

CS220-25B  
 CS220-25D  
 CS220-25M  
 CS220-25N

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



**TO-220 CASE**

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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CS220-25B 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 -25B	CS220 -25D	CS220 -25M	CS220 -25N	UNITS
Peak Repetitive Off-State Voltage	$V_{DRM}, V_{RRM}$	200	400	600	800	V
RMS On-State Current ( $T_C=90^\circ\text{C}$ )	$I_T(\text{RMS})$			25		A
Peak One Cycle Surge ( $t=10\text{ms}$ )	$I_{TSM}$			250		A
$I^2t$ Value for Fusing ( $t=10\text{ms}$ )	$I^2t$			310		A <sup>2</sup> s
Peak Gate Power ( $t_p=10\mu\text{s}$ )	$P_{GM}$			40		W
Average Gate Power Dissipation	$P_G (AV)$			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		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		$^\circ\text{C/W}$
Thermal Resistance	$\theta_{JC}$			1.3		$^\circ\text{C/W}$

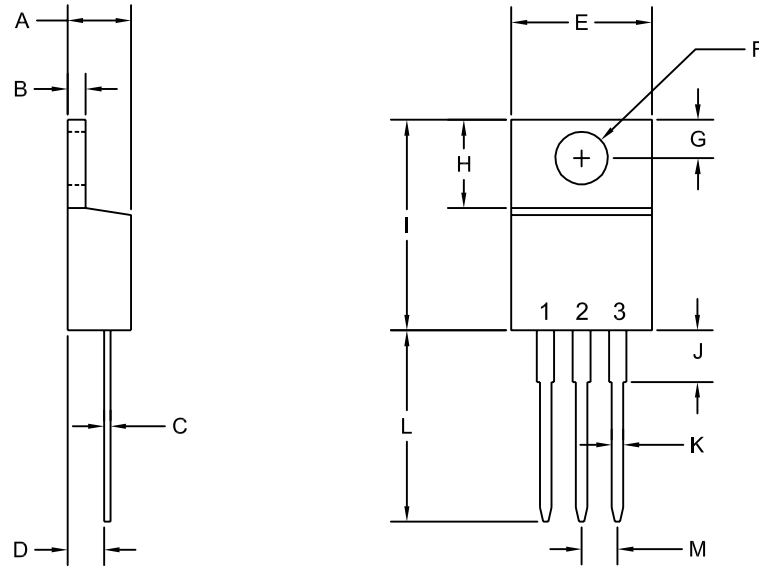
**ELECTRICAL CHARACTERISTICS:** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

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 $V_{DRM}, V_{RRM}, T_C=125^\circ\text{C}$			4.0	mA
$I_{GT}$	$V_D=12\text{V}, R_L=10\Omega$		4.2	30	mA
$I_H$	$I_T=100\text{mA}$		12.5	50	mA
$V_{GT}$	$V_D=12\text{V}, R_L=10\Omega$		0.65	1.50	V
$V_{TM}$	$I_{TM}=50\text{A}, t_p=380\mu\text{s}$			1.80	V
$dv/dt$	$V_D=2/3 V_{DRM}, T_C=125^\circ\text{C}$	200			V/ $\mu\text{s}$

R1 (14-April 2004)

**SILICON CONTROLLED RECTIFIER  
25 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			
	INCHES		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)

R1 (14-April 2004)