

CQ220-12B
 CQ220-12D
 CQ220-12M
 CQ220-12N

12 AMP TRIAC
 200 THRU 800 VOLTS



TO-220 CASE

CentralTM

Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CQ220-12B series type is an Epoxy Molded 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)

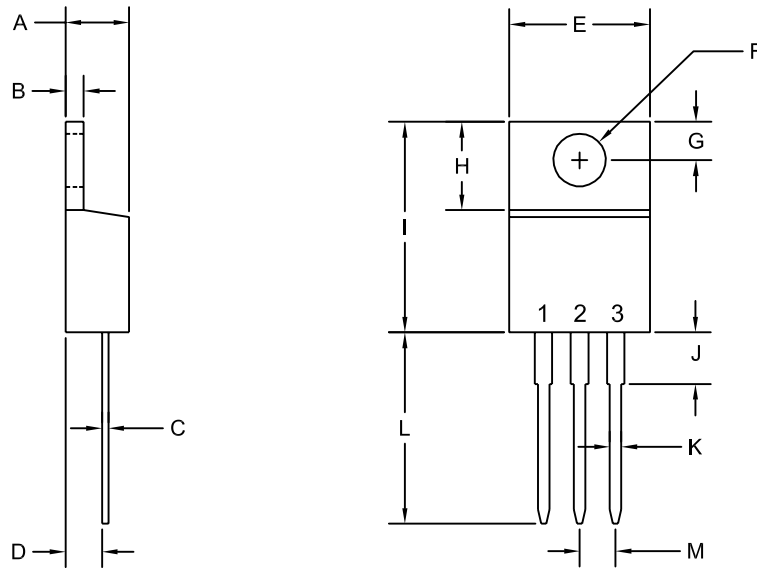
	SYMBOL	CQ220 -12B	CQ220 -12D	CQ220 -12M	CQ220 -12N	UNITS
Peak Repetitive Off-State Voltage	V_{DRM}	200	400	600	800	V
RMS On-State Current ($T_C=90^\circ\text{C}$)	$I_T(\text{RMS})$			12		A
Peak One Cycle Surge ($t=8.3\text{ms}$)	I_{TSM}			80		A
I^2t Value for Fusing ($t=8.3\text{ms}$)	I^2t			27		A^2s
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}			4.0		A
Peak Gate Voltage ($t_p=10\mu\text{s}$)	V_{GM}			16		V
Critical Rate of Rise of On-State Current						
Repetitive ($f=60\text{Hz}$)	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	θ_{JA}			60		$^\circ\text{C}/\text{W}$
Thermal Resistance	θ_{JC}			2.7		$^\circ\text{C}/\text{W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DRM}	Rated V_{DRM}			10	μA
I_{DRM}	Rated V_{DRM} , $T_C=125^\circ\text{C}$			500	μA
I_{GT}	$V_D=12\text{V}$, $R_L=10\Omega$, QUAD I, II, III		9.9	20	mA
I_{GT}	$V_D=12\text{V}$, $R_L=10\Omega$, QUAD IV		24.3	50	mA
I_H	$I_T=100\text{mA}$		14.1	25	mA
V_{GT}	$V_D=12\text{V}$, $R_L=10\Omega$, QUAD I, II, III		1.10	1.50	V
V_{GT}	$V_D=12\text{V}$, $R_L=10\Omega$, QUAD IV		2.10	2.50	V
V_{TM}	$I_{TM}=17\text{A}$, $t_p=380\mu\text{s}$		1.33	1.50	V
dv/dt	$V_D=2/3 V_{DRM}$, $R_{GK}=\infty$, $T_C=125^\circ\text{C}$	10			$\text{V}/\mu\text{s}$

R2 (24-September 2004)

TO-220 CASE - MECHANICAL OUTLINE



R2

LEAD CODE:

- 1) MT1
- 2) MT2
- 3) GATE

NOTE: TAB IS COMMON
TO PIN 2 (MT2)

MARKING CODE:

FULL PART NUMBER

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.170	0.190	4.31	4.82
B	0.045	0.055	1.15	1.39
C	0.013	0.026	0.33	0.65
D	0.083	0.107	2.10	2.72
E	0.394	0.417	10.01	10.60
F (DIA)	0.140	0.157	3.55	4.00
G	0.100	0.118	2.54	3.00
H	0.230	0.270	5.85	6.85
I	0.560	0.625	14.23	15.87
J	-	0.250	-	6.35
K	0.025	0.038	0.64	0.96
L	0.500	0.579	12.70	14.70
M	0.090	0.110	2.29	2.79

TO-220 (REV: R2)