

CS39-4B
CS39-4D
CS39-4M
CS39-4N

**SILICON CONTROLLED RECTIFIER
4 AMP, 200 THRU 800 VOLTS**



TO-39 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CS39-4B series types are hermetically sealed silicon controlled rectifiers designed for sensing circuit applications and control systems.

MARKING: FULL PART NUMBER

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

	SYMBOL	CS39 <u>-4B</u>	CS39 <u>-4D</u>	CS39 <u>-4M</u>	CS39 <u>-4N</u>	UNITS
Peak Repetitive Off-State Voltage	V_{DRM}, V_{RRM}	200	400	600	800	V
RMS On-State Current ($T_C=90^\circ\text{C}$)	$I_T(\text{RMS})$			4.0		A
Peak One Cycle Surge Current ($t=10\text{ms}$)	I_{TSM}			35		A
I^2t Value for Fusing ($t=10\text{ms}$)	I^2t			4.5		A^2s
Peak Gate Power Dissipation ($t_p=10\mu\text{s}$)	P_{GM}			3.0		W
Average Gate Power Dissipation	$P_{G(AV)}$			0.2		W
Peak Gate Current ($t_p=10\mu\text{s}$)	I_{GM}			1.2		A
Operating Junction Temperature	T_J		-40 to +125			$^\circ\text{C}$
Storage Temperature	T_{stg}		-65 to +150			$^\circ\text{C}$
Thermal Resistance	θ_{JA}		180			$^\circ\text{C/W}$
Thermal Resistance	θ_{JC}		10			$^\circ\text{C/W}$

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

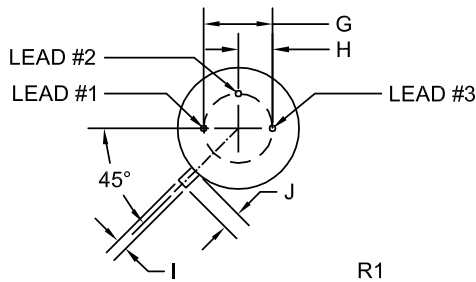
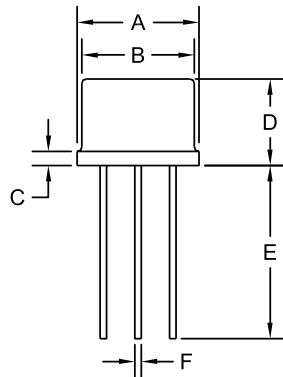
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DRM}, I_{RRM}	Rated $V_{DRM}, V_{RRM}, R_{GK}=1.0\text{K}\Omega$			5.0	μA
I_{DRM}, I_{RRM}	Rated $V_{DRM}, V_{RRM}, R_{GK}=1.0\text{K}\Omega, T_C=125^\circ\text{C}$			200	μA
I_{GT}	$V_D=12\text{V}, R_L=10\Omega$		38	200	μA
I_H	$I_T=50\text{mA}, R_{GK}=1.0\text{K}\Omega$		0.25	5.0	mA
V_{GT}	$V_D=12\text{V}, R_L=10\Omega$		0.55	0.8	V
V_{GD}	$V_D=300\text{V}, R_{GK}=1.0\text{K}\Omega, T_C=125^\circ\text{C}$	0.2			V
V_{TM}	$I_T=8.0\text{A}, t_p=380\mu\text{s}$		1.6	1.95	V
dv/dt	$V_D=\frac{2}{3}V_{DRM}, R_{GK}=1.0\text{K}\Omega, T_C=125^\circ\text{C}$	10			V/ μs

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TO-39 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.335	0.370	8.51	9.40
B (DIA)	0.315	0.335	8.00	8.51
C	-	0.040	-	1.02
D	0.240	0.260	6.10	6.60
E	0.500	-	12.70	-
F (DIA)	0.016	0.021	0.41	0.53
G (DIA)	0.200		5.08	
H	0.100		2.54	
I	0.028	0.034	0.71	0.86
J	0.029	0.045	0.74	1.14

TO-39 (REV: R1)

LEAD CODE:

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

MARKING: FULL PART NUMBER

R3 (19-September 2012)