

DESCRIPTION

The CENTRAL SEMICONDUCTOR CQ220I-16B series type is an Epoxy Molded Silicon Triac designed for full wave AC control applications featuring gate triggering in all four (4) quadrants. This device is mounted in a TO-220 case with an isolated mounting tab.

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

	<u>SYMBOL</u>	<u>CQ220I</u> <u>-16B</u>	<u>CQ220I</u> <u>-16D</u>	<u>CQ220I</u> <u>-16M</u>	<u>CQ220I</u> <u>-16N</u>	<u>UNITS</u>
Peak Repetitive Off-State Voltage	$V_{DRM}$	200	400	600	800	V
RMS On-State Current ( $T_C = 90^\circ\text{C}$ )	$I_T(\text{RMS})$			16		A
Peak One Cycle Surge ( $t = 10\text{ms}$ )	$I_{TSM}$			170		A
$I^2t$ Value for Fusing ( $t = 10\text{ms}$ )	$I^2t$			128		$\text{A}^2\text{s}$
Peak Gate Power ( $t_p = 10\mu\text{s}$ )	$P_{GM}$			40		W
Average Gate Power Dissipation	$P_{G(AV)}$			1.0		W
Peak Gate Current ( $t_p = 10\mu\text{s}$ )	$I_{GM}$			6.0		A
Peak Gate Voltage ( $t_p = 10\mu\text{s}$ )	$V_{GM}$			16		V
Critical Rate of Rise of On-State Current						
Repetitive ( $F = 50\text{Hz}$ )	$di/dt$			10		$\text{A}/\mu\text{s}$
Storage Temperature	$T_{stg}$		-40 to +150			$^\circ\text{C}$
Junction Temperature	$T_J$		-40 to +125			$^\circ\text{C}$
Thermal Resistance	$\theta_{J-A}$		60			$^\circ\text{C}/\text{W}$
Thermal Resistance	$\theta_{J-C}$		2.9			$^\circ\text{C}/\text{W}$
Isolation Voltage	$V_{ISO}$		2500			$V_{(\text{RMS})}$

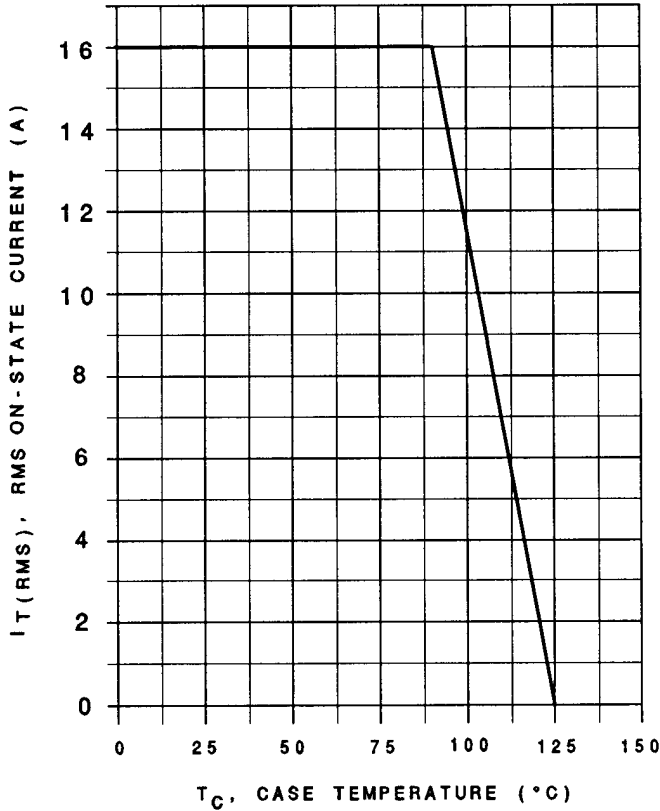
ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$  unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>TYP</u>	<u>MAX</u>	<u>UNITS</u>
$I_{DRM}$	Rated $V_{DRM}$			0.01	mA
$I_{DRM}$	Rated $V_{DRM}$ , $T_C = 125^\circ\text{C}$			2.00	mA
$I_{GT}$	$V_D = 12\text{V}$ , $R_L = 33\Omega$ , QUAD I,II,III			50	mA
$I_{GT}$	$V_D = 12\text{V}$ , $R_L = 33\Omega$ , QUAD IV			100	mA
$I_H$	$I_T = 100\text{mA}$			50	mA
$V_{GT}$	$V_D = 12\text{V}$ , $R_L = 33\Omega$ , QUAD I,II,III,IV			1.50	V
$V_{TM}$	$I_{TM} = 22.5\text{A}$ , $t_p = 10\text{ms}$			1.60	V
$dv/dt$	$V_D = \frac{2}{3}V_{DRM}$ , $R_{GK} = \infty$ , $T_C = 125^\circ\text{C}$	250			$\text{V}/\mu\text{s}$

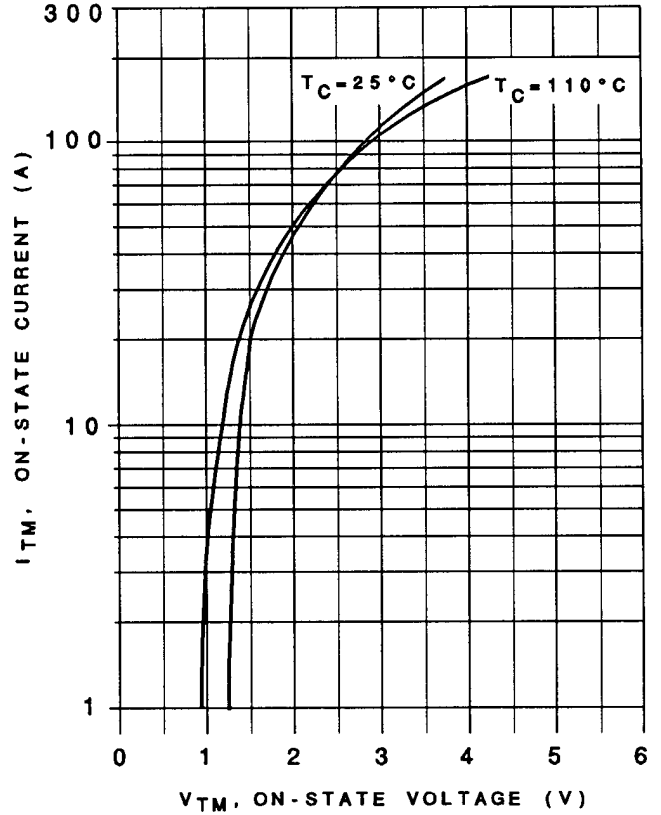
(OVER)

# CQ220I-16B SERIES RATING AND CHARACTERISTIC CURVES

**RMS ON-STATE CURRENT vs. CASE TEMPERATURE**



**MAXIMUM ON-STATE CHARACTERISTICS**



## MECHANICAL DIMENSIONS

All Dimensions in Inches (mm).

