

**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**

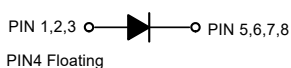
- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 1.0°C/W Junction to Case

MCC Part Number	Device Marking
SICAC1060P	SICAC1060P

Peak Repetitive Reverse Voltage	$V_{RRM}$	650V	
Surge Peak Reverse Voltage	$V_{RSM}$	650V	
DC Reverse Voltage	$V_{DC}$	650V	
Average Forward Current	$I_F$	10A	$T_J=155^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	49A	$T_C=25^\circ\text{C}$ , $t_p=10\text{ms}$ , Half Sine Pulse
Power Dissipation	$P_D$	150W	$T_C=25^\circ\text{C}$

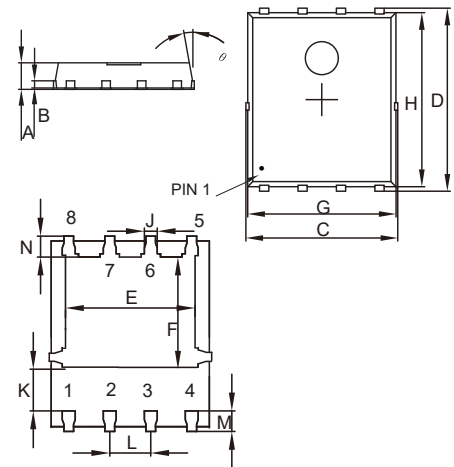
Note:1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.  
2. High Temperature Solder Exemptions Applied, see EU Directive Annex 7a.

**Internal Structure:**



**10Amp  
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	$V_F$	$I_F=10A, T_J=25^\circ C$	1.39	1.6	V
		$I_F=10A, T_J=175^\circ C$	1.65		V
Reverse Leakage Current	$I_R$	$V_R=650V, T_J=25^\circ C$	12.8	44	$\mu A$
		$V_R=650V, T_J=175^\circ C$	424		$\mu A$
Total Capacitive Charge	$Q_C$	$V_R=400V$	24.8		nC
Total capacitance	C	$V_R=0V, f=1MHz$	452		pF
		$V_R=200V, f=1MHz$	48		pF
		$V_R=400V, f=1MHz$	36		pF
Capacitance Stored Energy	$E_C$	$V_R=400V$	2.92		$\mu J$

