

CATALOG
2008 - 2009

Power Modules

Solid State Relays

Discrete Semiconductors



C3 SEMICONDUCTORS LLC



Power Control Solutions

semi



INDEX

Introduction 1

Discrete Semiconductors

Discrete Triacs 2

Discrete High Temp Triacs 3

Discrete Rectifier and SCR 4

Discrete Triac and SCR TO-218 5

Solid State Relays

Hockey Puck AC/DC Relay 6

Three phasek Relay 7

HD, D1D Relay 8

Dual Relay 9

SMT AC/DC Relay 10

Triac and IGBT Modules

CMV Triac Module..... 11

CG IGBT Module..... 11

AC Switch

CAC AC Switch TO-227 12

Power Modules

CBS Single line Diode SMT bridge ... 12

CS, CMD, SCR, Diode Bridges ... 13

CSK Thyristor, Diode Modules ... 14

CSD, MT, 3phase Diode bridges ... 15

CLD, CES, 3phase Diode bridges ... 16

semi

C3 SEMICONDUCTORS LLC
Power Control Solutions

About C3 Semiconductors

C3 Semiconductors is one of the leading suppliers/manufacturers of high power semiconductors. Corporate offices are located in San Diego, CA with manufacturing located in Tijuana, Mexico. We specialize in custom, high current and High Temperature triacs, SCRs and Rectifiers. We also have Solid State relays as well as Thyristor and Diode modules to complement our discrete semiconductor lines.

With many years of experience in manufacturing and design, excellent customer support and shorter leadtimes, C3 semiconductors has become one of the preferred suppliers of choice. C3 Semiconductors is compromised with our customers by shortening lead times and making customer support one of its top priorities as well as delivering high quality, on-time product.



TO - 220

CTA / CTB

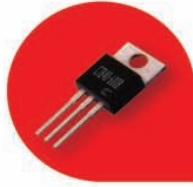
6-8-12-16-24-30-35-40 Amp - 400/600/800/1000V TRIAC

DESCRIPTION

- Suitable for General Purpose AC Switching
- Alternistor / No Snubber Versions for Inductive Loads
- Logic Level Available for use with Microcontrollers and Low Level Devices
- IGT Range 5-50 mA (Q1).
- V_{DRM} / V_{RMM} 400, 600, 800, 1000V
- 3 and 4 Quadrant commutating triacs available.
- Available in Dpack and D2pack package.

APPLICATIONS

- Phase Control
- Static Switching
- Light Dimming
- Kitchen Equipment
- Power Tools
- Solenoid Valve Controls : Dishwashers; Washing Machines
- Motor Speed Control



ABSOLUTE MAXIMUM RATINGS

	CONDITIONS	SYMBOL	RATINGS				
RMS On-State Current (full sine wave)	$T_c = 105^\circ\text{C}$ $T_c = 90^\circ\text{C}$	TO-220AB TO-220AB Iso $I_{T(RMS)}$	12A	16A	24A	35A 30A	40A
Non Repetitive Surge Peak On-State Current (Full Cycle, T_J Initial = 25°C)	F = 50 Hz F = 60 Hz	I_{TSM}	120A 126A	160A 168A	250A 260A	380A 400A	380A 400A
I^2t Value for fusing	$t_p = 10$ ms	I^2t	78A ² s	144A ² s	340A ² s	660A ² s	660A ² s
Critical rate of rise of on-state current $dI/dt = 2 \times I_{GT}$, $t_r < 100$ ns, $T_J = 125^\circ\text{C}$		dI/dt	100A/ μ s				
Peak Gate Current @ $T_J = 125^\circ\text{C}$	$t_p = 20$ μ s	I_{GM}	4A				
Average Gate Power Dissipation @ $T_J = 125^\circ\text{C}$		$P_{G(AV)}$	1W				
Storage Temperature Range		T_{stg}	-40 to +150°C				
Operating Junction Temperature Range		T_J	-40 to +125°C				
Isolation Voltage (CTA Series only)		V_{ISO}	2500 V_{RMS}				

SERIES
CT B 12 - 800 CW PT

Rated Current
12: 12 Amp

Isolation Type
A: Isolated
B: Non-Isolated

Maximum Blocking Voltage
400: 400Vpk
600: 600Vpk
800: 800Vpk
1000: 1000Vpk

Type
B: Standard ($I_{GT} = 50$ mA)
BW: Alternistor/No Snubber ($I_{GT} = 50$ mA)
C: Standar ($I_{GT} = 35$ mA)
CW: Alternistor/No Snubber ($I_{GT} = 35$ mA)
SW: Logic Level ($I_{GT} = 10$ mA)
TW: Logic Level ($I_{GT} = 5$ mA)

Packaging
Blank: Bulk
PT: Plastic Tube
D: Dpack
D: D2pack

Dpack and D2pack Available

TO-220AB Isolated (CTA)

TO - 220AB Non-Isolated (CTB)

For recommended applications and more information contact :

USA : Sales Support (800) 944-1718 WEB SITE: <http://www.C3semi.com>
Email: sales@c3semi.com

TO 220
Power Control Solutions

CHTA / CHTB

HIGH TEMPERATURE - 150* Series

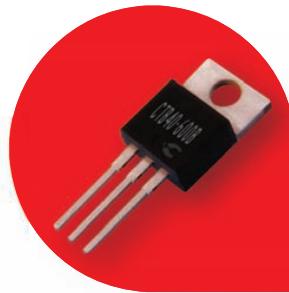
12 - 16 - 24 - 30 - 35 amp - 400/600/800V TRIAC

