Data Sheet

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Manufacturers of World Class Discrete Semiconductors

CQ39BT
CQ39DT
CQ39MT

4.0 AMP TRIAC
200 THRU 600 VOLTS

JEDEC TO-39 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR CQ39BT series type is a Hermetically Sealed Silicon Triac designed for full wave AC control applications featuring gate triggering in all four (4) quadrants.

MAXIMUM RATINGS ($T_C = 25°C$ unless otherwise noted)

	SYMBOL	CQ39BT	CQ39DT	CQ39MT	UNITS
Peak Repetitive Off-State Voltage	V_{DRM}	200	400	600	V
RMS On-State Current ($T_C = 80°C$)	$I_{T(RMS)}$		4.0		A
Peak One Cycle Surge (t = 10ms)	I_{TSM}		35		A
I^2t Value for Fusing (t = 10ms)	I^2t		2.0		A^2s
Peak Gate Power (tp = 10μs)	P_{GM}		3.0		W
Average Gate Power Dissipation	$P_{G(AV)}$		0.2		W
Peak Gate Current (tp = 10μs)	I_{GM}		1.2		A
Storage Temperature	T_{stg}		-40 to +150		°C
Junction Temperature	T_J		-40 to +125		°C
Thermal Resistance	$\Theta_{J\text{-}A}$		160		°C/W
Thermal Resistance	$\Theta_{J\text{-}C}$		9.0		°C/W

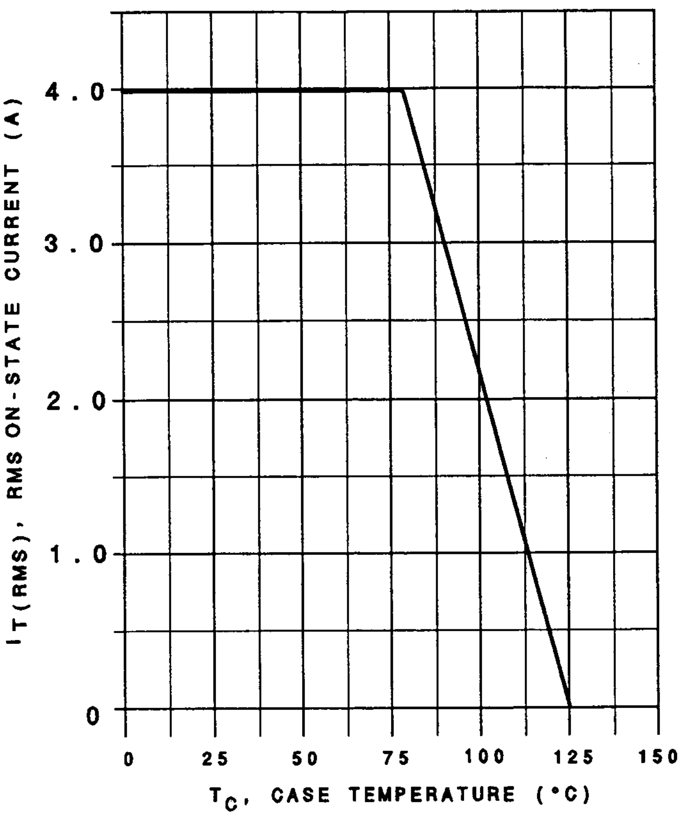
ELECTRICAL CHARACTERISTICS ($T_C = 25°C$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DRM}	Rated V_{DRM}, $R_{GK} = 1K\Omega$			5.00	μA
I_{DRM}	Rated V_{DRM}, $R_{GK} = 1K\Omega$, $T_C = 125°C$			200	μA
I_{GT}	$V_D = 12V$, QUAD I,II,III,IV			3.00	mA
I_H	$R_{GK} = 1K\Omega$			3.00	mA
V_{GT}	$V_D = 12V$, QUAD I,II,III,IV			2.00	V
V_{TM}	$I_{TM} = 4.5A$			2.10	V
dv/dt	$V_D = \frac{2}{3}V_{DRM}$, $T_C = 125°C$	30			V/μs

