Central™
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Manufacturers of World Class Discrete Semiconductors

Data Sheet

CS220-12B
CS220-12D
CS220-12M
CS220-12N
CS220-12P

SILICON CONTROLLED RECTIFIER
12 AMP, 200 THRU 1000 VOLTS

JEDEC TO-220AB CASE

DESCRIPTION
The CENTRAL SEMICONDUCTOR CS220-12B 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 -12B	CS220 -12D	CS220 -12M	CS220 -12N	CS220 -12P	UNITS
Peak Repetitive Off-State Voltage	V_{DRM}, V_{RRM}	200	400	600	800	1000	V
RMS On-State Current (T_C = 90°C)	$I_{T(RMS)}$			12			A
Peak One Cycle Surge (t = 10ms)	I_{TSM}			120			A
I^2t Value for Fusing (t = 10ms)	I^2t			72			A^2s
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}			2.5			°C/W

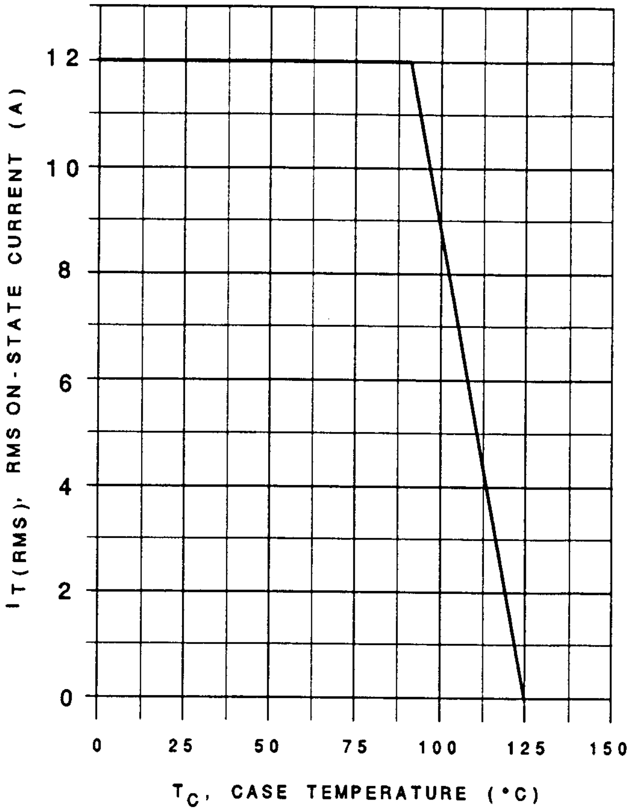
ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

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 = 125°C			3.00	mA
I_{GT}	V_D = 12V, R_L = 33Ω			15	mA
I_H	I_T = 100mA			30	mA
V_{GT}	V_D = 12V, R_L = 33Ω			1.50	V
V_{TM}	I_{TM} = 24A, tp = 10ms			1.60	V
dv/dt	V_D = .67 x V_{DRM}, T_C = 125°C	200			V/μs