DESCRIPTION

- Superior Commuting Performance at High Temp
(di/dt)_c = 25A/ms @ (dv/dt)_c = 50V/μs
- Ideal for Most Demanding Applications
- Alternistor/NO Snubber Type
- IGT 50 mA Max
- V_{DRM} / V_{RMM} 400, 600, 800V

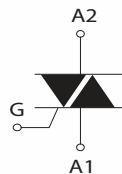
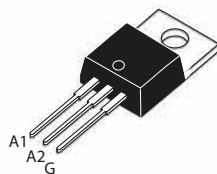
APPLICATIONS

- Heat Regulation
- Ovens, Coffe Makers, Cookers
- Light Dimming
- Motor
- Control of Inductive Loads
- Transformers



ELECTRICAL CHARACTERISTICS

		12A	16A	24A	30A	35A
I _{GT} MAX @ V _D =12 V, R _L = 30	NOTE 1					
V _{GT} MAX @ V _D =12 V, R _L = 30		QI-II-III	35mA		50mA	
V _{GD} MIN @ V _D =V _{DRM} , R _L = 3.3k	T _j = 150°C	QI-II-III	1.3V			
I _H MAX @ I _T = 500 mA	NOTE 2			35mA	75mA	75mA
I _L MAX @ I _G = 1.2 I _{GT}		QI-III	50mA		90mA	75mA
I _L MAX @ I _G = 1.2 I _{GT}		Q-II	80mA		90mA	100mA
dv/dt MIN @ V _D = 67%V _{DRM} (gate open)	NOTE 2	T _j = 150°C	300V/μsec	500V/μsec		
(di/dt) _c MIN without snubber	NOTES 2 & 4	T _j = 150°C	12A/msec	14A/msec	25A/msec	



Rated Current
12: 12 Amp

Packaging
Blank: Bulk
PT: Plastic Tube

SERIES
CHT B 12 - 800 PT

Isolation Type
A: Isolated
B: Non-Isolated

Maximum
Blocking Voltage
400: 400Vpk
600: 600Vpk
800: 800Vpk



TO - 220

CRNA / CRNB

15-20-25 amp - 400/600/800/1000V RECTIFIER

DESCRIPTION

- Suitable for General Purpose Applications
- Isolated and Non-Isolated Tab
- V_{DRM} / V_{RMM} 400, 600, 800, 1000V

APPLICATIONS

- Input Rectification
- Low Frequency Freewheel
- Battery Isolation

ABSOLUTE MAXIMUM RATINGS

	CONDITIONS	SYMBOL	RATING		
RMS On-State Current (full sine wave)	$T_c = 100^\circ\text{C}$ $T_c = 90^\circ\text{C}$	TO-220AB TO-220AB Iso	I_{FRMS}	15A	20A 25A
Average On-State Current	$T_c = 100^\circ\text{C}$ $T_c = 90^\circ\text{C}$	TO-220AB TO-220AB Iso	I_{FAV}	9.5A	12.7A 15.9A
Non Repetitive Surge Peak On-State Current (Full Cycle, T_j Initial = 25°C)	F = 50 Hz F = 60 Hz		I_{FSM}	188A 225A	255A 300A 300A 350A
I^2t Value for fusing	$t_p = 10\text{ ms}$		I^2t	210A ² s	374A ² s 508A ² s
Storage Temperature Range			T_{stg}	-40 to +150°C	
Operating Junction Temperature Range			T_j	-40 to +125°C	
Isolation Voltage (CRNA Series only)			V_{iso}	2500 V_{MS}	

SERIES
CRN **B** **15** - **800** **L3** **PT**

Rated Current: 15: 15 Amp
Type: Blank: 2 Pin
L3: 3 Pin

Isolation Type
A: Isolated
B: Non-Isolated

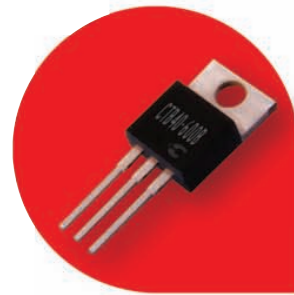
Maximum Blocking Voltage
400: 400Vpk
600: 600Vpk
800: 800Vpk
1000: 1000Vpk

Packaging
Blank: Bulk
PT: Plastic Tube

2 Pin Package (Standard)

3 Pin Package (Suffix L3)

Dpack and D2pack Available



CYNA / CYNB

16-25-40-55 amp - 400/600/800/1000V SCR

DESCRIPTION

- Suitable for General Purpose AC Switching
- IGT 25 mA Max
- V_{DRM} / V_{RMM} 400, 600, 800, 1000V

APPLICATIONS

- Motor Control
- Overvoltage Crowbar Protection
- Capacitive Discharge Ignition
- Voltage Regulation
- Welding Equipment
- Capacitive Filter Soft Start (Inrush Current Control)

