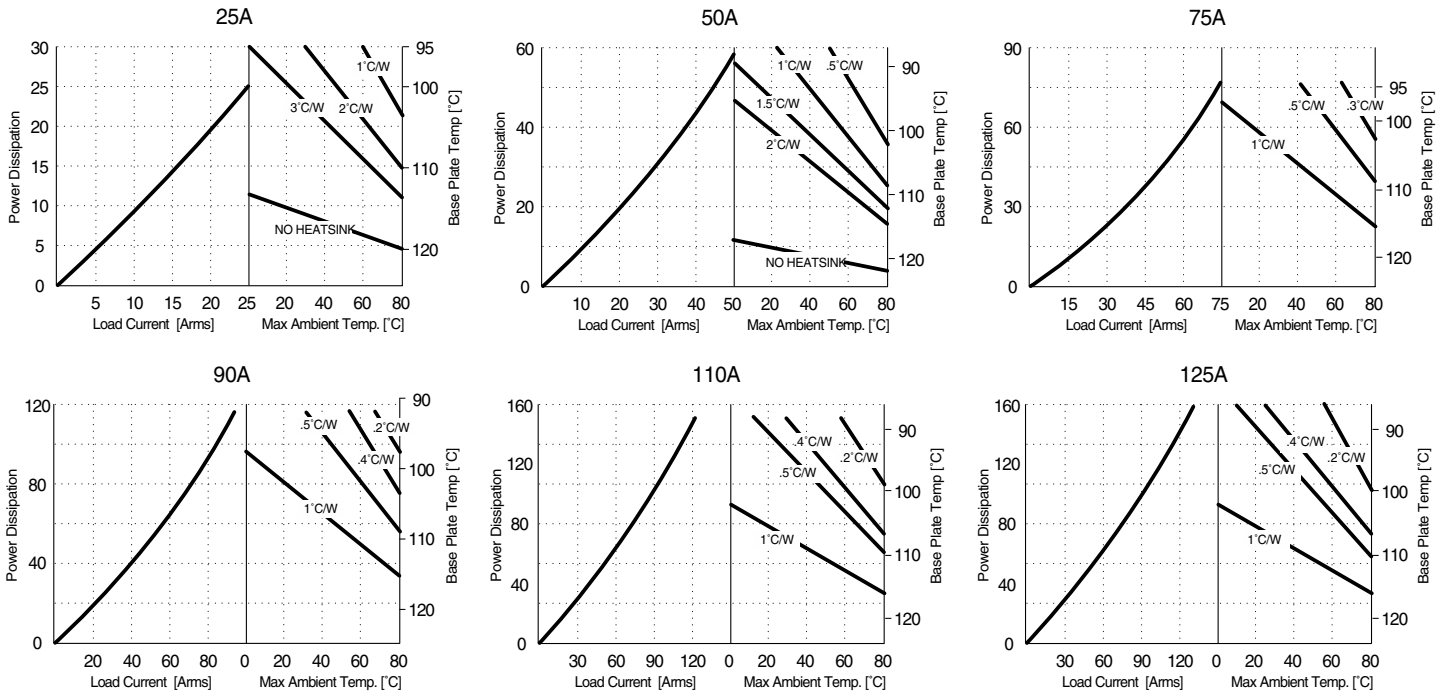
All dimensions are in inches (millimeters)

**CMRD48/CMRA48** available with factory mounted heat sink and DIN rail mounting clip. Specifications available via FastFax, request document No. 171.

## AVAILABLE OPTIONS

- 10** Random Turn-On, Phase Controllable  
Example: **CMD4850-10**
- E** 24 Vac Input (18-36 Vac)  
Example: **CMA4850E**
- P** Internal Overvoltage Protection.  
Relay Will Self Trigger Between 900-1200Vpk. Not suitable For Capacitive Loads.  
Example: **CMD4850P**

## CURRENT DERATING CURVES



## APPROVALS

UL E116949, E116950  
CSA LR81689  
VDE 126921 UG (up to 90A models only)



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- **Zero Voltage and Random Turn-On Switching**
- **Panel Mount**
- **Status Indicating LED**
- **DC or AC Control**
- **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 or random turn-on versions.

