

Features

- Zero Reverse Recovery Current
- Positive Temperature Coefficient
- High-Speed Switching
- 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: 1.0°C/W Junction to Case

MCC Part Number	Device Marking
SICAC0860P	SICAC0860P

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	$T_J=153^{\circ}C$
Peak Forward Surge Current	I_{FSM}	39A	$T_C=25^{\circ}C$, $t_p=10ms$, Half Sine Pulse
Power Dissipation	P_D	150W	$T_C=25^{\circ}C$

Note:1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

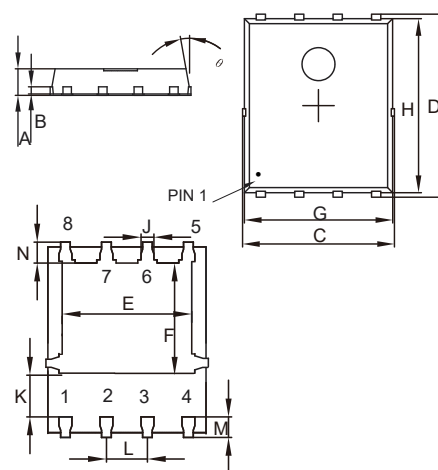
2. High Temperature Solder Exemptions Applied, see EU Directive Annex 7a.

Internal Structure:



8Amp Silicon Carbide Schottky Barrier Rectifier 650 Volts

DFN5060



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.031	0.047	0.80	1.20	
B	0.010		0.254		TYP.
C	0.193	0.222	4.90	5.64	
D	0.232	0.250	5.90	6.35	
E	0.148	0.167	3.75	4.25	
F	0.126	0.154	3.20	3.92	
G	0.189	0.213	4.80	5.40	
H	0.222	0.239	5.65	6.06	
K	0.045	0.059	1.15	1.50	
J	0.012	0.020	0.30	0.50	
L	0.046	0.054	1.17	1.37	
M	0.012	0.028	0.30	0.71	
N	0.016	0.028	0.40	0.71	

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	μA
		$V_R=650V, T_J=175^\circ C$	301		μA
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		μJ