ABSOLUTE MAXIMUM RATINGS

	CONDITIONS	SYMBOL	RATING		
RMS On-State Current (full sine wave)	$T_c = 110^\circ\text{C}$ $T_c = 95^\circ\text{C}$	TO-220AB TO-220AB Iso	$I_T(RMS)$	16A	25A 40A 55A
Average On-State Current	$T_c = 110^\circ\text{C}$ $T_c = 95^\circ\text{C}$	TO-220AB TO-220AB Iso	$I_T(AV)$	10A	16A 25A 35A
Non Repetitive Surge Peak On-State Current (Full Cycle, T_j Initial = 25°C)	F = 50 Hz F = 60 Hz		I_{TSM}	190A 200A	250A 350A 530A 550A 675A 700A
I^2t Value for fusing	$t_p = 10\text{ ms}$		I^2t	180A ² s	510 1260 2030
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT} < 100\text{ ns}$, $J = 125^\circ\text{C}$)			di/dt	100A/ μs	
Peak Gate Current @ $J = 125^\circ\text{C}$	$t_p = 20\text{ }\mu\text{s}$		I_{GM}	4A	
Average Gate Power Dissipation @ $T_j = 125^\circ\text{C}$			PG(AV)	1W	
Storage Temperature Range			T_{stg}	-40 to +150°C	
Operating Junction Temperature Range			T_j	-40 to +125°C	
Isolation Voltage (CYNA Series only)			V_{iso}	2500 V_{MS}	
Maximum Peak Reverse Gate Voltage			V_{RGM}	5V	

SERIES
CYN **B** **16** - **800** **PT**

Rated Current: 16: 16 Amp
Packaging: Blank: Bulk
PT: Plastic Tube

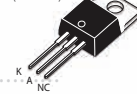
Isolation Type
A: Isolated
B: Non-Isolated

Maximum Blocking Voltage
400: 400Vpk
600: 600Vpk
800: 800Vpk
1000: 1000Vpk

TO-220AB Isolated (CYNA25)



TO-220AB Non Isolated (CYNB25)



Dpack and D2pack Available

For recommended applications and more information contact:

USA: Sales Support (888) 882-8689 WEB SITE: <http://www.C3semi.com>
Email: sales@c3semi.com

TO 218

Power Control Solutions

CYNA/CYNB TO-218

50-70amp - 800/1000/1200/1400/1600V SCR

DESCRIPTION

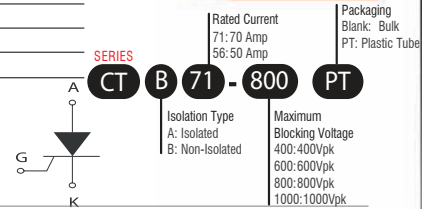
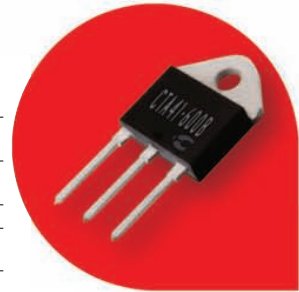
- Suitable for General Purpose AC Switching
- IGT 60 mA Max
- V_{DRM} / V_{RMM} 800, 1000, 1200, 1400, 1600V

APPLICATIONS

- Phase Control
- Static Switching
- Light Dimming
- Motor Speed Control
- Kitchen Equipment
- Power Tools
- Solenoid Valve Controls : Dishwashers; Washing Machines

ABSOLUTE MAXIMUM RATINGS

	CONDITIONS	SYMBOL	RATING	
RMS On-State Current (full sine wave)	^{NOTE 1} $T_c = 80^\circ\text{C}$	TO-218 $I_{T(RMS)}$	50A	70A
Average On-State Current	$T_c = 80^\circ\text{C}$	TO-218 $I_{T(AV)}$	50A	
Non Repetitive Surge Peak On-State Current (Full Cycle, T_J Initial = 25°C)	F = 50 Hz	I_{TSM}	500A	675A
	F = 60 Hz		525A	700A
I^2t Value for fusing	$t_p = 10$ ms	I^2t	1250A ² s	4067A ² s
Critical rate of rise of on-state current $I_G = 2 \times I_{GT}$, $t_r < 100$ ns, $T_J = 125^\circ\text{C}$		di/dt	100A/ μ s	
Peak Gate Current @ $T_J = 125^\circ\text{C}$	$t_p = 20$ μ s	I_{GM}	4A	
Average Gate Power Dissipation @ $T_J = 125^\circ\text{C}$		$P_{G(AV)}$	1W	
Storage Temperature Range		T_{stg}	-40 to +150°C	
Operating Junction Temperature Range		T_J	-40 to +125°C	
Maximum Peak Reverse Gate Voltage		V_{RGM}	5V	



CTA / CTB TO-218

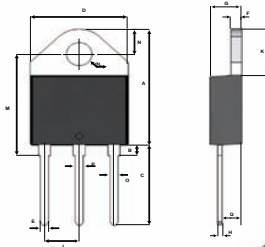
25-40amp - 400/600/800V TRIAC

DESCRIPTION

- Suitable for General Purpose AC Switching
- 400A Surge
- V_{DRM} / V_{RMM} 400, 600, 800V
- IGT 50 mA

