

CSICD10-650

**SURFACE MOUNT
SILICON CARBIDE
SCHOTTKY RECTIFIER
10 AMP, 650 VOLT**

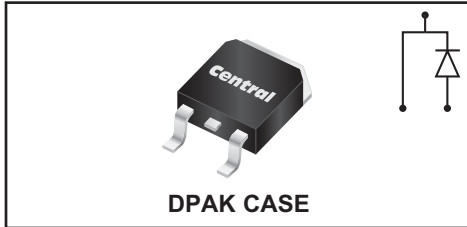


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DESCRIPTION:

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



DPAK CASE

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: ($T_C=25^\circ\text{C}$ 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 ($T_C=135^\circ\text{C}$)	I_F	10	A
Peak Forward Surge Current, $t_p=8.3\text{ms}$	I_{FSM}	60	A
Power Dissipation	P_D	93	W
Power Dissipation ($T_C=135^\circ\text{C}$)	P_D	25	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-55 to +175	$^\circ\text{C}$
Thermal Resistance	θ_{JC}	1.6	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
I_R	$V_R=650\text{V}$		70	125	μA
I_R	$V_R=650\text{V}, T_J=175^\circ\text{C}$		150	500	μA
BV_R	$I_R=500\mu\text{A}$	650			V
V_F	$I_F=10\text{A}$		1.5	1.7	V
V_F	$I_F=10\text{A}, T_J=175^\circ\text{C}$		2.1	2.5	V
Q_C	$V_R=400\text{V}, I_F=10\text{A}, di/dt=250\text{A}/\mu\text{s}$		16		nC
C_J	$V_R=1.0\text{V}, f=1.0\text{MHz}$		295	325	pF
C_J	$V_R=300\text{V}, f=1.0\text{MHz}$		31		pF
C_J	$V_R=600\text{V}, f=1.0\text{MHz}$		28		pF

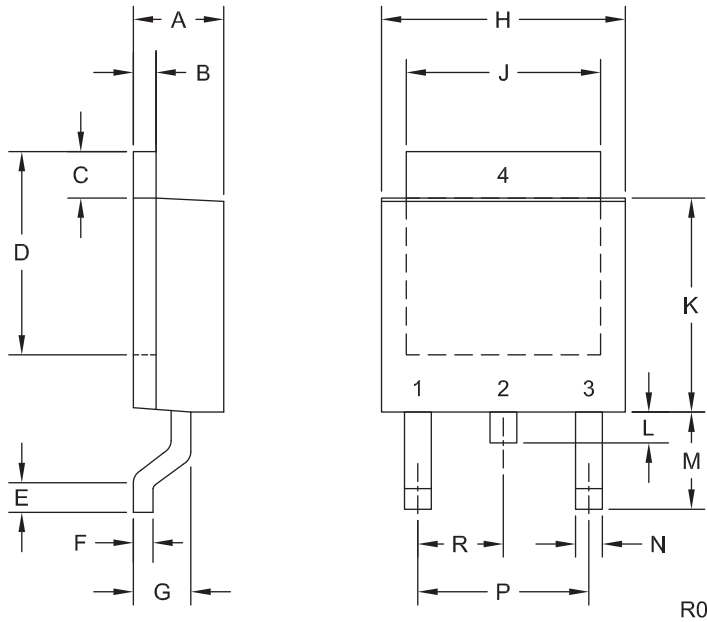
R1 (24-November 2014)

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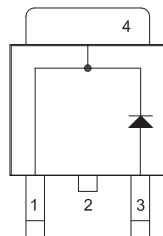
DPAK CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Cathode
 - 2) Cathode
 - 3) Anode
 - 4) Cathode
- Pin 2 is common to the tab (4)

MARKING: FULL PART NUMBER



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	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)

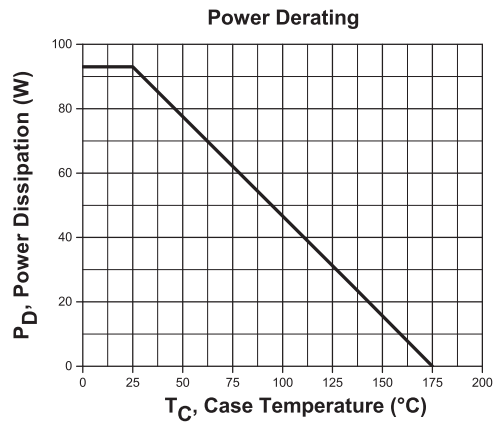
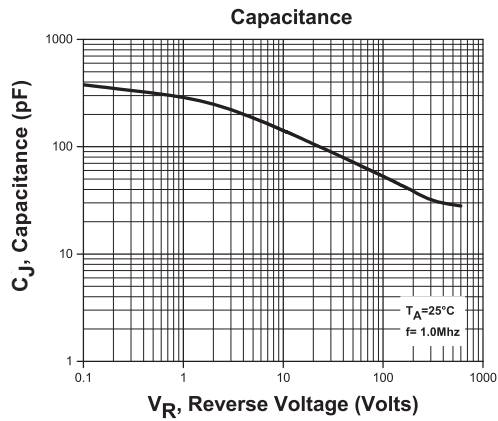
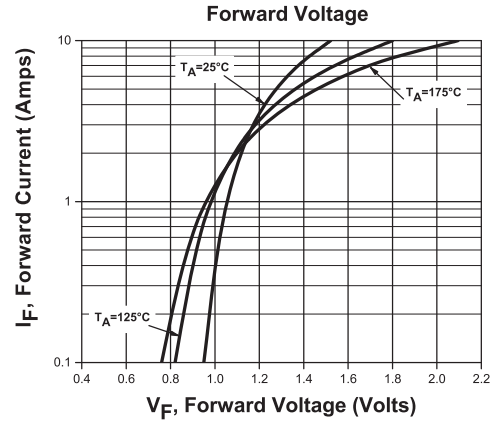
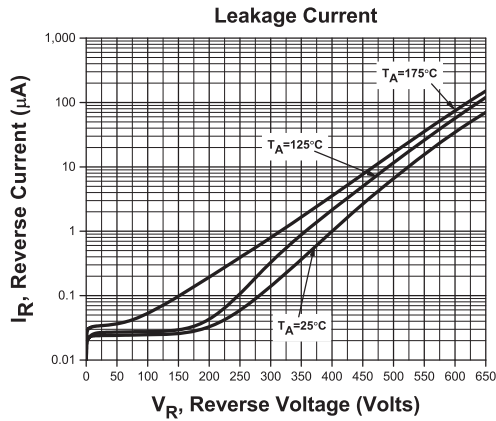
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TYPICAL ELECTRICAL CHARACTERISTICS



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OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

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- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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