

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturer of World Class Discrete Semiconductors  
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C106A1 THRU C106M1

**SILICON CONTROLLED RECTIFIER  
(100V to 600V)**

**JEDEC TO-202 CASE**

## DESCRIPTION

The Central Semiconductor C106A1 Series are PNP Silicon Controlled Rectifiers designed for applications such as temperature, light, speed control, process and remote control, and warning systems where reliability of operation is important.

## MAXIMUM RATINGS (T<sub>C</sub>=25°C unless otherwise noted)

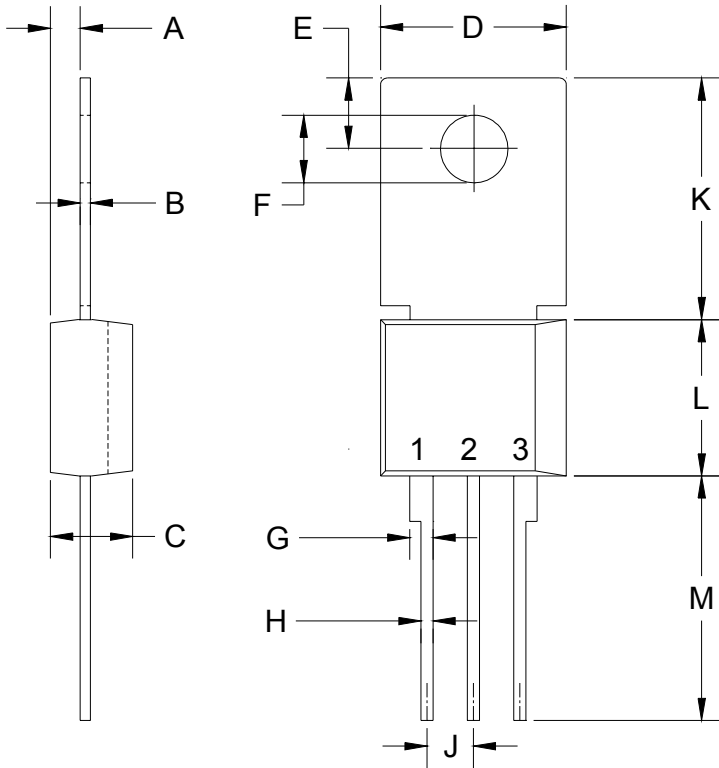
	SYMBOL	C106A1	C106B1	C106C1	C106D1	C106E1	C106M1	UNITS
Peak Repetitive Off-State Voltage	V <sub>DRM</sub> , V <sub>RRM</sub>	100	200	300	400	500	600	V
RMS On-State Current	I <sub>T(RMS)</sub>				4.0			A
Peak One Cycle Surge ( 60Hz)	I <sub>TSM</sub>				20			A
I <sup>2</sup> t Value for Fusing (t>1.5ms)	I <sup>2</sup> t				0.5			A <sup>2</sup> s
Peak Gate Power	P <sub>GM</sub>				0.5			W
Average Gate Power	P <sub>G(AV)</sub>				0.1			W
Peak Forward Gate Current	I <sub>GFM</sub>				0.2			A
Peak Reverse Gate Voltage	V <sub>GRM</sub>				6.0			V
Storage Temperature	T <sub>stg</sub>			-40 to +150				°C
Junction Temperature	T <sub>J</sub>			-40 to +110				°C
Thermal Resistance (Case)	θ <sub>J-C</sub>			3.0				°C/W
Thermal Resistance	θ <sub>J-A</sub>			75				°C/W

## ELECTRICAL CHARACTERISTICS (T<sub>C</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I <sub>DRM</sub> , I <sub>RRM</sub>	Rated V <sub>DRM</sub> , V <sub>RRM</sub> , R <sub>GK</sub> =1kΩ			10	μA
I <sub>DRM</sub> , I <sub>RRM</sub>	Rated V <sub>DRM</sub> , V <sub>RRM</sub> , R <sub>GK</sub> =1kΩ, T <sub>C</sub> =110°C			100	μA
V <sub>TM</sub>	I <sub>FM</sub> =4.0A			2.2	V
I <sub>GT</sub>	V <sub>AK</sub> =6.0V, R <sub>L</sub> =100Ω, R <sub>GK</sub> =1kΩ			200	μA
I <sub>GT</sub>	V <sub>AK</sub> =6.0V, R <sub>L</sub> =100Ω, R <sub>GK</sub> =1kΩ, T <sub>C</sub> =-40°C			500	μA
V <sub>GT</sub>	V <sub>AK</sub> =6.0V, R <sub>L</sub> =100Ω, R <sub>GK</sub> =1kΩ	0.4		0.8	V
V <sub>GT</sub>	V <sub>AK</sub> =6.0V, R <sub>L</sub> =100Ω, R <sub>GK</sub> =1kΩ, T <sub>C</sub> =-40°C	0.5		1.0	V
V <sub>GT</sub>	V <sub>AK</sub> =Rated V <sub>DRM</sub> , R <sub>L</sub> =3kΩ, R <sub>GK</sub> =1kΩ, T <sub>C</sub> =110°C	0.2			V
I <sub>HX</sub>	V <sub>D</sub> =12V, R <sub>GK</sub> =1kΩ	0.3		3.0	mA
I <sub>HX</sub>	V <sub>D</sub> =12V, R <sub>GK</sub> =1kΩ, T <sub>C</sub> =-40°C	0.4		6.0	mA
I <sub>HX</sub>	V <sub>D</sub> =12V, R <sub>GK</sub> =1kΩ, T <sub>C</sub> =110°C	0.14		2.0	mA
I <sub>LX</sub>	V <sub>D</sub> =12V, R <sub>GK</sub> =1kΩ	0.3		4.0	mA
I <sub>LX</sub>	V <sub>D</sub> =12V, R <sub>GK</sub> =1kΩ, T <sub>C</sub> =-40°C	0.4		8.0	mA
dv/dt	V <sub>D</sub> =Rated V <sub>DRM</sub> , R <sub>GK</sub> =1kΩ, T <sub>C</sub> =110°C		8.0		V/μs
t <sub>gt</sub> (turn-on time)			1.2		μs
t <sub>q</sub> (turn-off time)			40		μs

(SEE REVERSE SIDE)

TO-202 PACKAGE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.071	1.40	1.80
B	0.016	0.024	0.40	0.60
C	0.173	0.181	4.40	4.60
D	0.374	0.413	9.50	10.50
E	0.146	0.154	3.70	3.90
F (DIA)	0.142	0.150	3.60	3.80
G	0.039	0.055	1.00	1.40
H	0.024	0.031	0.60	0.80
J	0.094	0.106	2.39	2.69
K	0.492	0.551	12.50	14.00
L	0.327	0.346	8.30	8.80
M	0.492	0.531	12.50	13.50

TO-202 (REV: R1)

R1

Lead Code:

- 1) Cathode
- 2) Anode
- 3) Gate

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