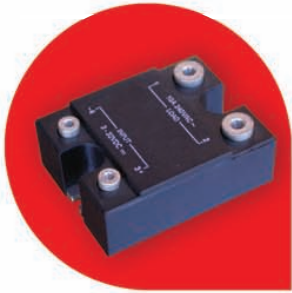
ABSOLUTE MAXIMUM RATINGS

	CONDITIONS	SYMBOL	RATING	
RMS On-State Current (full sine wave)	$T_c = 90$ and 80°	TO-218	$I_{T(RMS)}$	25A
	$T_c = 75$ and 95°	TO-218 Iso		40A
Non Repetitive Surge Peak On-State Current (Full Cycle, T_J Initial = 25°C)	F = 50 Hz	I_{TSM}	250A	400A
	F = 60 Hz		260A	420A
I^2t Value for fusing	$t_p = 10$ ms	I^2t	340A ² s	880A ² s
Critical rate of rise of on-state current $I_G = 2 \times I_{GT}$, $t_r < 100$ ns, $T_J = 125^\circ\text{C}$		di/dt	100A/ μ s	
Peak Gate Current @ $T_J = 125^\circ\text{C}$	$t_p = 20$ μ s	I_{GM}	4A	
Average Gate Power Dissipation @ $T_J = 125^\circ\text{C}$		$P_{G(AV)}$	1W	
Storage Temperature Range		T_{stg}	-40 to +150°C	
Operating Junction Temperature Range		T_J	-40 to +125°C	
Isolation Voltage (CTA Series only)		V_{ISO}	2500 V_{RMS}	





SOLID STATE RELAYS



D24 - C3 Series SOLID STATE RELAY

DESCRIPTION

The D24-C3 series offer 3-32VDC, 24VAC or 110-220VAC control voltages and outputs rated from 10A up to 40A. This series of relays come with built-in internal snubbers and they provide 4000 volts of opto-isolation input-output. They are packaged in industry standard "hockey puck" style.

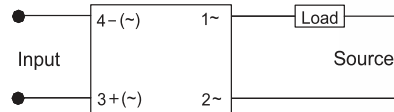
FEATURES

- Photo Isolation
- 4000V Dielectric Strength
- Removable finger proof cover available
- TRIAC AC output
- Panel mount
- DC or AC control
- RoHS compliant

INPUT (TA = 25°C)

Control voltage range (DC input)	3 to 32VDC (Without LED) 4 to 32VDC (With LED)
Control voltage range (AC input)	85 to 132VAC (110V input) 175 to 264VAC (220V input) 19.2 to 28.8VAC (24V input)
Must operate voltage (DC input)	Max. 3VDC (Without LED) Max. 4VDC (With LED)
Must operate voltage (AC input)	85VAC (110V input) 175VAC (220V input) 19.2VAC (24V input)
Must release voltage (DC input)	1.0VDC
Must release voltage (AC input)	10VAC (110V, 220V input) 2VAC (24V input)
Max. input current	25mA (DC input) 15mA (AC input)
Max. reverse protection voltage (DC input)	-32VDC

WIRING DIAGRAM



ORDER INFORMATION

Type	Panel Mount	D	24	25	E	-10	-C3
Input voltage	D: 3-32 VDC A: 90-280VAC						
Load voltage	24: 48-240VAC 48: 48-440VAC						
Load current	10: 10A 15: 15A 20: 20A 25: 25A 40: 40A						
Input voltage	E: 24VAC; AC Input Models						
Zero cross function	Nil: Zero cross Turn-on -10: Random turn-on						

For recommended applications and more information contact :
 USA : Sales Support (888)882-8689 WEB SITE: <http://www.C3semi.com>
 Email : sales@c3semi.com



D53 - C3

THREE PHASE SOLID STATE RELAY

DESCRIPTION

The D53-C3 relay is a three phase (3PST-NO). It has a 4-32VDC input control voltage with outputs rated from 10A - 60A. The 53D-C3 relays include LED status indicator. All models include an internal snubber and also provide 4000V of isolation between input-output-base. Encapsulation is thermally conductive epoxy.

FEATURES

- Photo Isolation
- LED Status Indicator
- 400V Dielectric Streght
- Built-in snubber
- Zero Cross or Random turn-on
- Removable finger proof cover
- Panel mount
- RoHS compliant

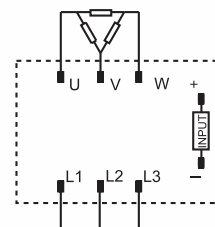
OUTPUT

Load voltage range	48-530VAC
Load current range	D53TP10D: 10A
	D53TP15D: 15A
	D53TP25D: 25A
	D53TP40D: 40A
	D53TP50D: 50A
Max. transient overvoltage	1200 Vpk
	D53TP10D: 100Apk D53TP15D: 150Apk D53TP25D: 250Apk D53TP40D: 400Apk D53TP50D: 500Apk D53TP60D: 600Apk
Max. surge current (10ms)	1.5Vrms
Max. on-state voltage drop	100mA
Min. load current	10mA
Max. leakage current	200V/μs
Min. off-state dv/dt	1/2cycle + 1ms
Max. turn-on time	1/2cycle + 1ms
Max. turn-off time	0.5
Min. power factor	

INPUT

Control voltage range	4 to 32VDC
Must operate voltage	4VDC
Must release voltage	1VDC
Max. input current	35mA
Max. reverse protection voltage	-32VDC

WIRING DIAGRAM





SOLID STATE RELAYS

D1D Series DC SOLID STATE RELAY

DESCRIPTION

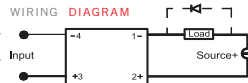
The D1D Series relay come with 3-32 VDC control voltage and output ranging from 20-500VDC. Current ranging from 7-100ADC. These relays incorporate MOSFET technology to provide a reliable and low power dissipation switching medium of high power DC loads. These relays can also be easily parallel to achieve control of even higher current loads.

