Data Sheet

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Manufacturers of World Class Discrete Semiconductors

CQ220I -12B
CQ220I -12D
CQ220I -12M
CQ220I -12N

ISOLATED TAB TRIAC
12 AMP, 200 THRU 800 VOLTS

JEDEC TO-220AB CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR CQ220I-12B 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°C unless otherwise noted)

	SYMBOL	CQ220I -12B	CQ220I -12D	CQ220I -12M	CQ220I -12N	UNITS
Peak Repetitive Off-State Voltage	V_{DRM}	200	400	600	800	V
RMS On-State Current (T_C=90°C)	$I_{T(RMS)}$		12			A
Peak One Cycle Surge (t=10ms)	I_{TSM}		125			A
I^2t Value for Fusing (t=10ms)	I^2t		72			A^2s
Peak Gate Power (tp=10μs)	P_{GM}		40			W
Average Gate Power Dissipation	$P_{G(AV)}$		1.0			W
Peak Gate Current (tp=10μs)	I_{GM}		4.0			A
Peak Gate Voltage (tp=10μs)	V_{GM}		16			V
Critical Rate of Rise of On-State Current Repetitive (F=50Hz)	di/dt		10			A/μs
Storage Temperature	T_{stg}		-40 to +150			°C
Junction Temperature	T_J		-40 to +110			°C
Thermal Resistance	Θ_{J-A}		60			°C/W
Thermal Resistance	Θ_{J-C}		3.3			°C/W
Isolation Voltage	V_{ISO}		2500			$V_{(RMS)}$

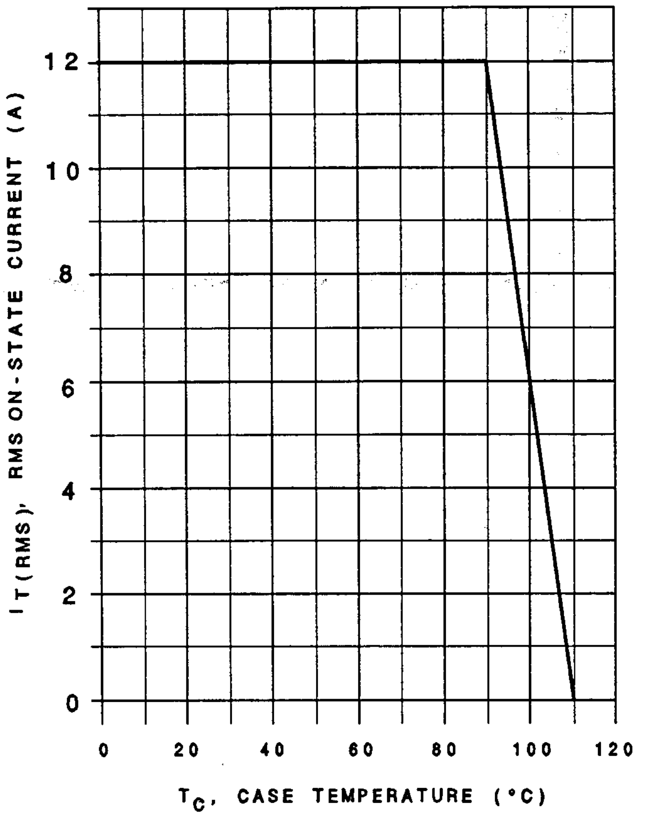
ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DRM}	Rated V_{DRM}			0.01	mA
I_{DRM}	Rated V_{DRM}, T_C=110°C			0.50	mA
I_{GT}	V_D=12V, R_L=33Ω, QUAD I,II,III			25	mA
I_{GT}	V_D=12V, R_L=33Ω, QUAD IV			50	mA
I_H	I_T=100mA			25	mA
V_{GT}	V_D=12V, R_L=33Ω, QUAD I,II,III,IV			1.50	V
V_{TM}	I_{TM}=17A, tp=10ms			1.50	V
dV/dt	$V_D=\frac{2}{3}V_{DRM}$, $R_{GK}=\infty$, T_C=110°C	100			V/μs
dV/dt(c)	V_D=Rated V_{DRM}, I_{TM}=17A, di/dt(c)=6.5A/ms T_C=80°C, Gate open		5.0		V/μs

