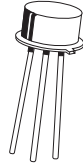


CQ39BS  
CQ39DS  
CQ39MS  
CQ39NS

TRIAC  
4.0 AMP, 200 THRU 800 VOLTS



TO-39 CASE

# Central<sup>TM</sup>

Semiconductor Corp.

## DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQ39BS series type is a hermetically sealed silicon Triac designed for full wave AC control applications featuring gate triggering in all four (4) quadrants.

MARKING CODE: FULL PART NUMBER

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

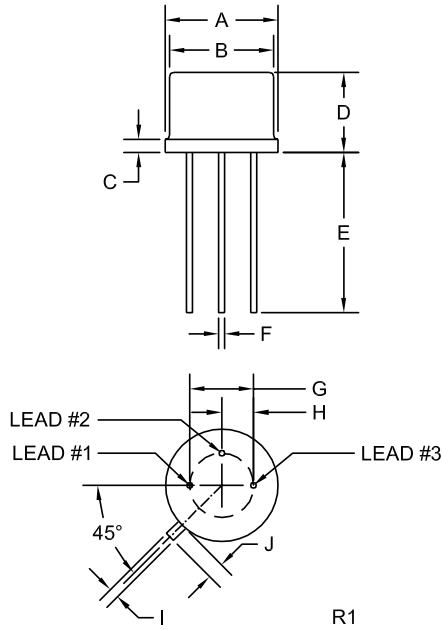
	SYMBOL	CQ39BS	CQ39DS	CQ39MS	CQ39NS	UNITS
Peak Repetitive Off-State Voltage	$V_{DRM}$	200	400	600	800	V
RMS On-State Current ( $T_C=80^\circ\text{C}$ )	$I_T(\text{RMS})$			4.0		A
Peak One Cycle Surge ( $t=10\text{ms}$ )	$I_{TSM}$			35		A
$I^2t$ Value for Fusing ( $t=10\text{ms}$ )	$I^2t$			2.0		$\text{A}^2\text{s}$
Peak Gate Power ( $t_p=10\mu\text{s}$ )	$P_{GM}$			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
Storage Temperature	$T_{stg}$		-40 to +150			$^\circ\text{C}$
Junction Temperature	$T_J$		-40 to +125			$^\circ\text{C}$
Thermal Resistance	$\theta_{JA}$			160		$^\circ\text{C/W}$
Thermal Resistance	$\theta_{JC}$			9.0		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{DRM}$	Rated $V_{DRM}$ , $R_{GK}=1\text{K}\Omega$			10	$\mu\text{A}$
$I_{DRM}$	Rated $V_{DRM}$ , $R_{GK}=1\text{K}\Omega$ , $T_C=125^\circ\text{C}$			200	$\mu\text{A}$
$I_{GT}$	$V_D=12\text{V}$ , QUAD I, II, III		2.5	5.0	mA
$I_{GT}$	$V_D=12\text{V}$ , QUAD IV		5.5	9.0	mA
$I_H$	$R_{GK}=1\text{K}\Omega$		1.6	5.0	mA
$V_{GT}$	$V_D=12\text{V}$ , QUAD I, II, III, IV			2.0	V
$V_{TM}$	$I_{TM}=6.0\text{A}$ , $t_p=380\mu\text{s}$			1.75	V
dv/dt	$V_D=2/3 V_{DRM}$ , $T_C=125^\circ\text{C}$	11			$\text{V}/\mu\text{s}$

R1 (18-August 2004)

TO-39 CASE - MECHANICAL OUTLINE



**LEAD CODE:**

- 1) MT1
- 2) GATE
- 3) MT2

**MARKING CODE:**

**FULL PART NUMBER**

SYMBOL	DIMENSIONS			
	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)

R1 (18-August 2004)