FEATURES

- MOFSET output
- DC control
- Low on State resistance
- Photo Isolation
- RoHS compliant
- 2500V dielectric strength

INPUT (IN_P (TA = 25°C))

Control voltage range	3 to 32VDC (Without LED) 4 to 32VDC (With LED)
Must operate voltage	3VDC (Without LED) 4VDC (With LED)
Must release voltage	1.0VDC
Max. input current	28mA (at 32VDC)
Max. reverse voltage	-32VDC



ORDERING INFORMATION

Input voltage	D: 3 to 32V DC (Without LED) 4 to 32V DC (With LED)	
Load voltage	03: 30V	05: 50V 1: 100V 15: 150V 2: 200V 4: 400V 5: 500V
Load voltage form	D: DC	
Load current	07: 7A	10: 10A 12: 12A 20: 20A 40: 40A 50: 50A 80: 80A 100: 100A
C3	C3 Semiconductors	

Available part numbers: D03D50, D03D100, D05D40, D05D80, D1D20, D1D40, D15D50, D2D10, D2D40, D4D10, D5D07, D5D12

HD-C3 Series SOLID STATE RELAY

DESCRIPTION

The HD-C3 come in either 3-32VDC or 90-280VAC controls and with outputs ranging from 40-100 Amps. All models come with built-in snubber and 4000V opto-isolation between input and output.

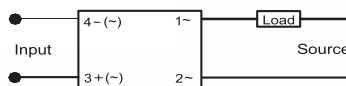
FEATURES

- MOFSET output
- DC or AC control
- Low on State resistance
- Photo Isolation
- RoHS compliant
- 4000V dielectric strength
- Panel mount
- Zero cross or random turn on

INPUT (IN_P (TA = 25°C))

Control voltage range (DC input)	3 to 32VDC (Without LED) 4 to 32VDC (With LED)
Control voltage range (AC input)	90 to 280VAC
Must operate voltage (DC input)	3VDC
Must operate voltage (AC input)	90VAC
Must release voltage (DC input)	1VDC
Must release voltage (AC input)	10VAC
Max. input current (DC input)	25mA
Max. reverse protection voltage (DC input)	-32VDC

WIRING DIAGRAM



ORDERING INFORMATION

Type	High Voltage	
Input voltage	D: 3 to 32VDC (Without LED) 4 to 32VDC (With LED) A: 90 to 280VAC	
Load voltage	24 : 48 to 280V	38 : 48 to 400V 48 : 48 to 530V
Load current	40: 40A 50: 50A 60: 60A 70: 70A 80: 80A 100: 100A	
Zero cross function	NII : Zero cross turn-on -10 : Random turn-on	
C3	C3 Semiconductors	

For recommended applications and more information contact:

USA: Sales Support (800) 944-1718 WEB SITE: <http://www.C3semi.com>
Email: sales@c3semi.com



DUAL Series

DUAL SOLID STATE RELAY

DESCRIPTION

The Dual relays come in 4-15 VDC and 15-32 VDC inputs. In and industry standard package with current ratings of 25, 40 and 50 Amps.

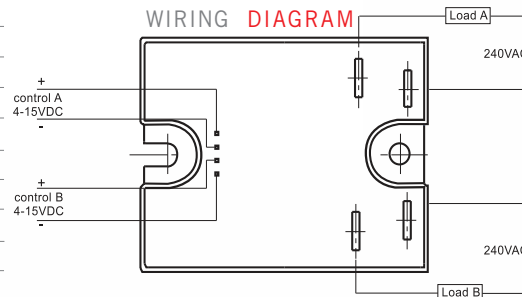
FEATURES

- Dual AC output relay
- 4000V Dielectric Streght
- SCR output
- RoHS compliant
- Faston Terminal relay

INPUT

Rated input voltage	Nil	4 to 15VDC
	E	15 to 32VDC
Must operate voltage	Nil	4VDC
	E	15VDC
Control current	Nil	8~50 mA
	E	6~20 mA
Input resistance	Nil	330 x(1±20%)Ω
	E	2 x(1±20%)kΩ
Must release voltage		1VDC

WIRING DIAGRAM

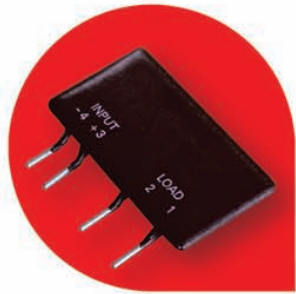


ORDERING INFORMATION

	D	24	40	D	E	-10	C3
Input Voltage Type	D: DC						
Load Voltage	24: 48 to 280VAC		48: 48 to 440VAC				
Load Current	25: 0.1 to 25	40: 0.1 to 40A		50: 0.1 to 50A			
Type	D: Dual						
Input Voltage Range	Nil : 4 to 15VDC			E : 15 to 32VDC			
Zero cross function	Nil: Zero cross turn-on		-10: Random turn-on				
C3	C3 Semiconductors						



SOLID STATE RELAYS



CX - C3 Series SOLID STATE RELAYS

DESCRIPTION

The CX-C3 pin-out is compatible with standard OAC type I/O Modules, with all modes being available in zero or random turn-on versions. The CX-C3 is available in 240VAC, 380VAC and 480VAC versions and with control voltages of either 3-15VDC or 15-32VDC. Except for the 480VAC rating, all models incorporate an internal snubber.