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

MODEL NUMBERS	CMD6025	CMD6050	CMD6075	CMD6090	CMD60110	CMD60125
OUTPUT SPECIFICATIONS ①	CMA6025	CMA6050	CMA6075	CMA6090	CMA60110	CMA60125
Nominal Line Voltage ( ±10%) [Vrms]	600	600	600	600	600	600
Operating Voltage (47-63 Hz) [Vrms]	48-660	48-660	48-660	48-660	48-660	48-660
Max. Load Current ③ [Arms]	25	50	75	90	110	125
Min. Load Current, [Arms]	0.15	0.15	0.25	0.25	0.25	0.25
Transient Overvoltage [Vpk]	1200	1200	1200	1200	1200	1200
Max. Surge Current, (16.6ms) [Apk]	250	625	1000	1200	1500	1750
Max. On-State Voltage Drop @ Rated Current [Vpk]	1.7	1.7	1.7	1.7	1.7	1.7
Thermal Resistance Junction to Case (R <sub>θJC</sub> ) [°C/W]	1.02	0.63	0.31	0.28	0.25	0.22
Maximum I <sup>2</sup> t for Fusing, (8.3 msec.) [A <sup>2</sup> sec]	260	1620	4150	6000	9340	12700
Max. Off-State Leakage Current @ Rated Voltage [mArms]	1.0	1.0	1.0	1.0	1.0	1.0
Min. Off-State dv/dt @ Max. Rated Voltage [V/μsec] ②	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

INPUT SPECIFICATIONS ①	DC CONTROL	AC CONTROL
Control Voltage Range	4-32 Vdc	90-140 Vrms
Max. Reverse Voltage	32 Vdc	—
Max. Turn-On Voltage	4.0 Vdc	90 Vrms
Min. Turn-Off Voltage	1.0 Vdc	10 Vrms
Max. Input Current	30.0mA ⑤	—
Typical Input Current	14mA @ 5 Vdc	15mA @ 120 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 Turn-on time for DC control random turn-on versions is 0.02msec.
- ⑤ Input circuitry incorporates active current limiter.

### GENERAL SPECIFICATIONS

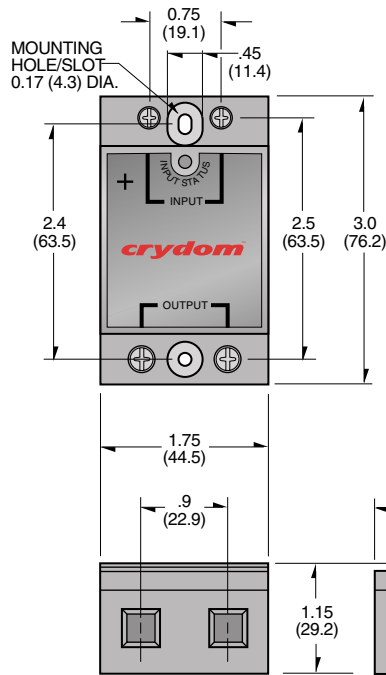
Dielectric Strength 50/60Hz Input/Output/Base	4000 Vrms
Insulation Resistance (Min.) @ 500 Vdc	10 <sup>9</sup> Ohm
Max. Capacitance Input/Output	8 pF
Ambient Operating Temperature Range	-40 to 80°C
Ambient Storage Temperature Range	-40 to 125°C
Status Indicating Display	Green LED

### MECHANICAL SPECIFICATIONS

Weight: (typical)	3.0 oz. (86.5g)
Encapsulation:	Thermally Conductive Epoxy
Terminals:	Cage Type
Maximum Wire Size- Output: AWG 8 (3.8mm) Input: Awg12 (2.5mm)	
Recommended Terminal Screw Torque Range:	
	Output: 10-15 in lb (1.1-1.7 Nm)
	Input: 5-6 in lb (0.6-0.7 Nm)