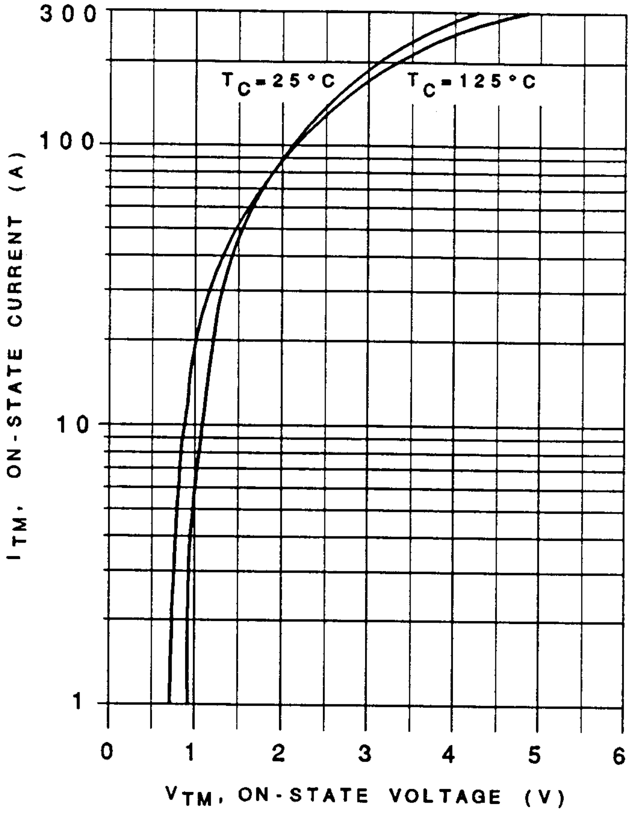
R2 (30-November 2001)

CS220-12B SERIES RATING AND CHARACTERISTIC CURVES

RMS ON-STATE CURRENT vs. CASE TEMPERATURE

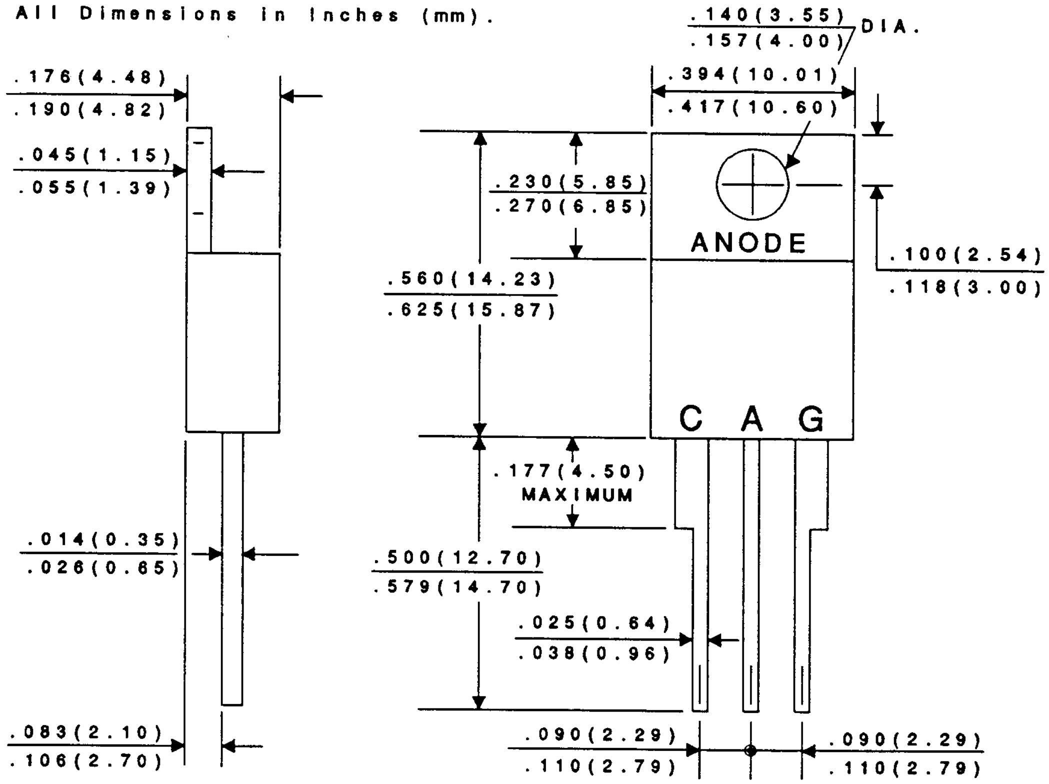


MAXIMUM ON-STATE CHARACTERISTICS



MECHANICAL DIMENSIONS

All Dimensions in Inches (mm).



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