FEATURES

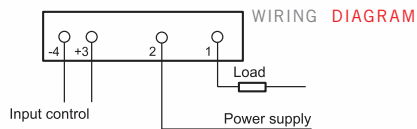
- Input : DC Control
- Printed circuit board mount
- Double SCR AC output
- RoHS compliant
- 4000V dielectric strength

INPUT (TA = 25°C)

Input voltage	CX	3 to 15VDC
	CXE	15 to 32VDC
Must operate voltage	CX	3VDC
	CXE	15VDC
Must release voltage		1.0VDC
Max. Input current	CX	40mA
Max. Input current	CXE	20mA

OUTPUT (TA = 25°C)

Load voltage range		48 to 280VAC (240VAC rated voltage)
		48 to 440VAC (380VAC rated voltage)
		48 to 530VAC (480VAC rated voltage)
Load current range		0.1 to 5A
Max. surge current (10ms)		SCR output: 250Apk
Max. off-state leakage current		1.5mA
Max. on-state voltage drop		1.5Vrms
Max. turn-on time	Zero-cross	1/2 cycle + 1ms
	Random	1ms
Max. turn-off time		1/2 cycle + 1ms
Max. transient overvoltage		600Vpk (at 240VAC rated voltage)
		800Vpk (at 380VAC rated voltage)
		1200Vpk (at 480VAC rated voltage)
Min. off-state dv/dt		200V/μs



For recommended applications and more information contact :

USA : Sales Support (800) 944-1718 WEB SITE : <http://www.C3semi.com>
Email : sales@c3semi.com

TRIAC/IGBT MODULES

CMV Series TRIAC MODULE

FEATURES

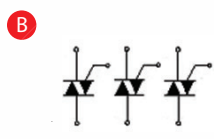
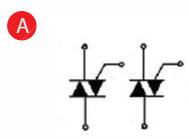
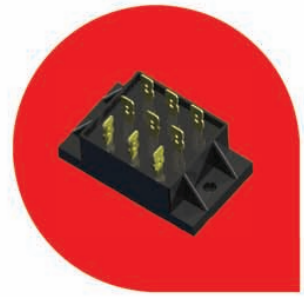
- Flexible 2 or 3 Triac model
- Low profile
- Terminals in fast on or pin format

PART NUMBER IDENTIFICATION PART NUMBER IDENTIFICATION Ex.: CMV25/12

Circuit Type	Current	Voltage
CMv - Case style (See schematics diagram)	25 - 25 Amps 40 - 42.5 Amps	06 - 600 08 - 800 10 - 1000 12 - 1200

ELECTRICAL SPECIFICATIONS

SYMBOL	SPECIFICATION	RATINGS	
	Maximum DC Output Current (Tc = 85°C)	25 Amps	42.5 Amps



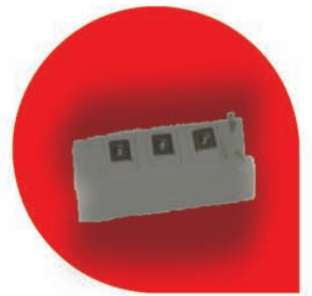
CG Series IGBT MODULES

DESCRIPTION

High current IGBT module up to 300 Amps and 1700v Blocking in a compact Module.

PART NUMBER IDENTIFICATION PART NUMBER IDENTIFICATION Ex.: CGA550/06

Current	Series Type	Series Type	Circuit Type	Voltage
CG - IGBT module	A - Figure 1	S - SPT-IGBT chip	50 Amps	06 - 600
	B - Figure 2	N - NPT-IGBT chip	75 Amps	12 - 1200
			100 Amps	17 - 1700
			150 Amps	
			200 Amps	
			300 Amps	





POWER MODULE

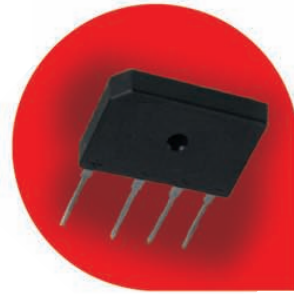
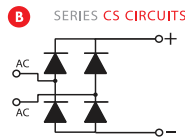
CBS Series single line

25-50amp - PCB DIODE MODULE

DESCRIPTION_{DESCRIPTION}

- Low profile
- Printed Circuit Board Connections
- Several circuits available, ratings up to 50A

Series Type	Circuit Type	Current	Voltage
CBS - Case style	(See schematics diagram)	25 - 25 Amps	06E - 600
		35 - 35 Amps	08E - 800
		57 - 50 Amps	10E - 1000
	Three Phase Bridge		



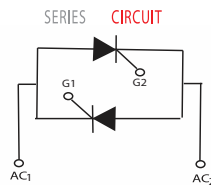
CAC Series

55-70amp - SOLID STATE AC SWITCH

DESCRIPTION_{DESCRIPTION}

- Low profile
- Industry Standard Package and Circuit
- SOT-227 Package (Isotop)

Series Type	Circuit Type	Current	Voltage
CAC - Case style	(See schematics diagram)	55 - 55 Amps	06E - 600
		70 - 70 Amps	08E - 800
	Three Phase Bridge		10E - 1000
			12E - 1200
			16E - 1600



For recommended applications and more information contact :

