

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

CS218I-50B  
CS218I-50D  
CS218I-50M  
CS218I-50N  
CS218I-50P  
CS218I-50PB

ISOLATED TAB SCR  
50 AMP, 200 THRU 1200 VOLTS  
TO-218 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR CS218I-50B series type is an Epoxy Molded Silicon SCR designed for sensing circuit applications and control systems. This device is mounted in a TO-218 case with an isolated mounting tab.

## MAXIMUM RATINGS (T<sub>C</sub> = 25°C unless otherwise noted)

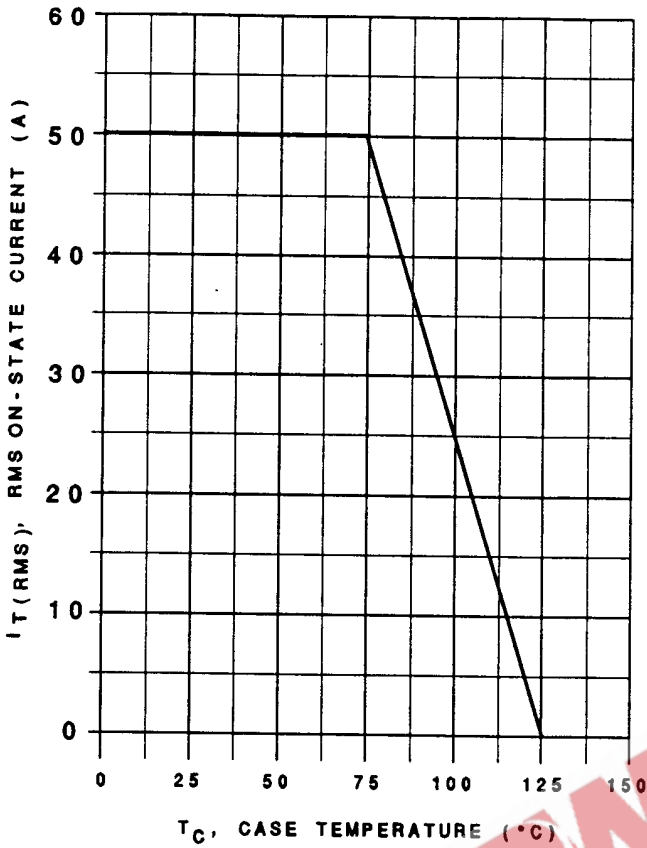
SYMBOL	CS218	CS218	CS218	CS218	CS218	CS218	UNITS	
	I-50B	I-50D	I-50M	I-50N	I-50P	I-50PB		
Peak Repetitive Off-State Voltage	V <sub>DRM</sub> , V <sub>RRM</sub>	200	400	600	800	1000	1200	V
RMS On-State Current (T <sub>C</sub> = 75°C)	I <sub>T(RMS)</sub>			50				A
Peak One Cycle Surge (t = 10ms)	I <sub>TSM</sub>			500				A
I <sup>2</sup> t Value for Fusing (t = 10ms)	I <sup>2</sup> t			1250				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>			8.0				A
Peak Forward Gate Voltage (tp = 10μs)	V <sub>FGM</sub>			16				V
Peak Reverse Gate Voltage	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>			50				°C/W
Thermal Resistance	θ <sub>J-C</sub>			0.9				°C/W
Isolation Voltage	V <sub>ISO</sub>			2500				V(RMS)

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

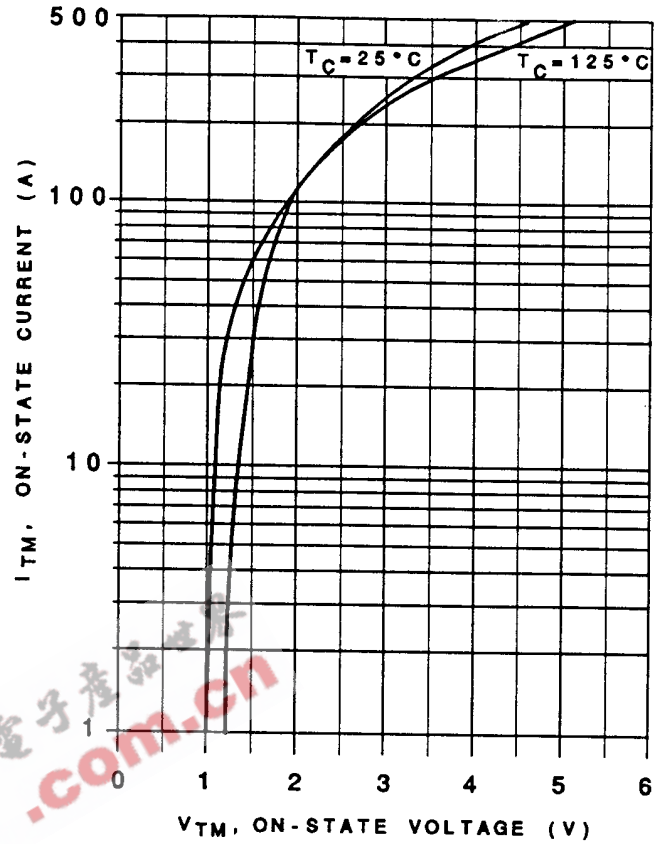
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I <sub>DRM</sub> , I <sub>RRM</sub>	Rated V <sub>DRM</sub> , V <sub>RRM</sub>			0.02	mA
I <sub>DRM</sub> , I <sub>RRM</sub>	Rated V <sub>DRM</sub> , V <sub>RRM</sub> , T <sub>C</sub> = 125°C			6.00	mA
I <sub>GT</sub>	V <sub>D</sub> = 12V, R <sub>L</sub> = 33Ω			80	mA
I <sub>H</sub>	I <sub>T</sub> = 500mA			80	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> = 100A, tp = 380ms			1.90	V
dv/dt	V <sub>D</sub> = 2/3 V <sub>DRM</sub> , R <sub>GK</sub> = ∞, T <sub>C</sub> = 125°C, V <sub>DRM</sub> ≤ 800V	500			V/μs
dv/dt	V <sub>D</sub> = 2/3 V <sub>DRM</sub> , R <sub>GK</sub> = ∞, T <sub>C</sub> = 125°C, V <sub>DRM</sub> ≥ 1000V	250			V/μs

# CS218I-50B SERIES RATING AND CHARACTERISTIC CURVES

RMS ON-STATE CURRENT vs. CASE TEMPERATURE



MAXIMUM ON-STATE CHARACTERISTICS



## MECHANICAL OUTLINE