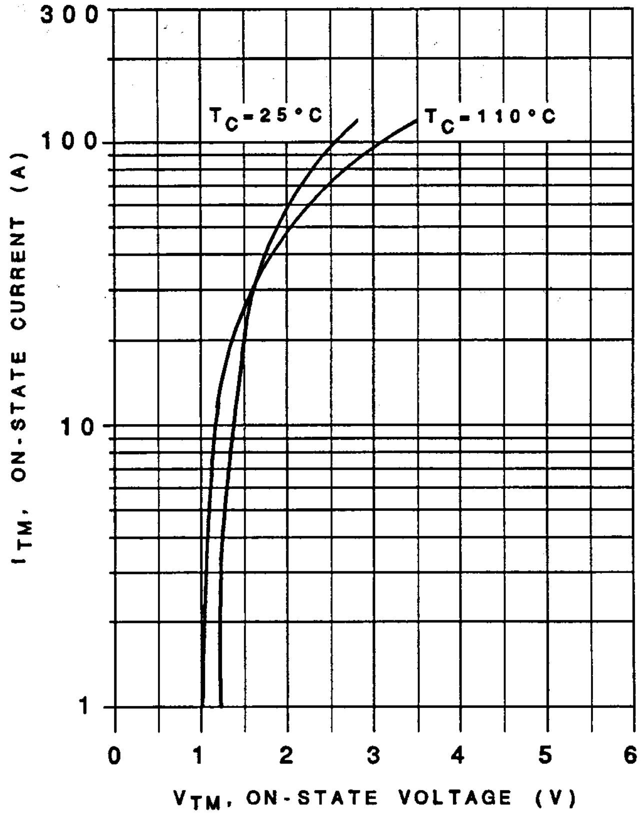
(OVER)

CQ220I-12B SERIES RATING AND CHARACTERISTIC CURVES

RMS ON-STATE CURRENT vs. CASE TEMPERATURE

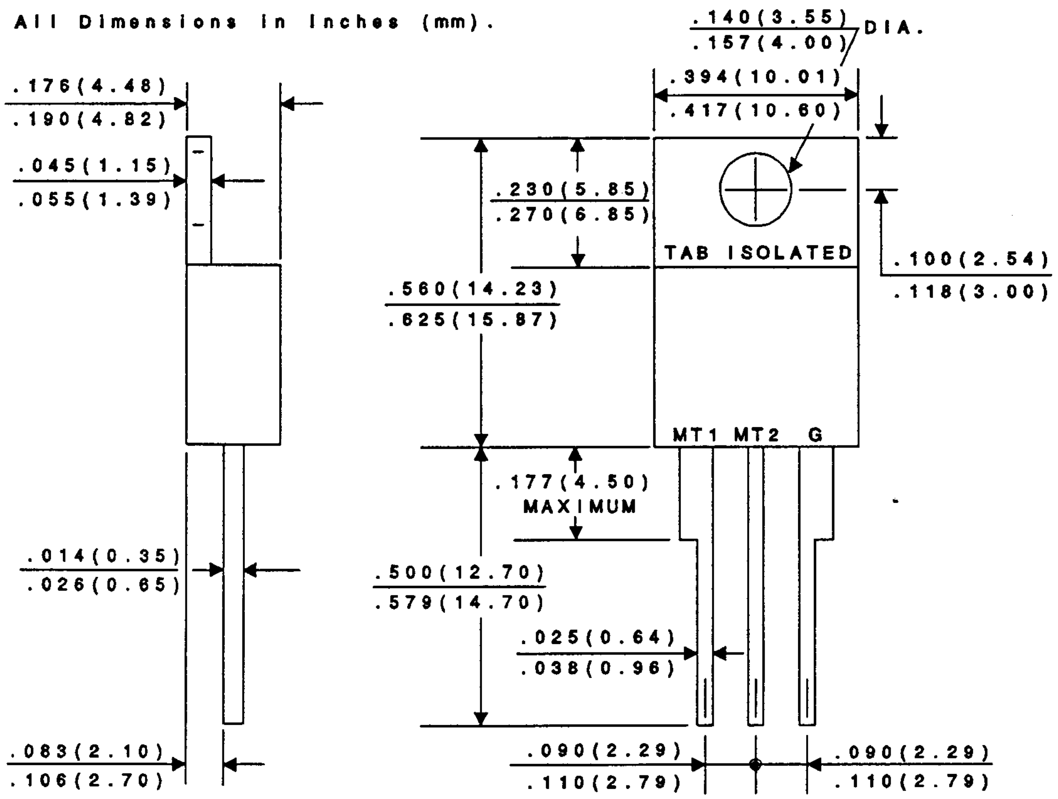


MAXIMUM ON-STATE CHARACTERISTICS



MECHANICAL DIMENSIONS

All Dimensions in Inches (mm).



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