USA : Sales Support (888) 882-8689 WEB SITE: <http://www.C3semi.com>

Email : sales@c3semi.com

POWER MODULES

Power Control Solutions

CS - Fast on or pin

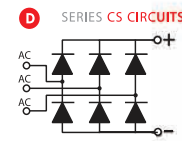
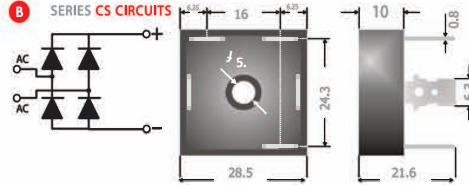
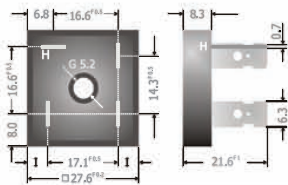
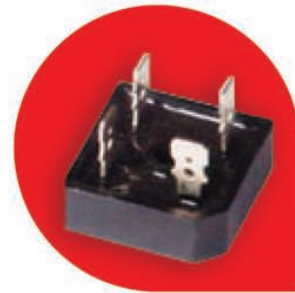
DIODE MODULE

FEATURES

- High Thermal Efficiency
- Complete Power Control Circuits in a Single Package

PART NUMBER IDENTIFICATION Ex.: CSD35/16

Current	Series Type	Circuit Type	Voltage
CS-Case style	B - Single phase D - Three phase	35 Amps- 25 Amps	06 - 600 08 - 800 10 - 1000 12 - 1200 14 - 1400 16 - 1600



CMD Series

SCRDIODE MODULE

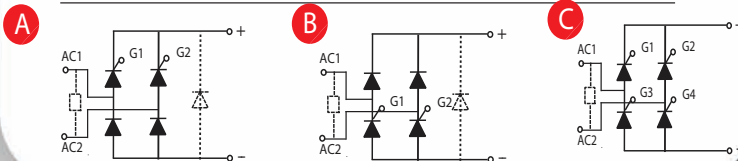
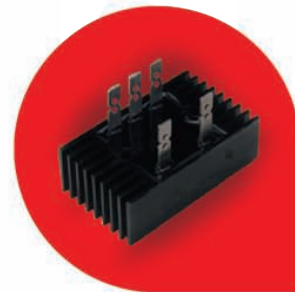
FEATURES

- Flexible Bridge Module
- Thermal Efficiency with integrated Heasink

PART NUMBER IDENTIFICATION Ex.: CMDA25/12F

Circuit Type	Current	Voltage
CMD - Case style (See schematics diagram)	25 - 25 Amps 40 - 40 Amps	06 - 600 08 - 800 10 - 1000 12 - 1200
Any type of Bridge Free Wheeling Diode "F"		

SYMBOL	SPECIFICATION	RATINGS	
ID	Maximum DC Output Current (Tc = 85°C)	25 Amps	40 Amps
V _F	Maximum Voltage Drop @ Amps Peak	1.65V @ IF=25A	1.60V @ IF=40A
T _J	Operating Junction Temperature Range	-40°C to +125°C	
di/dt	Critical Rate of Rise of On-State Current @ T _J =125°C	100A/μs	100A/μs
dvo/dt	Critical Rate of Rise of Off-State Voltage [V/μs]	500V/μs	500V/μs





POWER MODULES

CSK 27 - 230 amp

THYRISTOR/DIODE MODULES

DESCRIPTION

Modules come in an industry standard package, offering three circuits that can be used singly or as power control building blocks. All models feature highly efficient thermal management for greatly extended cycle life.

FEATURES

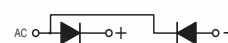
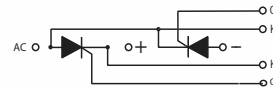
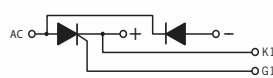
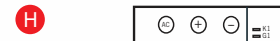
- Industry Standar Package and Circuits
- Power Control Building Blocks



PART NUMBER IDENTIFICATION

Ex.: CSKT162/16E

Serie Type	Circuit Type	Current	Voltage
CSK - Case style	(See schematics diagram)	27 - 25 Amps	06E - 600
		42 - 40 Amps	08E - 800
		57 - 55 Amps	10E - 1000
		92 - 90 Amps	12E - 1200
		106 - 105 Amps	14E - 1400
		132 - 130 Amps	16E - 1600
		162 - 165 Amps	
		172 - 180 Amps	
		253 - 250 Amps	
			Three Phase Bridge



For recommended applications and more information contact :

USA : Sales Support (888) 882-8689 WEB SITE: <http://www.C3semi.com>
 Email : sales@c3semi.com

POWER MODULES

Power Control Solutions

CSD Series

POWER MODULES

FEATURES

- High Thermal Efficiency
- Complete Power Control Circuits in a Single Package

PART NUMBER IDENTIFICATION

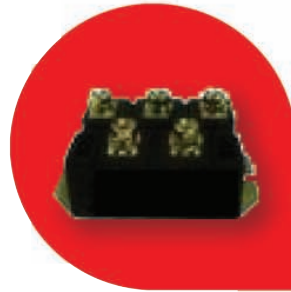
Ex.: CSD250/16

Circuit Type	Circuit Type	Current	Voltage
CSD - Case style	(See schematics diagram)	62 - 60 Amps	06 - 600
	Three Phase Bridge	82 - 80 Amps	08 - 800
		160 - 180 Amps	10 - 1000
		210 - 200 Amps	12 - 1200
		250 - 250 Amps	14 - 1400
			16 - 1600

