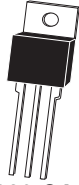


CS220-8B  
 CS220-8D  
 CS220-8M  
 CS220-8N

SILICON CONTROLLED RECTIFIER  
 8.0 AMP, 200 THRU 800 VOLTS



TO-220 CASE

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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CS220-8B series type is an Epoxy Molded Silicon Controlled Rectifier designed for sensing circuit applications and control systems.

**MARKING CODE: FULL PART NUMBER**

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

	SYMBOL	CS220 -8B	CS220 -8D	CS220 -8M	CS220 -8N	UNITS
Peak Repetitive Off-State Voltage	$V_{DRM}, V_{RRM}$	200	400	600	800	V
RMS On-State Current ( $T_C=90^\circ\text{C}$ )	$I_T(\text{RMS})$			8.0		A
Peak One Cycle Surge ( $t=10\text{ms}$ )	$I_{TSM}$			60		A
$I^2t$ Value for Fusing ( $t=10\text{ms}$ )	$I^2t$			18		A <sup>2</sup> s
Peak Gate Power ( $t_p=10\mu\text{s}$ )	$P_{GM}$			40		W
Average Gate Power Dissipation	$P_G(\text{AV})$			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	$di/dt$			50		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	$\theta_{JA}$			60		$^\circ\text{C}/\text{W}$
Thermal Resistance	$\theta_{JC}$			2.5		$^\circ\text{C}/\text{W}$

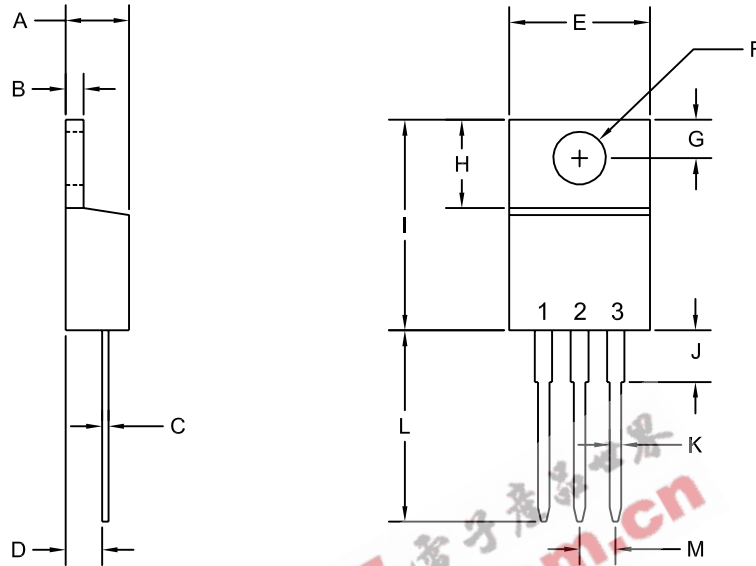
**ELECTRICAL CHARACTERISTICS:** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}$			10	$\mu\text{A}$
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, T_C=125^\circ\text{C}$			2.0	mA
$I_{GT}$	$V_D=12\text{V}, R_L=10\Omega$		3.0	15	mA
$I_H$	$I_T=100\text{mA}$		7.3	20	mA
$V_{GT}$	$V_D=12\text{V}, R_L=10\Omega$		0.9	1.5	V
$V_{TM}$	$I_{TM}=16\text{A}, t_p=380\mu\text{s}$		1.3	1.8	V
$dv/dt$	$V_D=2/3 V_{DRM}, T_C=125^\circ\text{C}$	200			V/ $\mu\text{s}$

R3 (24-September 2004)

**SILICON CONTROLLED RECTIFIER**  
**8.0 AMP, 200 THRU 800 VOLTS**

**TO-220 CASE - MECHANICAL OUTLINE**



R2

**LEAD CODE:**

- 1) CATHODE
- 2) ANODE
- 3) GATE

NOTE: TAB IS COMMON  
TO PIN 2 (ANODE)

**MARKING CODE:**

**FULL PART NUMBER**

SYMBOL	DIMENSIONS		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.170	0.190	4.31	4.82
B	0.045	0.055	1.15	1.39
C	0.013	0.026	0.33	0.65
D	0.083	0.107	2.10	2.72
E	0.394	0.417	10.01	10.60
F (DIA)	0.140	0.157	3.55	4.00
G	0.100	0.118	2.54	3.00
H	0.230	0.270	5.85	6.85
I	0.560	0.625	14.23	15.87
J	-	0.250	-	6.35
K	0.025	0.038	0.64	0.96
L	0.500	0.579	12.70	14.70
M	0.090	0.110	2.29	2.79

TO-220 (REV: R2)

R3 (24-September 2004)