

CSICD05-1200

**SURFACE MOUNT
SILICON CARBIDE
SCHOTTKY RECTIFIER
5.0 AMP, 1200 VOLT**



DPAK-2L Case



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSICD05-1200 is a silicon carbide Schottky rectifier designed for high frequency systems where energy efficiency and thermal performance are critical design elements.

MARKING CODE: SICD0512

APPLICATIONS:

- Power inverters
- Motor drives
- Switch-mode power supplies
- Power factor correction

FEATURES:

- Low profile package
- Low switching loss
- Stable switching over temperature extremes

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

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	1200	V
Peak Reverse Surge Voltage	V_{RSM}	1200	V
DC Blocking Voltage	V_R	1200	V
Average Rectified Forward Current ($T_C=142^\circ\text{C}$)	I_O	5.0	A
Continuous Forward Current ($T_C=142^\circ\text{C}$)	I_F	5.0	A
Peak Forward Surge Current, $t_p=8.3\text{ms}$	I_{FSM}	40	A
Single Pulse Avalanche Energy (Note 1)	E_{AS}	44	mJ
Power Dissipation	P_D	150	W
Power Dissipation ($T_C=142^\circ\text{C}$)	P_D	42	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-55 to +175	$^\circ\text{C}$
Thermal Resistance	θ_{JC}	1.6	$^\circ\text{C/W}$

Note 1: $L=10\text{mH}$, $I_{PK}=2.9\text{A}$, $V_{DD}=100\text{V}$, Initial $T_J=25^\circ\text{C}$

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

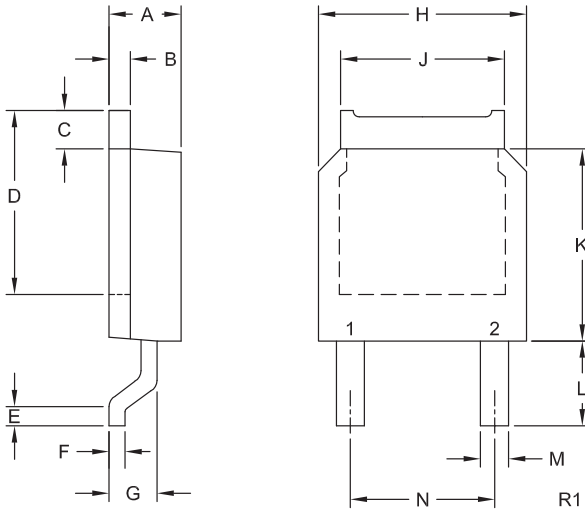
SYMBOL	TEST CONDITIONS	TYP	MAX	UNIT
I_R	$V_R=1200\text{V}$	30	190	μA
I_R	$V_R=1200\text{V}$, $T_J=175^\circ\text{C}$	45	600	μA
V_F	$I_F=5.0\text{A}$	1.5	1.7	V
V_F	$I_F=5.0\text{A}$, $T_J=175^\circ\text{C}$	2.3	3.0	V
Q_C	$V_R=600\text{V}$, $I_F=5.0\text{A}$, $di/dt=250\text{A}/\mu\text{s}$	14		nC
C_J	$V_R=1.0\text{V}$, $f=1.0\text{MHz}$	240		pF
C_J	$V_R=300\text{V}$, $f=1.0\text{MHz}$	26		pF
C_J	$V_R=600\text{V}$, $f=1.0\text{MHz}$	19		pF

R1 (7-March 2017)

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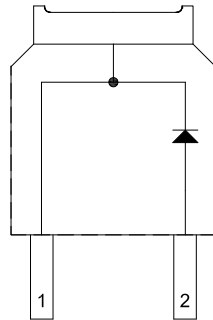
DPAK-2L CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.080	0.100	2.03	2.54
B	0.018	0.035	0.46	0.89
C	0.035	0.050	0.89	1.27
D	0.230		5.84	
E	0.021	0.027	0.53	0.69
F	0.015	0.025	0.38	0.64
G	0.051	0.071	1.30	1.80
H	0.250	0.270	6.35	6.86
J	0.195	0.215	4.95	5.46
K	0.230	0.250	5.84	6.35
L	0.087	0.118	2.21	3.00
M	0.025	0.045	0.64	1.14
N	0.180		4.57	

DPAK-2L (REV: R1)

PIN CONFIGURATION



LEAD CODE:

- 1) Cathode
- 2) Anode
- Tab) Cathode

MARKING CODE: SICD0512

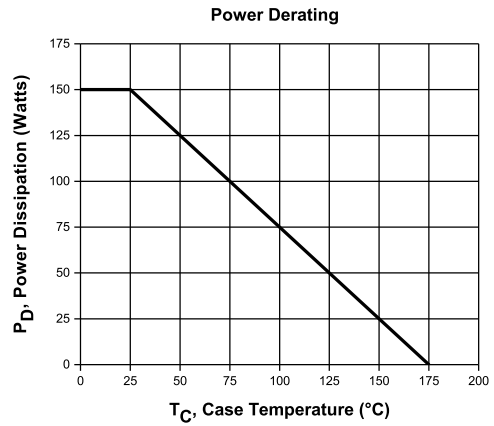
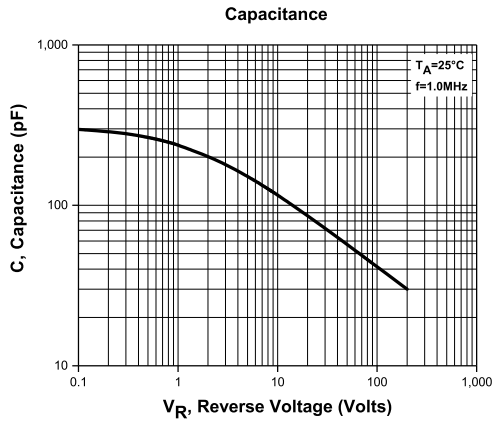
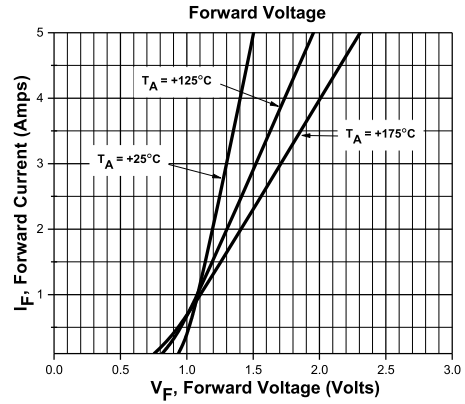
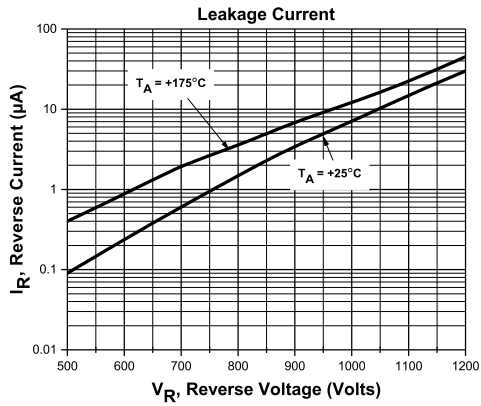
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TYPICAL ELECTRICAL CHARACTERISTICS



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