## Curve Characteristics

Fig. 1 - Typical Forward Characteristics

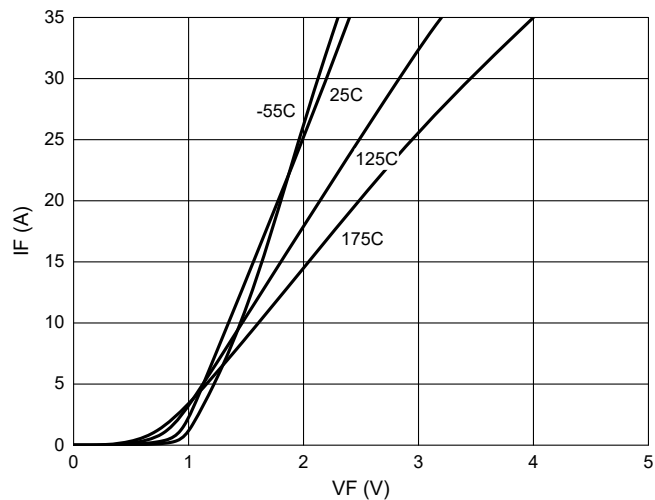


Fig. 2 - Typical Reverse Leakage Characteristics

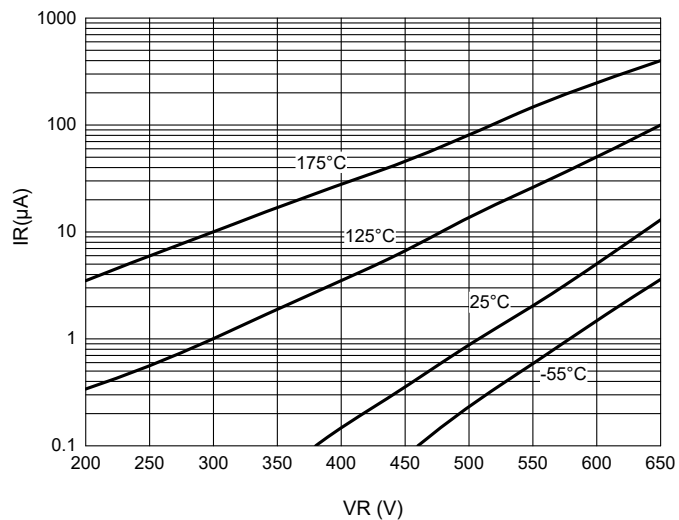


Fig. 3 - Capacitance vs Reverse Voltage

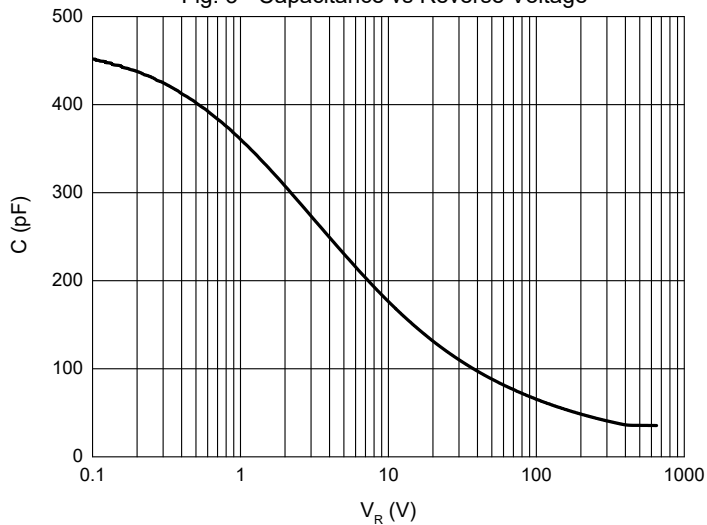


Fig. 4 - Typical Power Derating

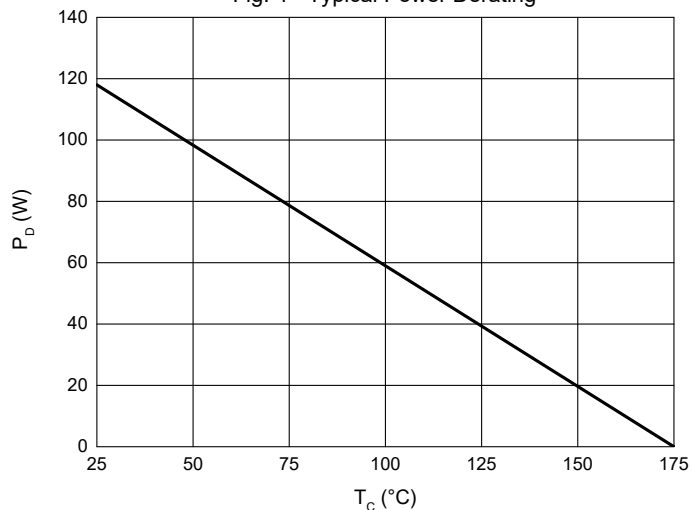
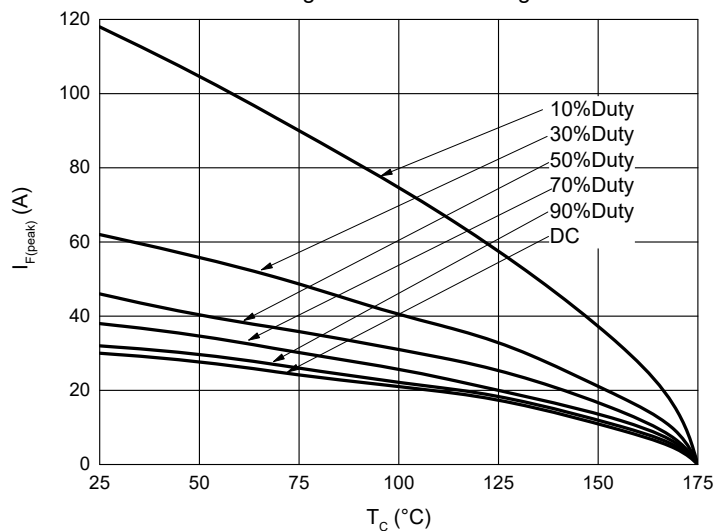


Fig. 5 - Current Derating



## Ordering Information

Device	Packing
SICAC1060P-TP	Tape&Reel:5Kpcs/Reel

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