

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

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



**TO-39 CASE**



[www.centrasemi.com](http://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		$\text{A}^2\text{s}$
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	$\theta_{JA}$		180			$^\circ\text{C/W}$
Thermal Resistance	$\theta_{JC}$		10			$^\circ\text{C/W}$

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

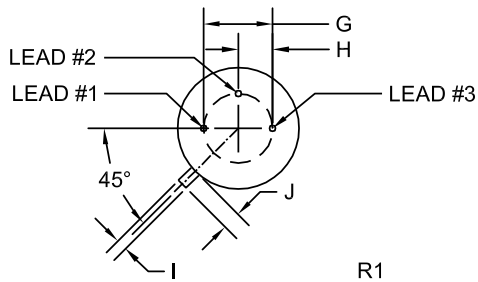
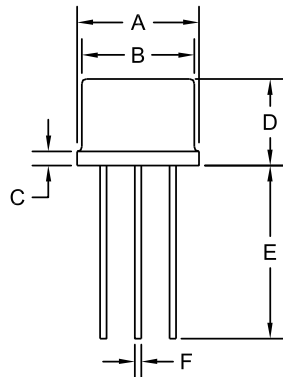
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, R_{GK}=1.0\text{K}\Omega$			5.0	$\mu\text{A}$
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, R_{GK}=1.0\text{K}\Omega, T_C=125^\circ\text{C}$			200	$\mu\text{A}$
$I_{GT}$	$V_D=12\text{V}, R_L=10\Omega$		38	200	$\mu\text{A}$
$I_H$	$I_T=50\text{mA}, R_{GK}=1.0\text{K}\Omega$		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	$V_D=2/3 V_{DRM}, R_{GK}=1.0\text{K}\Omega, T_C=125^\circ\text{C}$	10			V/ $\mu\text{s}$

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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)