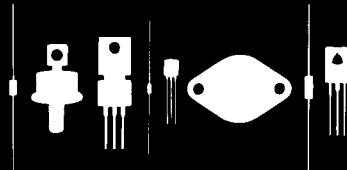


Central Semiconductor Corp.
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 145 Adams Avenue
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CS220-10B
 CS220-10D
 CS220-10M
 CS220-10N

SILICON CONTROLLED RECTIFIER
10 AMP, 200 THRU 800 VOLTS

JEDEC TO-220AB CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR CS220-10B series type is an Epoxy Molded Silicon Controlled Rectifier designed for sensing circuit applications and control systems.

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

| | SYMBOL | CS220 -10B | CS220 -10D | CS220 -10M | CS220 -10N | UNITS |
|---|--------------------|---------------|---------------|---------------|---------------|---------------------------|
| Peak Repetitive Off-State Voltage | V_{DRM}, V_{RRM} | 200 | 400 | 600 | 800 | V |
| RMS On-State Current ($T_C = 90^\circ\text{C}$) | $I_T(\text{RMS})$ | | | 10 | | A |
| Peak One Cycle Surge ($t = 10\text{ms}$) | I_{TSM} | | | 100 | | A |
| I^2t Value for Fusing ($t = 10\text{ms}$) | I^2t | | | 50 | | 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 Forward Gate Current ($t_p = 10\mu\text{s}$) | I_{FGM} | | | 4.0 | | A |
| Peak Forward Gate Voltage ($t_p = 10\mu\text{s}$) | V_{FGM} | | | 16 | | V |
| Peak Reverse Gate Voltage ($t_p = 10\mu\text{s}$) | V_{RGM} | | | 5.0 | | V |
| Critical Rate of Rise of On-State Current | di/dt | | | 50 | | $\text{A}/\mu\text{s}$ |
| Storage Temperature | T_{stg} | | -40 to +150 | | | $^\circ\text{C}$ |
| Junction Temperature | T_J | | -40 to +110 | | | $^\circ\text{C}$ |
| Thermal Resistance | θ_{J-A} | | | 60 | | $^\circ\text{C}/\text{W}$ |
| Thermal Resistance | θ_{J-C} | | | 2.5 | | $^\circ\text{C}/\text{W}$ |

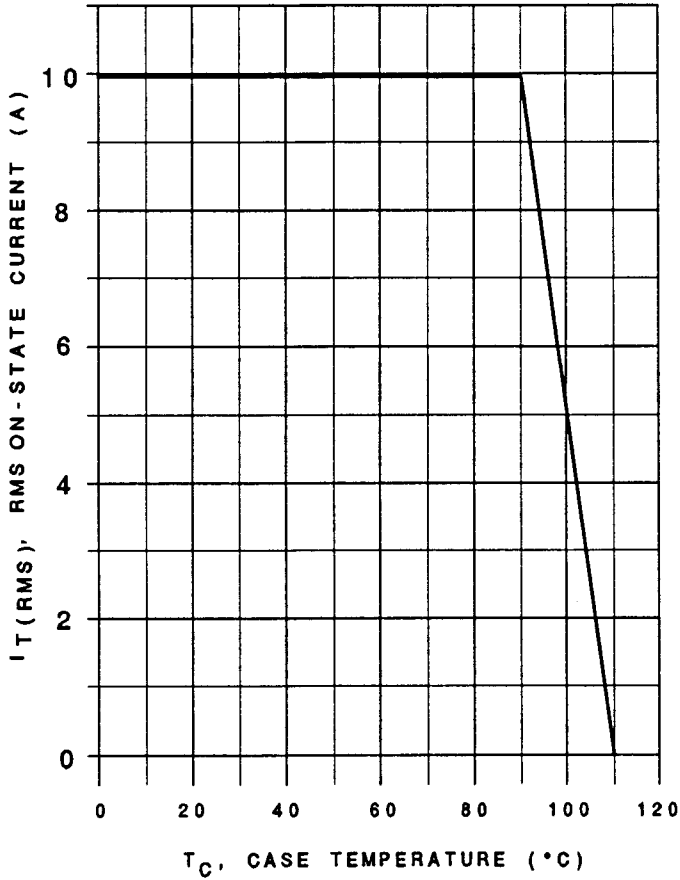
ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|--------------------|---|-----|-----|------|------------------------|
| I_{DRM}, I_{RRM} | Rated V_{DRM}, V_{RRM} | | | 0.01 | mA |
| I_{DRM}, I_{RRM} | Rated $V_{DRM}, V_{RRM}, T_C = 110^\circ\text{C}$ | | | 2.00 | mA |
| I_{GT} | $V_D = 12\text{V}, R_L = 33\Omega$ | | | 15 | mA |
| I_H | $I_T = 100\text{mA}$ | | | 30 | mA |
| V_{GT} | $V_D = 12\text{V}, R_L = 33\Omega$ | | | 1.50 | V |
| V_{TM} | $I_{TM} = 20\text{A}, t_p = 10\text{ms}$ | | | 1.60 | V |
| dv/dt | $V_D = .67 \times V_{DRM}, T_C = 110^\circ\text{C}$ | 200 | | | $\text{V}/\mu\text{s}$ |

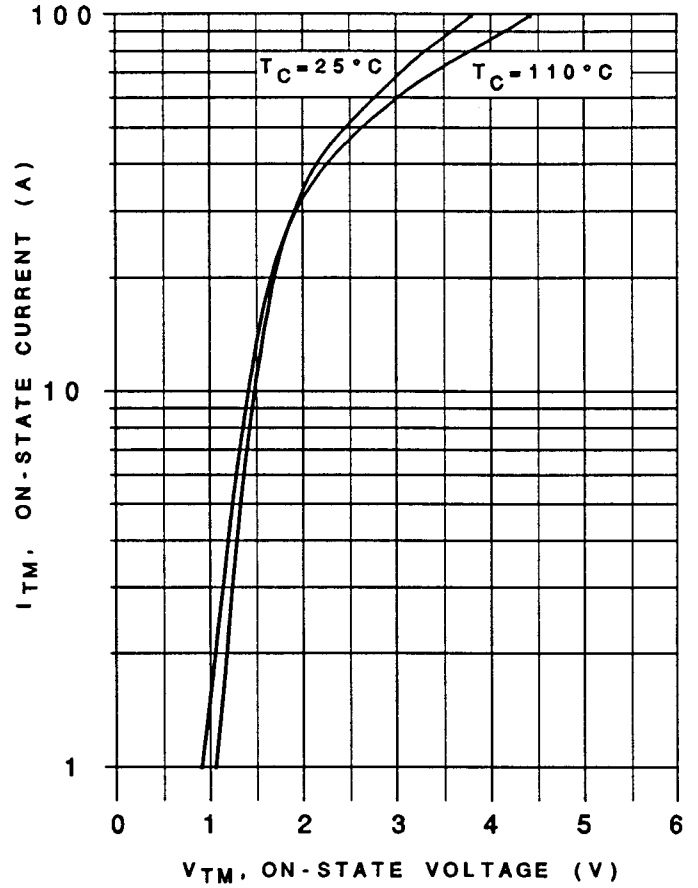
(OVER)

CS220-10B SERIES RATING AND CHARACTERISTIC CURVES

RMS ON-STATE CURRENT vs. CASE TEMPERATURE



MAXIMUM ON-STATE CHARACTERISTICS



MECHANICAL DIMENSIONS

All Dimensions in Inches (mm).

