

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

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

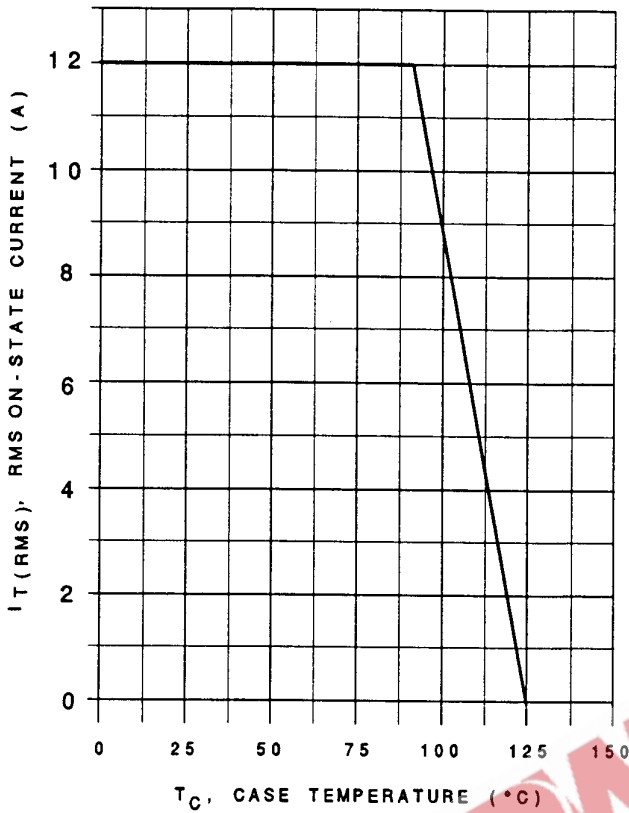
	SYMBOL	CS220 -12B	CS220 -12D	CS220 -12M	CS220 -12N	CS220 -12P	UNITS
Peak Repetitive Off-State Voltage	$V_{\text{DRM}}, V_{\text{RRM}}$	200	400	600	800	1000	V
RMS On-State Current ($T_C = 90^\circ\text{C}$)	$I_{\text{T(RMS)}}$			12			A
Peak One Cycle Surge ($t = 10\text{ms}$)	I_{TSM}			120			A
I^2t Value for Fusing ($t = 10\text{ms}$)	I^2t			72			A^2s
Peak Gate Power ($t_p = 10\mu\text{s}$)	P_{GM}			40			W
Average Gate Power Dissipation	$P_{\text{G(AV)}}$			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			100			$\text{A}/\mu\text{s}$
Storage Temperature	T_{stg}			-40 to +150			$^\circ\text{C}$
Junction Temperature	T_{J}			-40 to +125			$^\circ\text{C}$
Thermal Resistance	$\theta_{\text{J-A}}$			60			$^\circ\text{C}/\text{W}$
Thermal Resistance	$\theta_{\text{J-C}}$			2.5			$^\circ\text{C}/\text{W}$

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

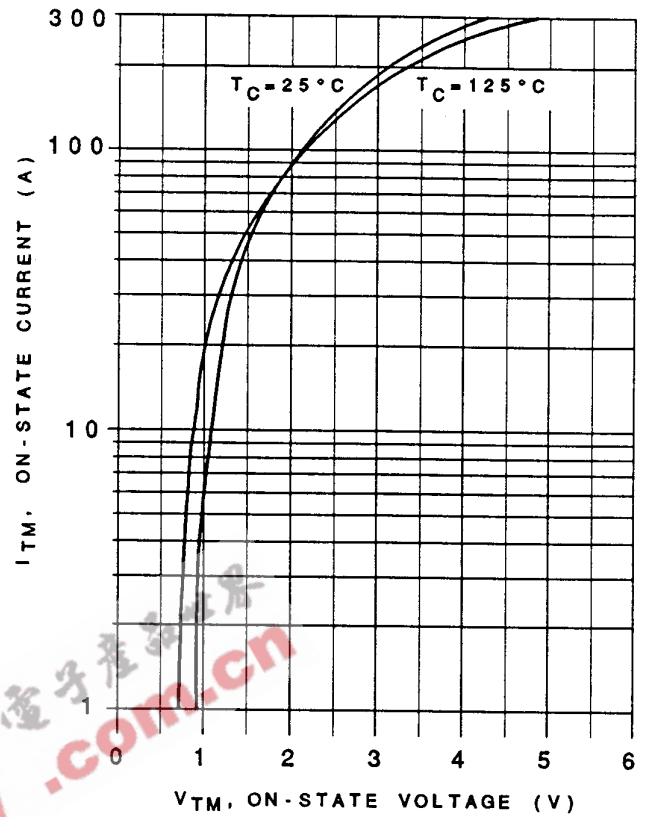
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}$			0.01	mA
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}, T_C = 125^\circ\text{C}$			3.00	mA
I_{GT}	$V_{\text{D}} = 12\text{V}, R_{\text{L}} = 33\Omega$			15	mA
I_{H}	$I_{\text{T}} = 100\text{mA}$			30	mA
V_{GT}	$V_{\text{D}} = 12\text{V}, R_{\text{L}} = 33\Omega$			1.50	V
V_{TM}	$I_{\text{TM}} = 24\text{A}, t_p = 10\text{ms}$			1.60	V
dv/dt	$V_{\text{D}} = .67 \times V_{\text{DRM}}, T_C = 125^\circ\text{C}$	200			$\text{V}/\mu\text{s}$

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).

