

CQ39BS
CQ39DS
CQ39MS
CQ39NS

TRIAC
4.0 AMP, 200 THRU 800 VOLTS



TO-39 CASE

CentralTM
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		A^2s
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	θ_{JA}			160		$^\circ\text{C}/\text{W}$
Thermal Resistance	θ_{JC}			9.0		$^\circ\text{C}/\text{W}$

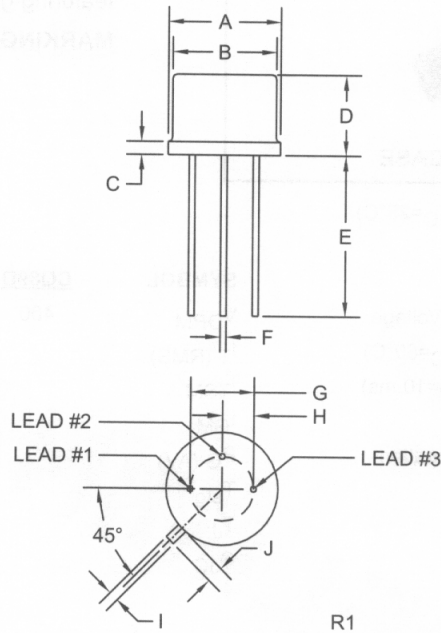
ELECTRICAL CHARACTERISTICS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DRM}	Rated V_{DRM} , $R_{GK}=1\text{K}\Omega$			10	μA
I_{DRM}	Rated V_{DRM} , $R_{GK}=1\text{K}\Omega$, $T_C=125^\circ\text{C}$			200	μA
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			V/ μs

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TO-39 CASE - MECHANICAL OUTLINE



**DATA
SHEETS**

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)