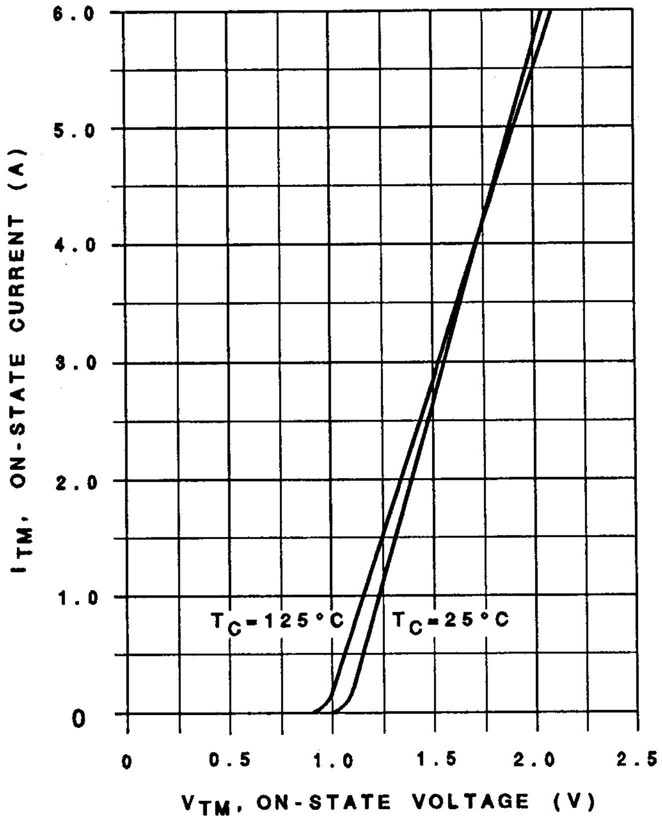
(OVER)

CQ39BT SERIES RATING AND CHARACTERISTIC CURVES

RMS ON-STATE CURRENT vs. CASE TEMPERATURE

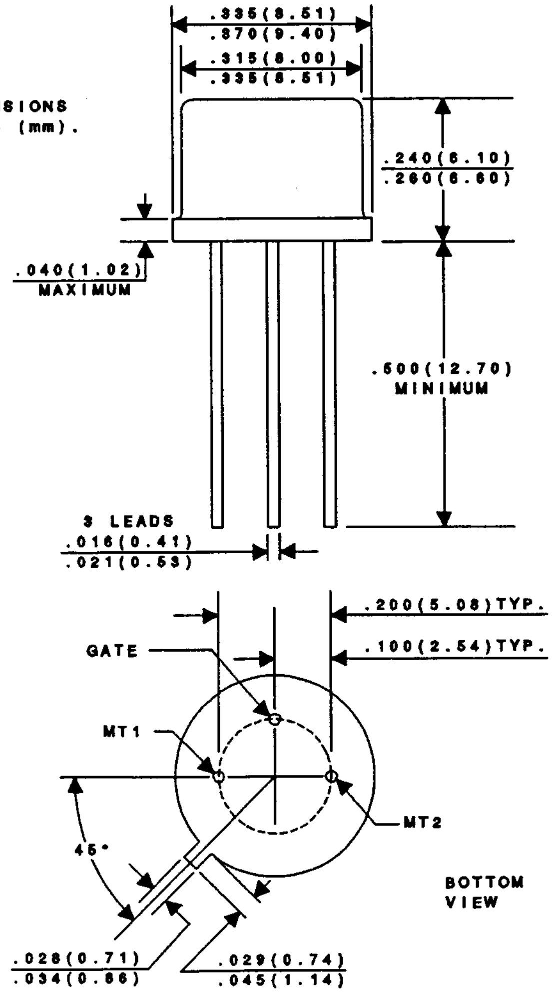


MAXIMUM ON-STATE CHARACTERISTICS



MECHANICAL DIMENSIONS

ALL DIMENSIONS
IN INCHES (mm).



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