

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

CQ220-6BS
CQ220-6DS
CQ220-6MS
CQ220-6NS

6.0 AMP TRIAC
200 THRU 800 VOLTS

JEDEC TO-220AB CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR CQ220-6BS series type is an Epoxy Molded 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 | CQ220 -6BS | CQ220 -6DS | CQ220 -6MS | CQ220 -6NS | UNITS |
|--|---------------------|---------------|---------------|---------------|---------------|------------------|
| Peak Repetitive Off-State Voltage | V _{DRM} | 200 | 400 | 600 | 800 | V |
| RMS On-State Current (T _C = 90°C) | I _{T(RMS)} | | | 6.0 | | A |
| Peak One Cycle Surge (t = 10ms) | I _{TSM} | | | 60 | | A |
| I ² t Value for Fusing (t = 10ms) | I ² t | | | 18 | | 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} | | 3.2 | | | °C/W |

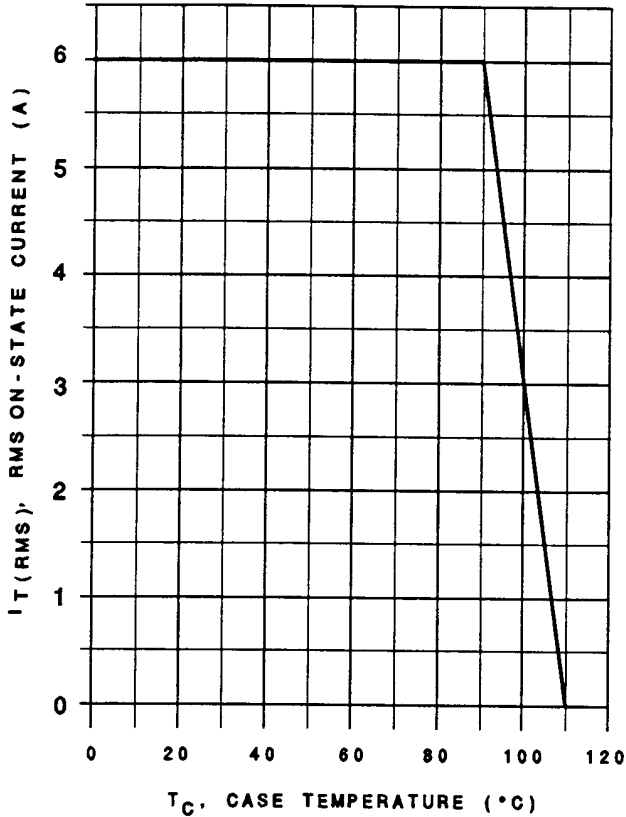
ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|------------------|---|-----|-----|------|-------|
| I _{DRM} | Rated V _{DRM} | | | 0.01 | mA |
| I _{DRM} | Rated V _{DRM} , T _C = 110°C | | | 0.75 | mA |
| I _{GT} | V _D = 12V, R _L = 33Ω, QUAD I,II,III | | | 5.0 | mA |
| I _{GT} | V _D = 12V, R _L = 33Ω, QUAD IV | | | 10 | mA |
| I _H | I _T = 100mA | | | 15 | mA |
| V _{GT} | V _D = 12V, R _L = 33Ω, QUAD I,II,III,IV | | | 1.50 | V |
| V _{TM} | I _{TM} = 8.5A, tp = 10ms | | | 1.65 | V |
| dv/dt | V _D = 2/3 V _{DRM} , R _{GK} = ∞, T _C = 110°C | | 10 | | V/μs |

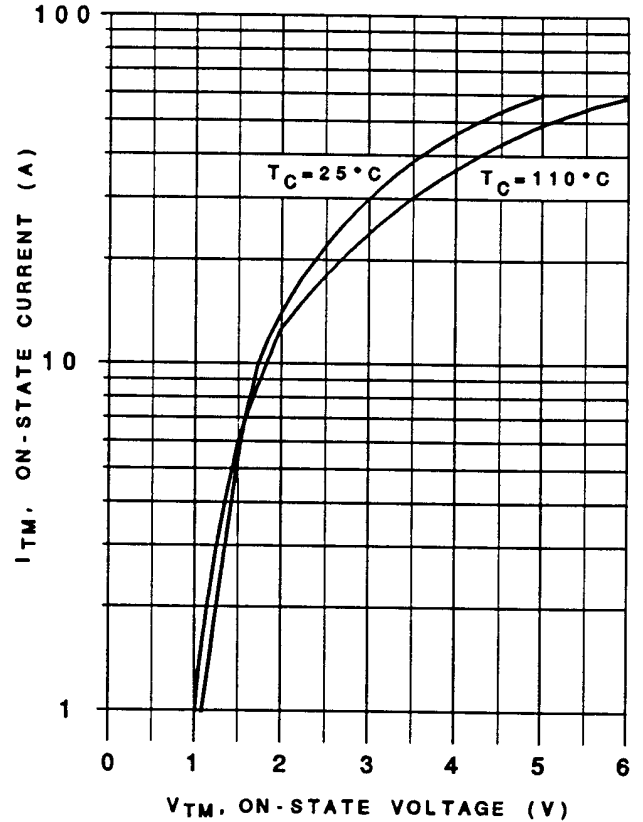
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CQ220-6BS SERIES RATING AND CHARACTERISTIC CURVES

RMS ON-STATE CURRENT vs. CASE TEMPERATURE



MAXIMUM ON-STATE CHARACTERISTICS



MECHANICAL DIMENSIONS

All Dimensions in Inches (mm).

