

CentralTM Semiconductor Corp.

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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 ² t Value for Fusing (t=10ms)	I ² t			72		A ² s
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)

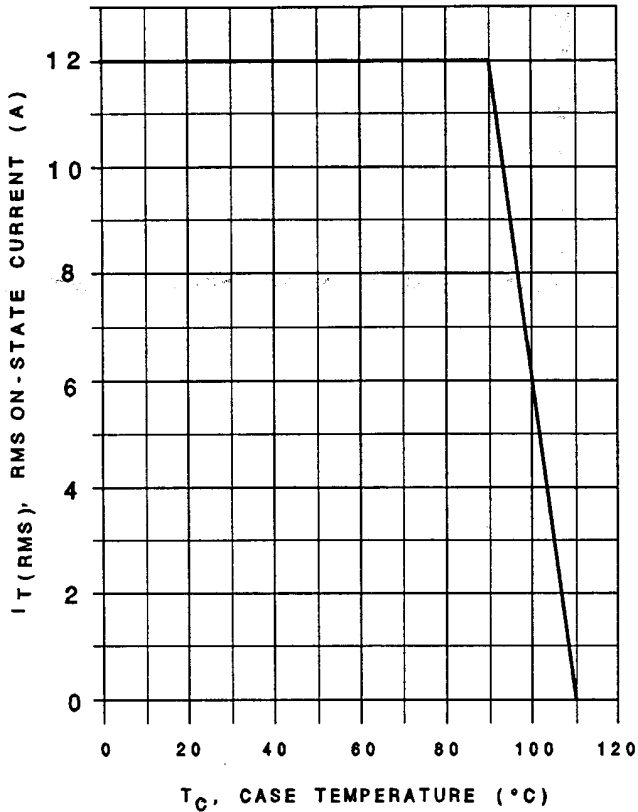
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _{DRM}	Rated V _{DRM}			0.01	mA
I _{DRM}	Rated V _{DRM} , T _C =110°C			0.50	mA
I _{GT}	V _D =12V, R _L =33Ω, QUAD I,II,III			25	mA
I _{GT}	V _D =12V, R _L =33Ω, QUAD IV			50	mA
I _H	I _T =100mA			25	mA
V _{GT}	V _D =12V, R _L =33Ω, QUAD I,II,III,IV			1.50	V
V _{TM}	I _{TM} =17A, tp=10ms			1.50	V
dV/dt	V _D =2/3 V _{DRM} , R _{GK} =∞, 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)

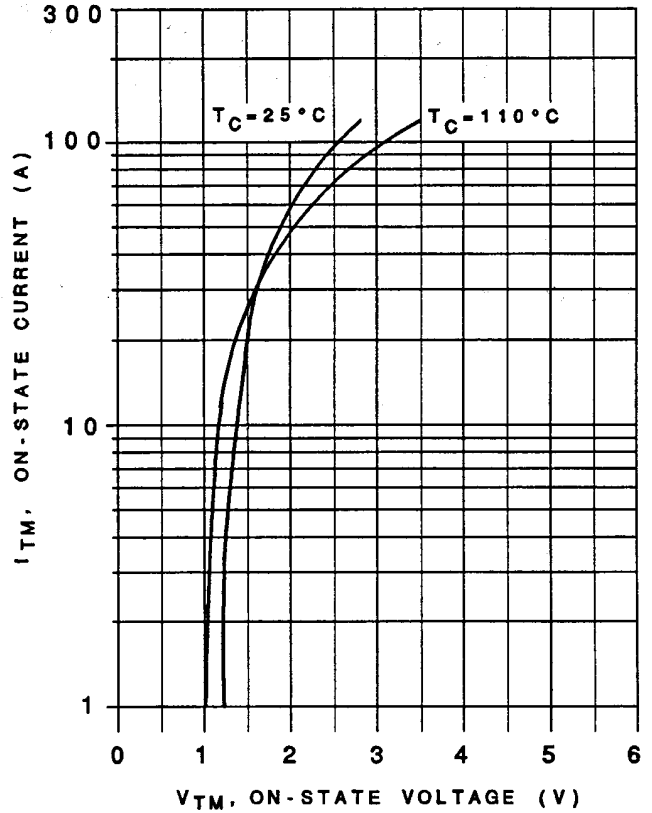
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CQ220I-12B SERIES RATING AND CHARACTERISTIC CURVES

RMS ON-STATE CURRENT vs. CASE TEMPERATURE



MAXIMUM ON-STATE CHARACTERISTICS



MECHANICAL DIMENSIONS

All Dimensions in Inches (mm).

