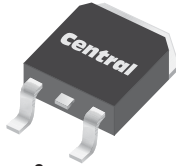


CSDD-12M  
CSDD-12N

**SURFACE MOUNT  
SILICON CONTROLLED RECTIFIER  
12 AMP, 600 THRU 800 VOLTS**



**D²PAK CASE**



[www.centrialsemi.com](http://www.centrialsemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CSDD-12M series type is an Epoxy Molded Silicon Controlled Rectifier designed for sensing circuit applications and control systems.

**MARKING: FULL PART NUMBER**

<b>MAXIMUM RATINGS:</b> ( $T_C=25^\circ\text{C}$ unless otherwise noted)	<b>SYMBOL</b>	<b>CSDD-12M</b>	<b>CSDD-12N</b>	<b>UNITS</b>
Peak Repetitive Off-State Voltage	$V_{\text{DRM}}, V_{\text{RRM}}$	600	800	V
RMS On-State Current ( $T_C=90^\circ\text{C}$ )	$I_{\text{T(RMS)}}$	12		A
Peak One Cycle Surge, $t=10\text{ms}$	$I_{\text{TSM}}$	110		A
$I^2t$ Value for Fusing, $t=10\text{ms}$	$I^2t$	60		$\text{A}^2\text{s}$
Peak Gate Power, $t_p=10\mu\text{s}$	$P_{\text{GM}}$	40		W
Average Gate Power Dissipation	$P_{\text{G(AV)}}$	1.0		W
Peak Forward Gate Current, $t_p=10\mu\text{s}$	$I_{\text{FGM}}$	4.0		A
Peak Forward Gate Voltage, $t_p=10\mu\text{s}$	$V_{\text{FGM}}$	16		V
Peak Reverse Gate Voltage, $t_p=10\mu\text{s}$	$V_{\text{RGM}}$	5.0		V
Critical Rate of Rise of On-State Current	$di/dt$	100		$\text{A}/\mu\text{s}$
Operating Junction Temperature	$T_{\text{J}}$	-40 to +125		$^\circ\text{C}$
Storage Temperature	$T_{\text{stg}}$	-40 to +150		$^\circ\text{C}$
Thermal Resistance	$\theta_{\text{JA}}$	60		$^\circ\text{C}/\text{W}$
Thermal Resistance	$\theta_{\text{JC}}$	2.5		$^\circ\text{C}/\text{W}$

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

<b>SYMBOL</b>	<b>TEST CONDITIONS</b>	<b>MIN</b>	<b>TYP</b>	<b>MAX</b>	<b>UNITS</b>
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}$			10	$\mu\text{A}$
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}, T_C=125^\circ\text{C}$			3.0	$\text{mA}$
$I_{\text{GT}}$	$V_{\text{D}}=12\text{V}, R_{\text{L}}=10\Omega$		3.5	15	$\text{mA}$
$I_{\text{H}}$	$I_{\text{T}}=100\text{mA}$		8.7	20	$\text{mA}$
$V_{\text{GT}}$	$V_{\text{D}}=12\text{V}, R_{\text{L}}=10\Omega$		0.64	1.50	V
$V_{\text{TM}}$	$I_{\text{TM}}=24\text{A}, t_p=380\mu\text{s}$		1.21	1.60	V
$dv/dt$	$V_{\text{D}}=2/3 V_{\text{DRM}}, T_C=125^\circ\text{C}$	200			$\text{V}/\mu\text{s}$

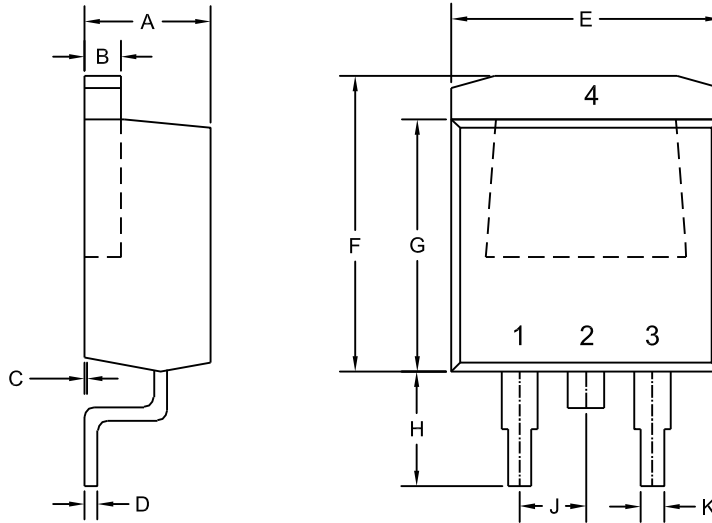
R2 (17-February 2010)

CSDD-12M  
CSDD-12N



**SURFACE MOUNT  
SILICON CONTROLLED RECTIFIER  
12 AMP, 600 THRU 800 VOLTS**

**D<sup>2</sup>PAK CASE - MECHANICAL OUTLINE**



R2

**LEAD CODE:**

- 1) Cathode
- 2) Anode
- 3) Gate
- 4) Anode

**MARKING:**

**FULL PART NUMBER**

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.163	0.189	4.14	4.80
B	0.045	0.055	1.14	1.40
C	0.000	0.010	0.00	0.25
D	0.012	0.028	0.30	0.70
E	0.386	0.409	9.80	10.40
F	0.378	0.417	9.60	10.60
G	0.335	0.358	8.50	9.10
H	0.197	0.236	5.00	6.00
J	0.093	0.108	2.35	2.75
K	0.030	0.035	0.75	0.90

D2PAK (REV: R2)

R2 (17-February 2010)