

# Central<sup>TM</sup> 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<sub>C</sub> = 25°C unless otherwise noted)

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

## ELECTRICAL CHARACTERISTICS (T<sub>C</sub> = 25°C unless otherwise noted)

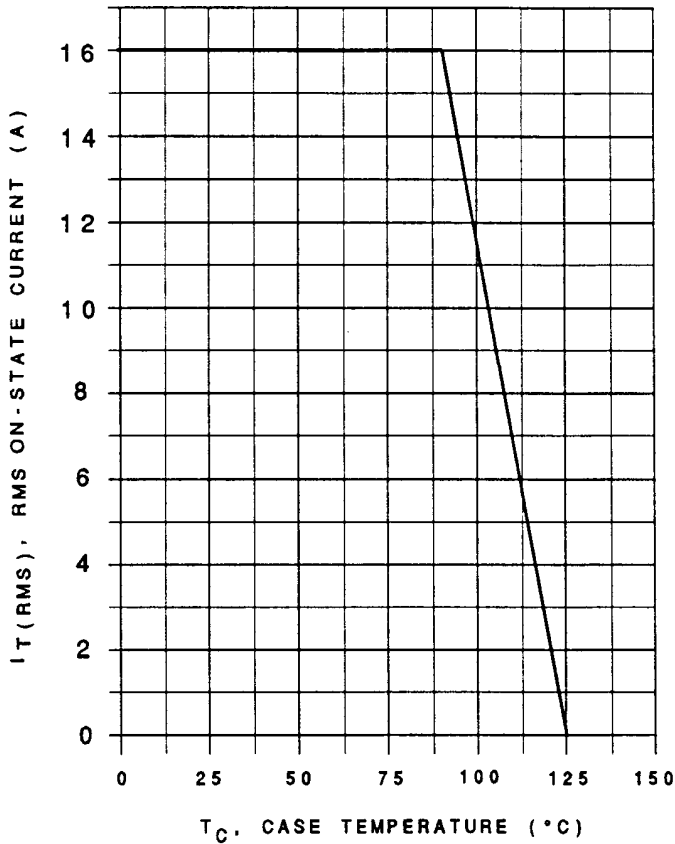
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I <sub>DRM</sub> , I <sub>RRM</sub>	Rated V <sub>DRM</sub> , V <sub>RRM</sub>			0.01	mA
I <sub>DRM</sub> , I <sub>RRM</sub>	Rated V <sub>DRM</sub> , V <sub>RRM</sub> , T <sub>C</sub> = 125°C			2.00	mA
I <sub>GT</sub>	V <sub>D</sub> = 12V, R <sub>L</sub> = 33Ω			25	mA
I <sub>H</sub>	I <sub>T</sub> = 100mA			40	mA
V <sub>GT</sub>	V <sub>D</sub> = 12V, R <sub>L</sub> = 33Ω			1.50	V
V <sub>TM</sub>	I <sub>TM</sub> = 32A, tp = 10ms			1.60	V
dv/dt	V <sub>D</sub> = .67 x V <sub>DRM</sub> , T <sub>C</sub> = 125°C	500			V/μs

(OVER)

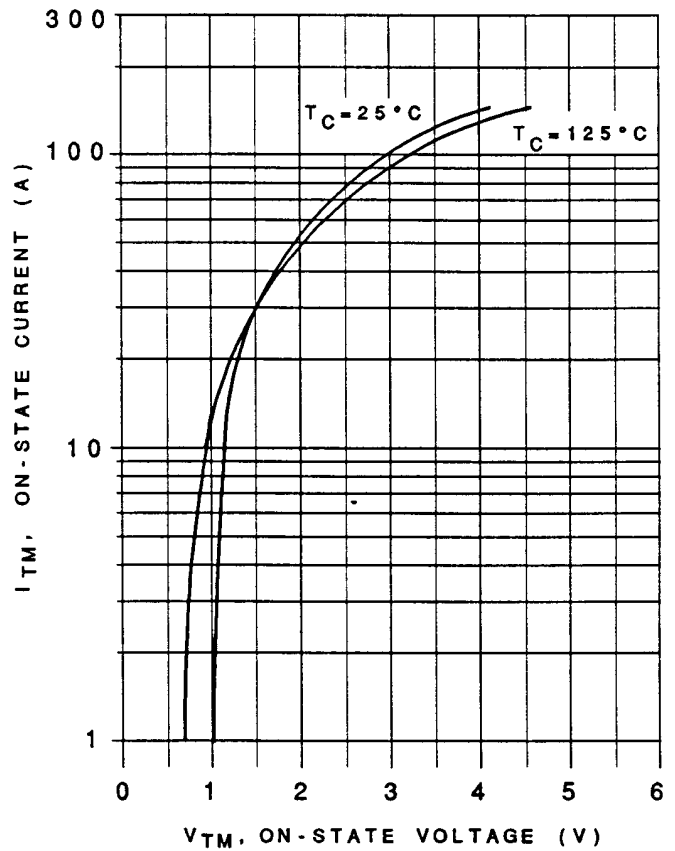
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# CS220-16B SERIES RATING AND CHARACTERISTIC CURVES