Curve Characteristics

Fig. 1 - Typical Forward Characteristics

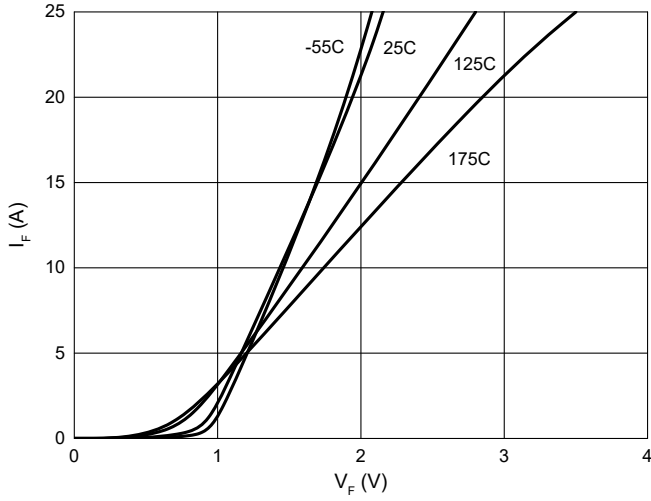


Fig. 2 - Typical Reverse Leakage Characteristics

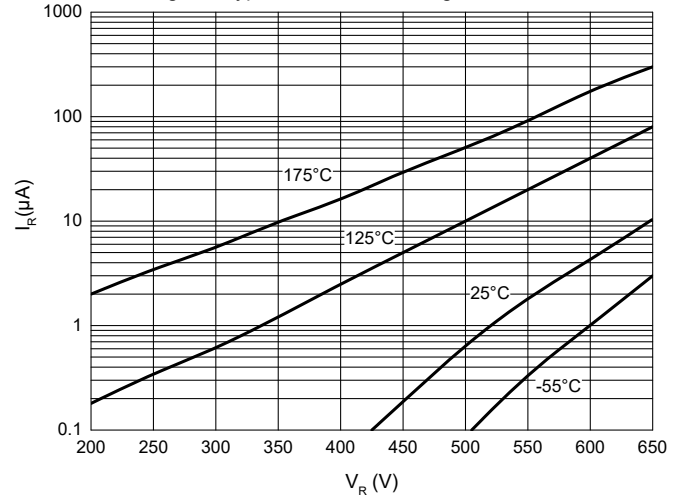


Fig. 3 - Capacitance vs Reverse Voltage

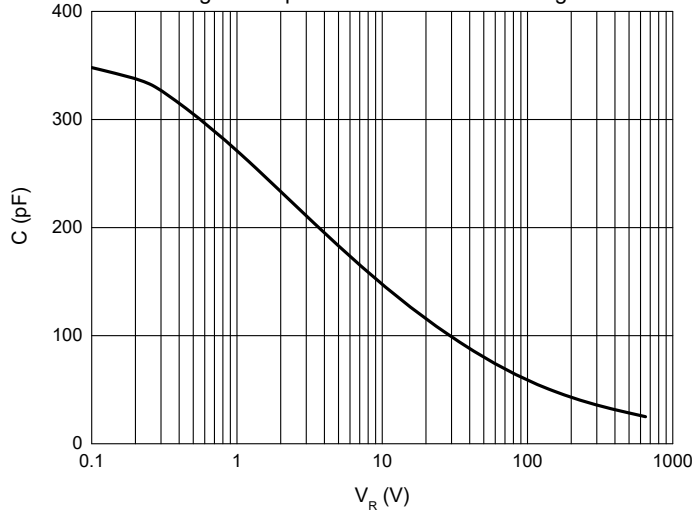


Fig. 4 - Typical Power Derating

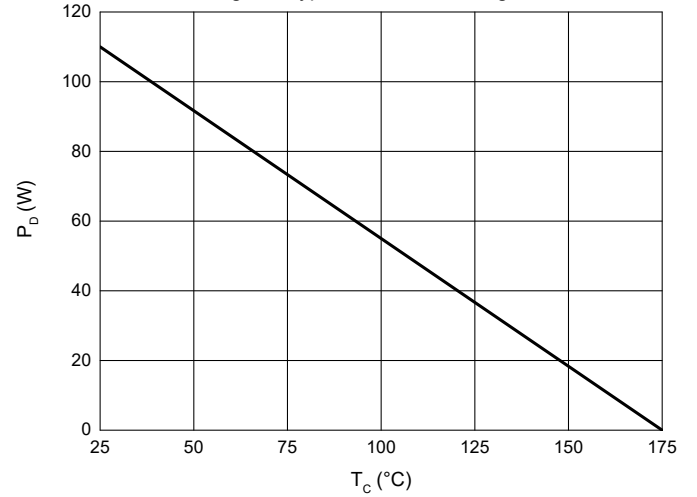
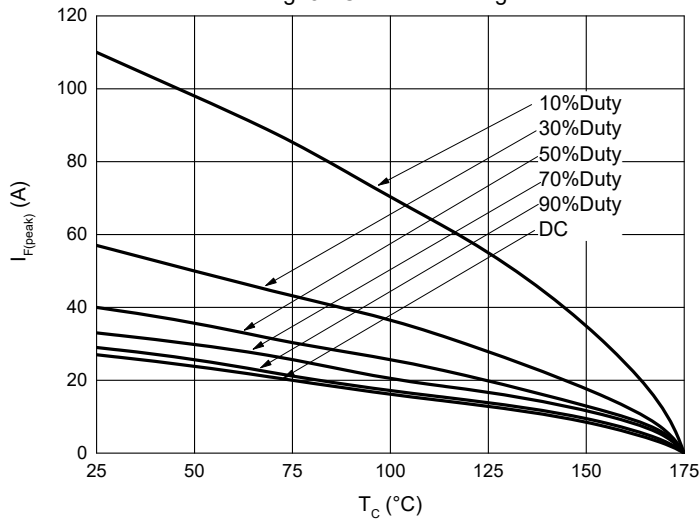


Fig. 5 - Current Derating



Ordering Information

Device	Packing
SICAC0860P-TP	Tape&Reel:5Kpcs/Reel

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