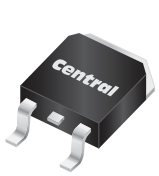
CSICD10-650

SURFACE MOUNT
SILICON CARBIDE
SCHOTTKY RECTIFIER
10 AMP, 650 VOLT



DPAK CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSICD10-650 is a silicon carbide Schottky rectifier designed for high frequency systems where energy efficiency and thermal performance are critical design elements.

MARKING: FULL PART NUMBER

FEATURES:

- Positive temperature coefficient
- High reverse voltage
- High operating temperature (175°C MAX)
- Stable switching over temperature extremes

APPLICATIONS:

- Power inverters
- Industrial motor drives
- Switch-mode power supplies
- Power factor correction
- Over-current protection

MAXIMUM RATINGS: (T_C=25°C unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	650	V
Peak Reverse Surge Voltage	V_{RSM}	650	V
DC Blocking Voltage	V_R	650	V
Continuous Forward Current (T_C=152°C)	I_F	10	A
Peak Forward Surge Current, tp=10ms	I_{FSM}	70	A
Single Pulse Avalanche Energy (Note 1)	E_{AS}	84	mJ
Power Dissipation	P_D	93	W
Power Dissipation (T_C=152°C)	P_D	25	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-55 to +175	°C
Thermal Resistance	Θ_{JC}	1.6	°C/W

Note 1: L=5.0mH, I_{PK}=5.5A, V_{DD}=100V, Initial T_J=25°C

ELECTRICAL CHARACTERISTICS: (T_J=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
I_R	V_R=650V		10	60	μA
I_R	V_R=650V, T_J=175°C		150		μA
BV_R	I_R=60μA	650			V
V_F	I_F=10A		1.5	1.7	V
V_F	I_F=10A, T_J=150°C		1.68	2.0	V
V_F	I_F=10A, T_J=175°C		1.75	2.1	V
Q_C	V_R=400V		23		nC
C_J	V_R=1.0V, f=1.0MHz		327		pF
C_J	V_R=300V, f=1.0MHz		38		pF
C_J	V_R=600V, f=1.0MHz		34		pF

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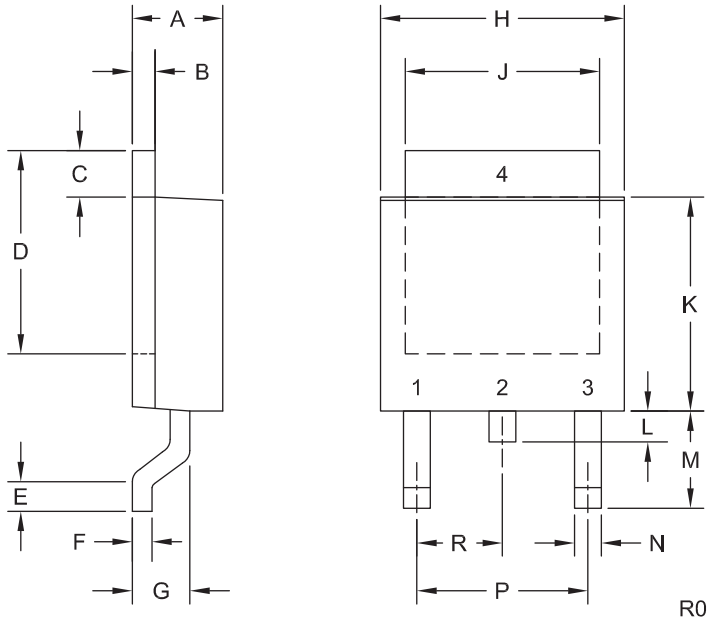
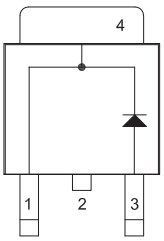
DPAK CASE - MECHANICAL OUTLINE



LEAD CODE:
1) Cathode
2) Cathode
3) Anode
4) Cathode
Pin 2 is common to the tab (4)

MARKING: FULL PART NUMBER



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.083	0.108	2.10	2.75
B	0.016	0.032	0.40	0.81
C	0.035	0.063	0.89	1.60
D	0.203	0.228	5.15	5.79
E	0.020	-	0.51	-
F	0.018	0.024	0.45	0.60
G	0.051	0.071	1.30	1.80
H	0.248	0.268	6.30	6.81
J	0.197	0.217	5.00	5.50
K	0.209	0.245	5.30	6.22
L	0.025	0.040	0.64	1.02
M	0.090	0.115	2.30	2.91
N	0.012	0.045	0.30	1.14
P	0.180		4.60	
R	0.090		2.30	

DPAK (REV: R0)

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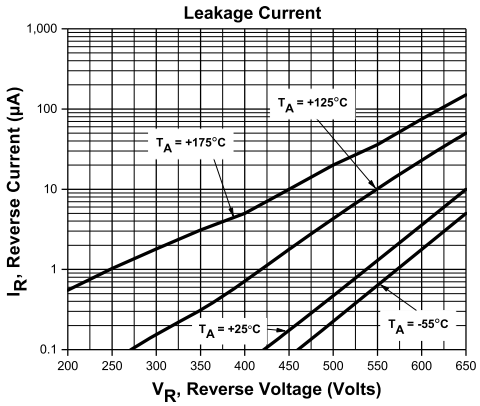
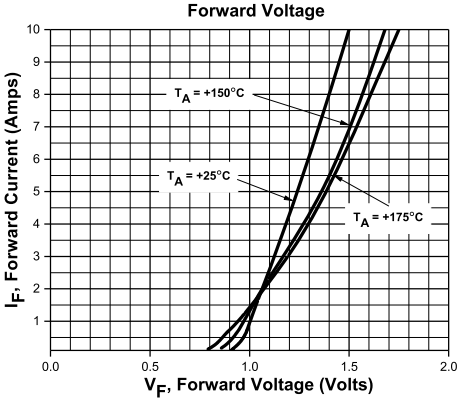
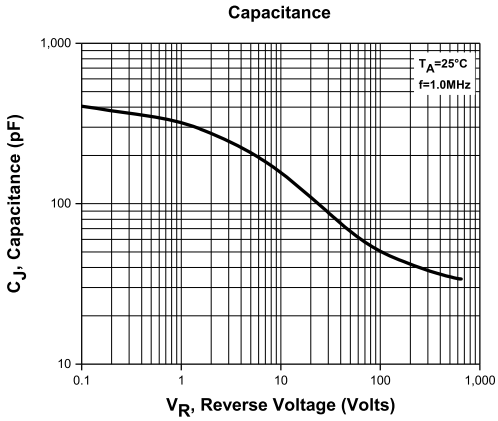
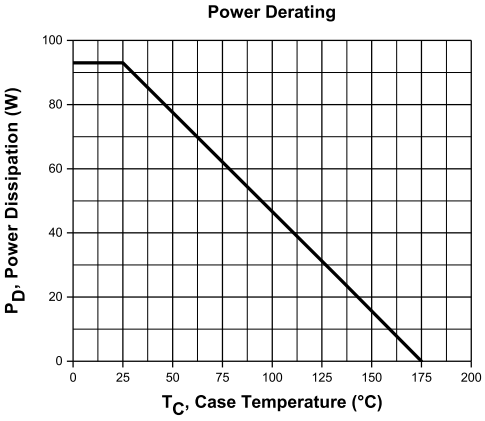
TYPICAL ELECTRICAL CHARACTERISTICS









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