

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

CS220-16B
CS220-16D
CS220-16M
CS220-16N

SILICON CONTROLLED RECTIFIER
16 AMP, 200 THRU 800 VOLTS

JEDEC TO-220AB CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR CS220-16B series type is an Epoxy Molded Silicon Controlled Rectifier designed for sensing circuit applications and control systems.

MAXIMUM RATINGS (T_C = 25°C unless otherwise noted)

| | SYMBOL | CS220 -16B | CS220 -16D | CS220 -16M | CS220 -16N | UNITS |
|--|-------------------------------------|---------------|---------------|---------------|---------------|------------------|
| Peak Repetitive Off-State Voltage | V _{DRM} , V _{RPM} | 200 | 400 | 600 | 800 | V |
| RMS On-State Current (T _C = 90°C) | I _{T(RMS)} | | | 16 | | A |
| Peak One Cycle Surge (t = 10ms) | I _{TSM} | | | 160 | | A |
| I ² t Value for Fusing (t = 10ms) | I ² t | | | 128 | | A ² s |
| Peak Gate Power (tp = 10μs) | P _{GM} | | | 40 | | W |
| Average Gate Power Dissipation | P _{G(AV)} | | | 1.0 | | W |
| Peak Forward Gate Current (tp = 10μs) | I _{FGM} | | | 4.0 | | A |
| Peak Forward Gate Voltage (tp = 10μs) | V _{FGM} | | | 16 | | V |
| Peak Reverse Gate Voltage (tp = 10μs) | V _{RGM} | | | 5.0 | | V |
| Critical Rate of Rise of On-State Current | di/dt | | | 100 | | A/μs |
| Storage Temperature | T _{stg} | | -40 to +150 | | | °C |
| Junction Temperature | T _J | | -40 to +125 | | | °C |
| Thermal Resistance | θ _{J-A} | | | 60 | | °C/W |
| Thermal Resistance | θ _{J-C} | | | 2.0 | | °C/W |

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

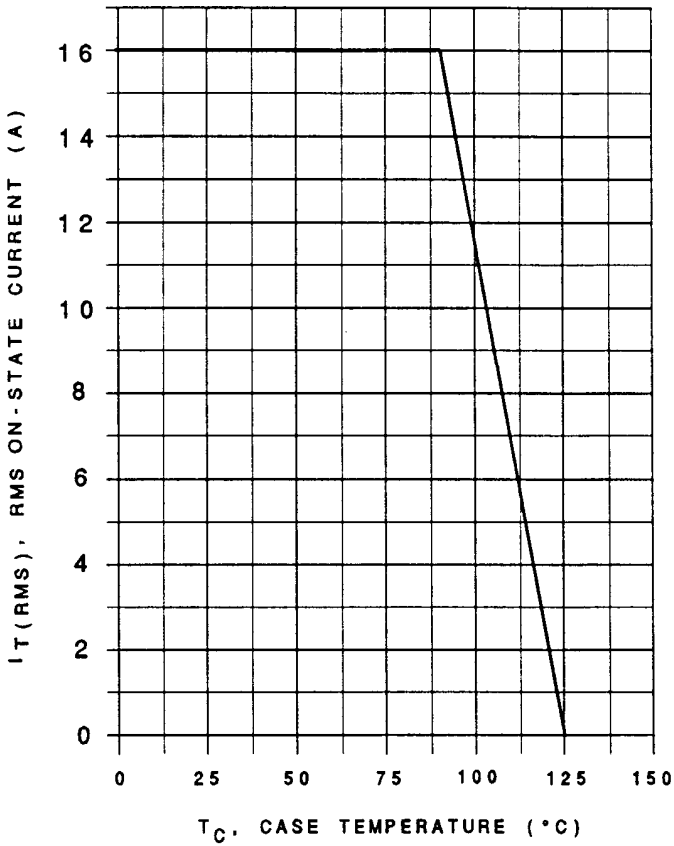
| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|-------------------------------------|--|-----|-----|------|-------|
| I _{DRM} , I _{RPM} | Rated V _{DRM} , V _{RPM} | | | 0.01 | mA |
| I _{DRM} , I _{RPM} | Rated V _{DRM} , V _{RPM} , T _C = 125°C | | | 2.00 | mA |
| I _{GT} | V _D = 12V, R _L = 33Ω | | | 25 | mA |
| I _H | I _T = 100mA | | | 40 | mA |
| V _{GT} | V _D = 12V, R _L = 33Ω | | | 1.50 | V |
| V _{TM} | I _{TM} = 32A, tp = 10ms | | | 1.60 | V |
| dv/dt | V _D = .67 x V _{DRM} , T _C = 125°C | 500 | | | V/μs |

(OVER)

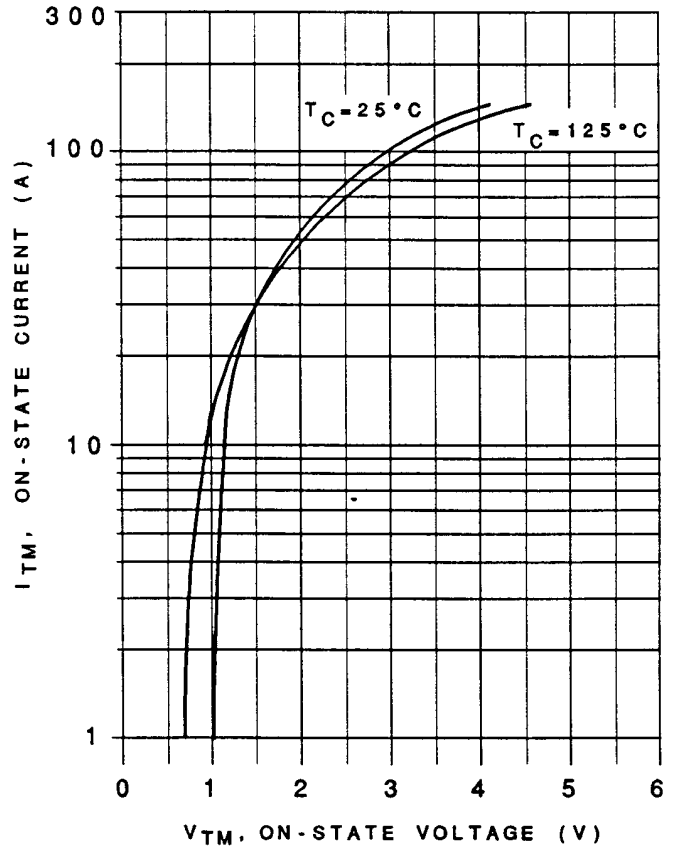
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CS220-16B SERIES RATING AND CHARACTERISTIC CURVES

RMS ON-STATE CURRENT vs. CASE TEMPERATURE



MAXIMUM ON-STATE CHARACTERISTICS



MECHANICAL DIMENSIONS

All Dimensions in Inches (mm).