RMS ON-STATE CURRENT vs. CASE TEMPERATURE

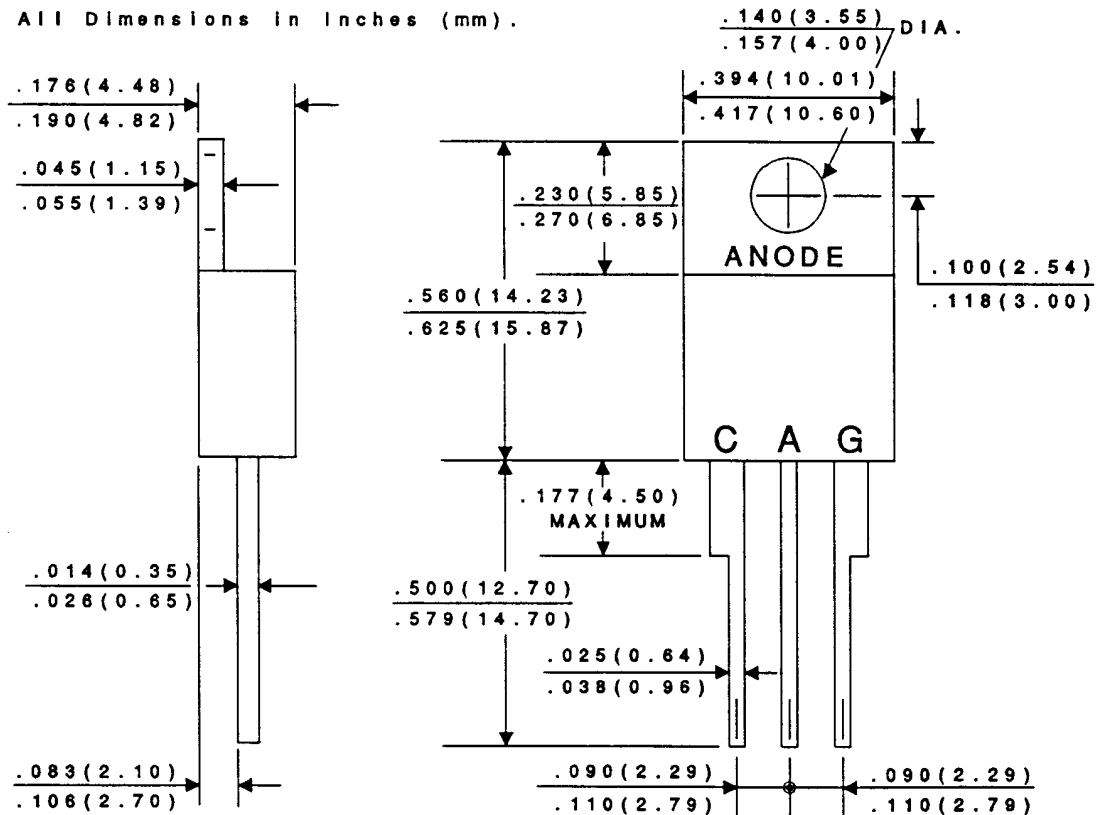


MAXIMUM ON-STATE CHARACTERISTICS



## MECHANICAL DIMENSIONS

All Dimensions in Inches (mm).



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