

## Features

- Zero Reverse Recovery Current
- Positive Temperature Coefficient
- High-Speed Switching
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)

## Benefits

- Temperature-Independent Performance
- Low Switching Loss
- Low Heat Dissipation Requirements

## Applications

- Switching Power Supply
- Power Factor Correction
- Motor Drive, Traction
- Charging Pile

## Maximum Ratings

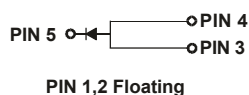
- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 2.38°C/W Junction to Case

MCC Part Number	Device Marking
SIC0860PL8	SIC0860PL8

Peak Repetitive Reverse Voltage	$V_{RRM}$	650V	
Surge Peak Reverse Voltage	$V_{RSM}$	650V	
DC Reverse Voltage	$V_{DC}$	650V	
Average Forward Current	$I_F$	8A	$T_J=153^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	39A	$T_C=25^\circ\text{C}$ , $t_p=10\text{ms}$ , Half Sine Pulse
Power Dissipation	$P_D$	63W	$T_C=25^\circ\text{C}$

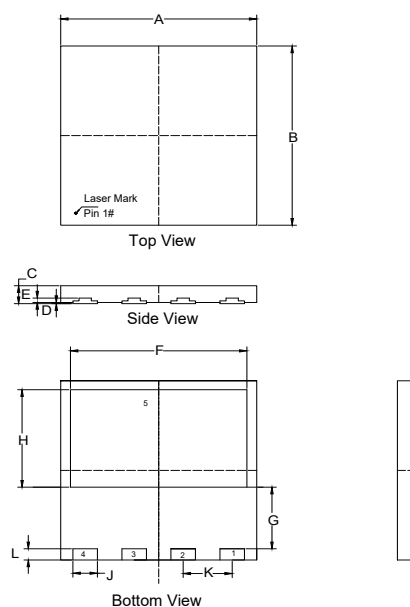
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.  
2. High Temperature Solder Exemptions Applied, see EU Directive Annex 7a.

## Internal Structure:



# 8Amp Silicon Carbide Schottky Barrier Rectifier 650 Volts

## DFN8080A



## DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.311	0.319	7.90	8.10	
B	0.311	0.319	7.90	8.10	
C	0.030	0.037	0.75	0.95	
D	0.000	0.002	0.00	0.05	
E	0.004	0.012	0.10	0.30	
F	0.280	0.287	7.10	7.30	
G	0.104	0.112	2.65	2.85	
H	0.167	0.175	4.25	4.45	
J	0.035	0.043	0.90	1.10	
K	0.079		2.00		BSC
L	0.016	0.024	0.40	0.60	

**Electrical Characteristics @ 25°C (Unless Otherwise Specified)**

Parameter	Symbol	Conditions	Typ.	Max.	Units
Forward Voltage	$V_F$	$I_F=8A, T_J=25^\circ C$	1.39	1.6	V
		$I_F=8A, T_J=175^\circ C$	1.65		V
Reverse Leakage Current	$I_R$	$V_R=650V, T_J=25^\circ C$	10.2	36	$\mu A$
		$V_R=650V, T_J=175^\circ C$	301		$\mu A$
Total Capacitive Charge	$Q_C$	$V_R=400V$	19.6		nC
Total capacitance	C	$V_R=0V, f=1MHz$	346		pF
		$V_R=200V, f=1MHz$	39		pF
		$V_R=400V, f=1MHz$	30		pF
Capacitance Stored Energy	$E_C$	$V_R=400V$	2.42		$\mu J$