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## MECHANICAL DIMENSIONS

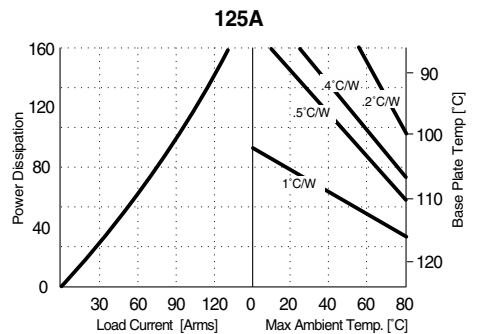
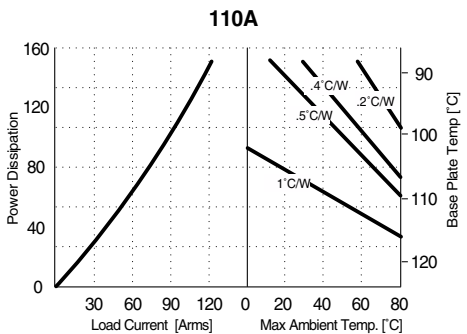
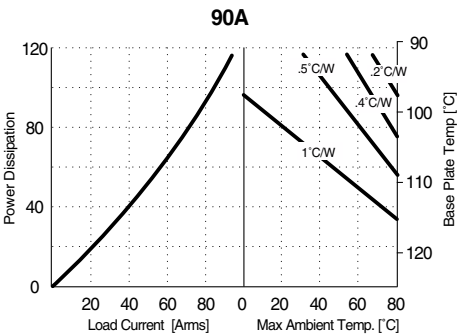
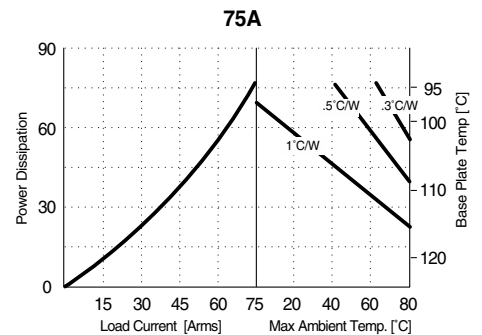
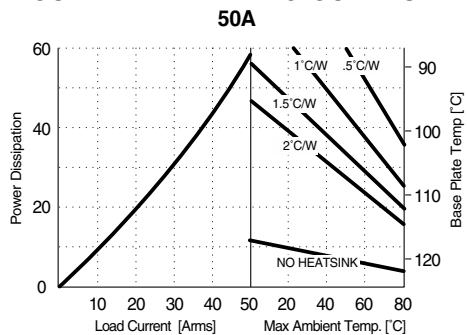
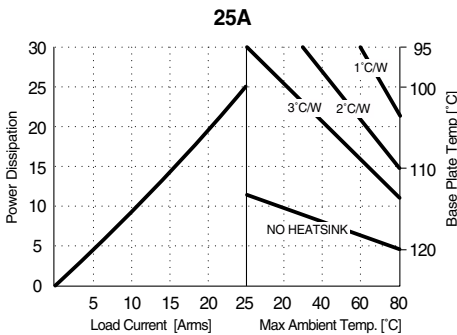
All dimensions are in inches (millimeters)

**CMRD60/CMRA60** available with factory mounted heat sink and DIN rail mounting clip. Specifications available via FastFax, request document No. 171.

## AVAILABLE OPTIONS

- 10** Random Turn-On, Phase Controllable  
Example: **CMD6050-10**
- E** 24 Vac Input (18-36 Vac)  
Example: **CMA6050E**
- P** Internal Overvoltage Protection. Relay Will Self Trigger Between 900-1200Vpk. Not Suitable For Capacitive Loads.  
Example: **CMD6050P**

## CURRENT DERATING CURVES



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