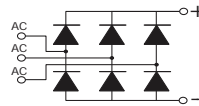
ELECTRICAL SPECIFICATIONS

SYMBOL	SPECIFICATION	RATINGS		
		180 Amps	200 Amps	250 Amps
I_D	Maximum DC Output Current ($T_c = 85^\circ\text{C}$)	180 Amps	200 Amps	250 Amps
V_F	Maximum Voltage Drop @ Amps Peak	1.65V @ IF=300A	1.43V @ IF=300A	1.43V @ IF=300A
T_J	Operating Junction Temperature Range	-40°C to +125°C		
di/dt	Critical Rate of Rise of On-State Current @ $T_J=125^\circ\text{C}$	100A/ μs	100A/ μs	100A/ μs
dv/dt	Critical Rate of Rise of Off-State Voltage [V/ μs]	1000V/ μs	1000V/ μs	1000V/ μs

SYMBOL	SPECIFICATION	RATINGS	
		60 Amps	80 Amps
I_D	Maximum DC Output Current ($T_c = 85^\circ\text{C}$)	60 Amps	80 Amps
V_F	Maximum Voltage Drop @ Amps Peak	1.8V @ IF=150	1.6V @ IF=150A
T_J	Operating Junction Temperature Range	-40°C to +125°C	
di/dt	Critical Rate of Rise of On-State Current @ $T_J=125^\circ\text{C}$	100A/ μs	100A/ μs
dv/dt	Critical Rate of Rise of Off-State Voltage [V/ μs]	1000V/ μs	1000V/ μs



SERIES CSD CIRCUIT



160MT Series

160 AMP THREE PHASE BRIDGE

FEATURES

- High Thermal Efficiency
- Complete Power Control Circuits in a Single Package

PART NUMBER IDENTIFICATION

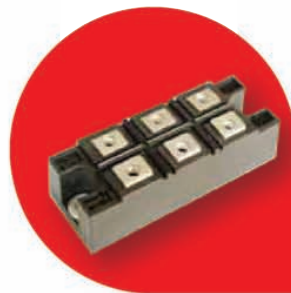
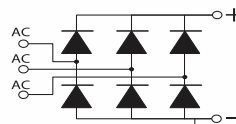
Ex.: 160MT120C3

Current	Series Type	Circuit	Type Voltage
160	MT - Case style	(See schematic diagram)	60 - 600
		Three Phase Bridge	80 - 800
			100 - 1000
			120 - 1200
			140 - 1400
			160 - 1600

ELECTRICAL SPECIFICATIONS

Symbol	Specifications	Ratings
I_D	Maximum DC Output Current ($T_c = 85^\circ\text{C}$)	160 Amps
V_F	Maximum Voltage Drop @ Amps Peak	1.43V @ IF=300A
T_J	Operating Junction Temperature Range	-40°C to +150°C
di/dt	Critical Rate of Rise of On-State Current @ $T_J=125^\circ\text{C}$	100A/ μs
dv/dt	Critical Rate of Rise of Off-State Voltage [V/ μs]	1000V/ μs

SERIES 160MT CIRCUIT



CLD Series

SCR DIODE MODULE

FEATURES

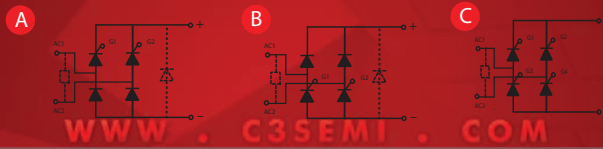
- Flexible mounting, for Printed Circuit Board or Panel
- Low profile
- Terminals in fast on or pin format

PART NUMBER IDENTIFICATION PART NUMBER IDENTIFICATION Ex.: CLDA25/12F

Circuit Type	Circuit Type	Current	Voltage
CMD - Case style (See schematic diagram)	Any type of Bridge Free Wheeling Diode - F*	25 - 25 Amps	06 - 600
		40 - 42.5 Amps	08 - 800 10 - 1000 12 - 1200

ELECTRICAL SPECIFICATIONS

SYMBOL	SPECIFICATION	RATINGS	
I_{DC}	Maximum DC Output Current (Tc = 85°C)	25	42.5
	Maximum Voltage Drop @ Amps Peak	1.65V @ IF=25A	1.60V @ IF=42.5A
	Operating Junction Temperature Range	-40°C to +125°C	
	Critical Rate of Rise of On-State Current @ TJ=125°C	100A/μs	100A/μs
	Critical Rate of Rise of Off-State Voltage [V/μs]	500V/μs	500V/μs



WWW.C3SEMI.COM

CES Series

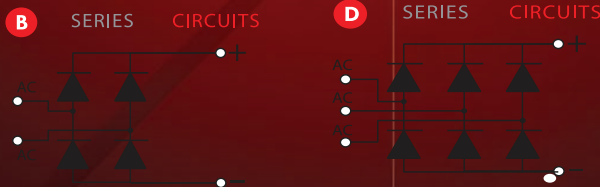
DIODE MODULE

DESCRIPTION

High current diode module up to 100 Amps and 1600v Blocking in a compact Module.

PART NUMBER IDENTIFICATION PART NUMBER IDENTIFICATION Ex.: CESD50/12

Current	Series Type	Circuit Type	Voltage
CS-Case style	B - Single phase	60 Amps	06 - 600
	D - Three phase	100 Amps	08 - 800 10 - 1000 12 - 1200 14 - 1400 16 - 1600





semi



C3 SEMICONDUCTORS LLC
Power Control Solutions



501 W . Broadway Street Suite 800 San Diego CA 92101

1 (888) 882 8689

WWW . C3SEMI . COM

© C3 Semiconductors LLC. All rights reserved. C3 Semiconductors logo are trademarks or registers trademarks of C3 Semiconductors LLC and subsidiaries in other countries.