

C106A1 C106D1
C106B1 C106E1
C106C1 C106M1

**SILICON CONTROLLED RECTIFIER
4 AMP, 100 THRU 600 VOLTS**



TO-202 CASE



www.centra-semi.com

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.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL	C106 A1	C106 B1	C106 C1	C106 D1	C106 E1	C106 M1	UNITS
Peak Repetitive Off-State Voltage	V_{DRM}, V_{RRM}	100	200	300	400	500	600	V
RMS On-State Current	$I_{T(RMS)}$				4.0			A
Peak One Cycle Surge (60Hz)	I_{TSM}				20			A
I^2t Value for Fusing ($t > 1.5\text{ms}$)	I^2t				0.5			A^2s
Peak Gate Power	P_{GM}				0.5			W
Average Gate Power	$P_{G(AV)}$				0.1			W
Peak Forward Gate Current	I_{GFM}				0.2			A
Peak Reverse Gate Voltage	V_{GRM}				6.0			V
Storage Temperature	T_{stg}				-40 to +150			$^\circ\text{C}$
Junction Temperature	T_J				-40 to +110			$^\circ\text{C}$
Thermal Resistance	θ_{JC}				3.0			$^\circ\text{C/W}$
Thermal Resistance	θ_{JA}				75			$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DRM}, I_{RRM}	Rated $V_{DRM}, V_{RRM}, R_{GK}=1.0\text{K}\Omega$			10	μA
I_{DRM}, I_{RRM}	Rated $V_{DRM}, V_{RRM}, R_{GK}=1.0\text{K}\Omega, T_C=110^\circ\text{C}$			100	μA
V_{TM}	$I_{FM}=4.0\text{A}$			2.2	V
I_{GT}	$V_{AK}=6.0\text{V}, R_L=100\Omega, R_{GK}=1.0\text{K}\Omega$			200	μA
I_{GT}	$V_{AK}=6.0\text{V}, R_L=100\Omega, R_{GK}=1.0\text{K}\Omega, T_C=-40^\circ\text{C}$			500	μA
V_{GT}	$V_{AK}=6.0\text{V}, R_L=100\Omega, R_{GK}=1.0\text{K}\Omega$	0.4		0.8	V
V_{GT}	$V_{AK}=6.0\text{V}, R_L=100\Omega, R_{GK}=1.0\text{K}\Omega, T_C=-40^\circ\text{C}$	0.5		1.0	V
V_{GT}	$V_{AK}=\text{Rated } V_{DRM}, R_L=3.0\text{K}\Omega, R_{GK}=1.0\text{K}\Omega, T_C=110^\circ\text{C}$	0.2			V
I_{HX}	$V_D=12\text{V}, R_{GK}=1.0\text{K}\Omega$	0.3		3.0	mA
I_{HX}	$V_D=12\text{V}, R_{GK}=1.0\text{K}\Omega, T_C=-40^\circ\text{C}$	0.4		6.0	mA
I_{HX}	$V_D=12\text{V}, R_{GK}=1.0\text{K}\Omega, T_C=110^\circ\text{C}$	0.14		2.0	mA
I_{LX}	$V_D=12\text{V}, R_{GK}=1.0\text{K}\Omega$	0.3		4.0	mA
I_{LX}	$V_D=12\text{V}, R_{GK}=1.0\text{K}\Omega, T_C=-40^\circ\text{C}$	0.4		8.0	mA
dv/dt	$V_D=\text{Rated } V_{DRM}, R_{GK}=1.0\text{K}\Omega, T_C=110^\circ\text{C}$		8.0		$\text{V}/\mu\text{s}$
t_{gt} (turn-on time)			1.2		μs
t_q (turn-off time)			40		μs

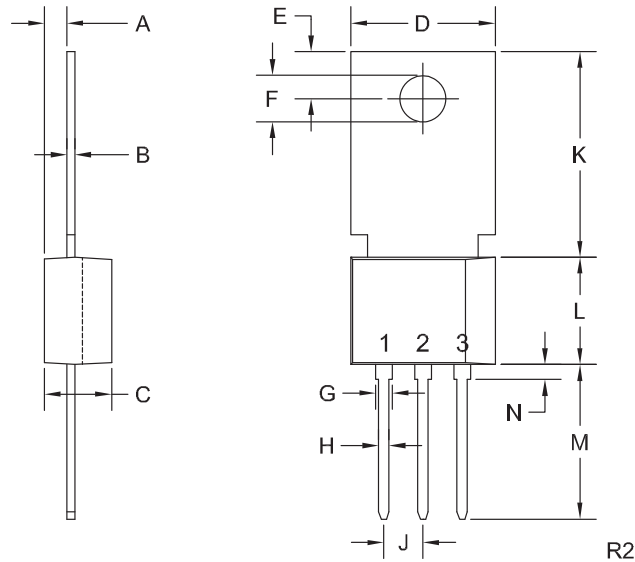
R1 (23-January 2012)

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TO-202 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Cathode
 - 2) Anode
 - 3) Gate
- Tab is common to pin 2

MARKING:

FULL PART NUMBER

DIMENSIONS				
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	10.5
E	0.118	0.154	3.00	3.90
F (DIA)	0.124	0.150	3.15	3.80
G	0.035	0.055	0.90	1.40
H	0.023	0.031	0.59	0.80
J	0.094	0.106	2.39	2.69
K	0.459	0.559	11.66	14.21
L	0.280	0.346	7.12	8.80
M	0.406	0.531	10.3	13.5
N	0.024	0.059	0.60	1.50

TO-202 (REV: R2)

R1 (23-January 2012)