Curve Characteristics

Fig. 1 - Typical Forward Characteristics

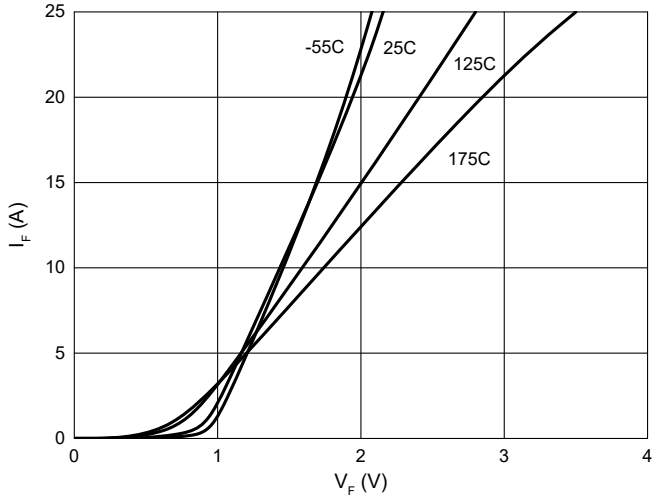


Fig. 2 - Typical Reverse Leakage Characteristics

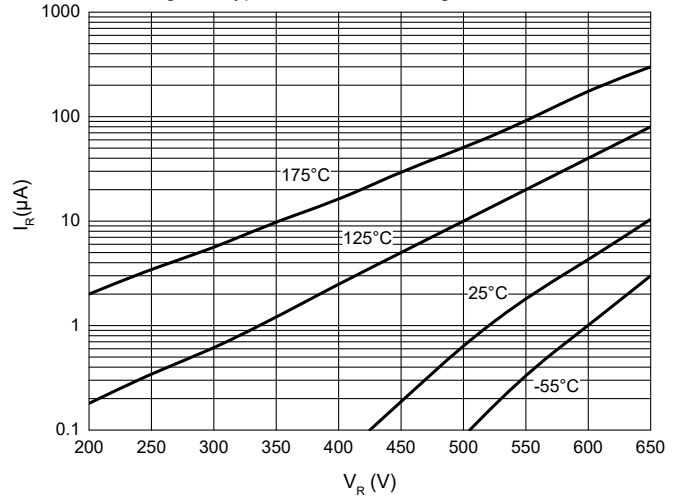


Fig. 3 - Capacitance vs Reverse Voltage

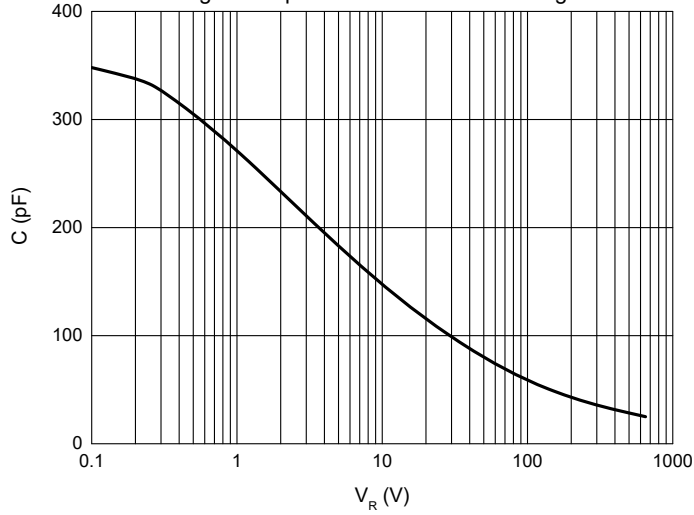


Fig. 4 - Typical Power Derating

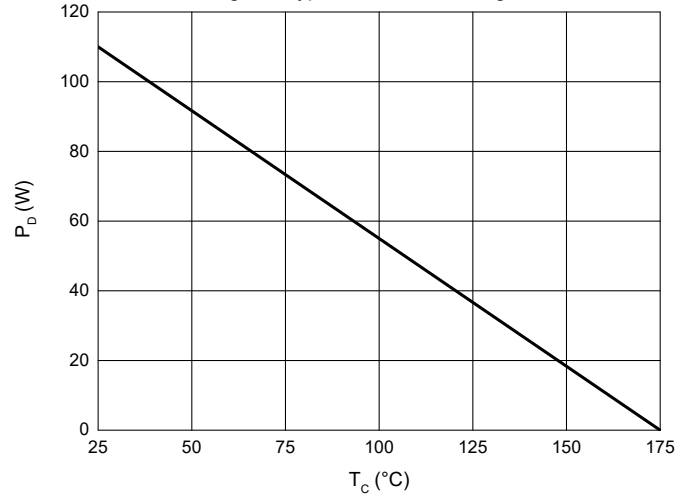
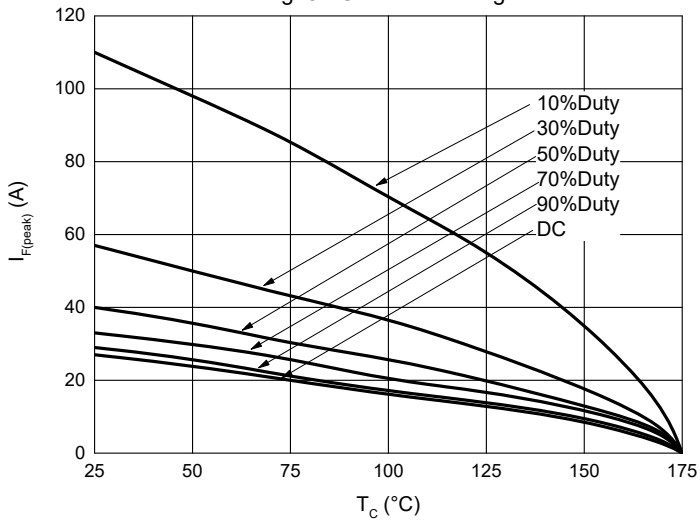


Fig. 5 - Current Derating



## Ordering Information

Device	Packing
SIC0860PL8-TP	Tape&Reel:3Kpcs/Reel

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