

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 2) ("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

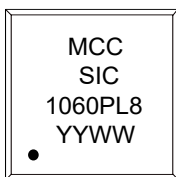
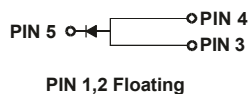
Maximum Ratings

- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 2.12°C/W Junction to Case

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	20A	$T_C=25^\circ C$
		10A	$T_C=135^\circ C$
Non-repetitive Peak Forward Surge Current	I_{FSM}	80A	$T_C=25^\circ C, t_p=10ms,$ Half Sine Pulse
Power Dissipation	P_D	70W	$T_C=25^\circ C$
		30W	$T_C=110^\circ C$

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.

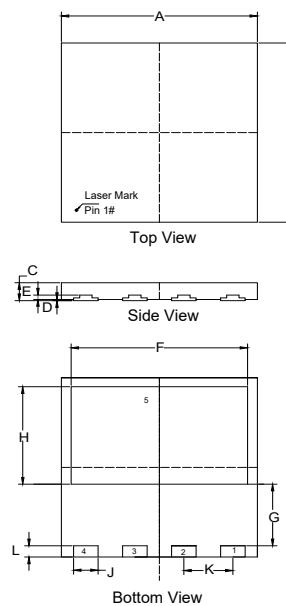
Internal Structure:



Device Code: SIC1060PL8
Date Code: YYWW (Year & Week)

10Amp Silicon Carbide Schottky Barrier Rectifier 650 Volts

DFN8080A



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	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	$I_F=10A, T_J=25^{\circ}C$	1.35	1.55	V
		$I_F=10A, T_J=175^{\circ}C$	1.8		V
Reverse Leakage Current	I_R	$V_R=650V, T_J=25^{\circ}C$	0.5	25	μA
		$V_R=650V, T_J=175^{\circ}C$	2		μA
Total Capacitive Charge	Q_C	$V_R=400V$	30		nC
Total capacitance	C	$V_R=0V, f=1MHz$	543		pF
		$V_R=200V, f=1MHz$	55		pF
		$V_R=400V, f=1MHz$	52		pF
Capacitance Stored Energy	E_C	$V_R=400V$	3.7		μJ

Curve Characteristics

Fig. 1 - Typical Forward Characteristics

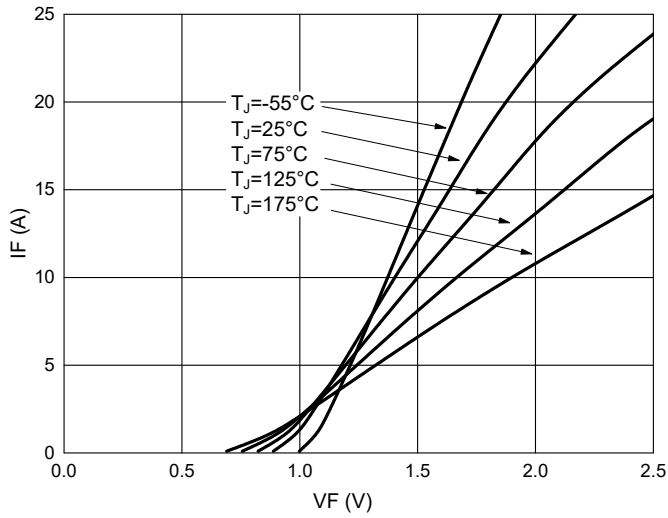


Fig. 2 - Typical Reverse Leakage Characteristics

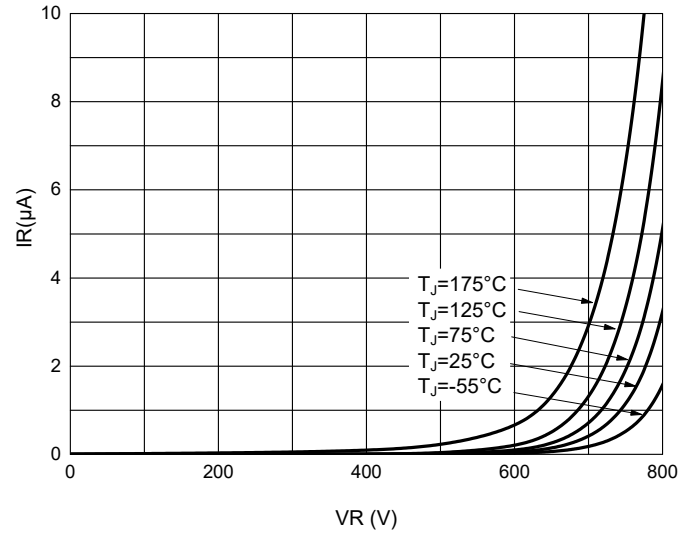


Fig. 3 - Capacitance vs Reverse Voltage

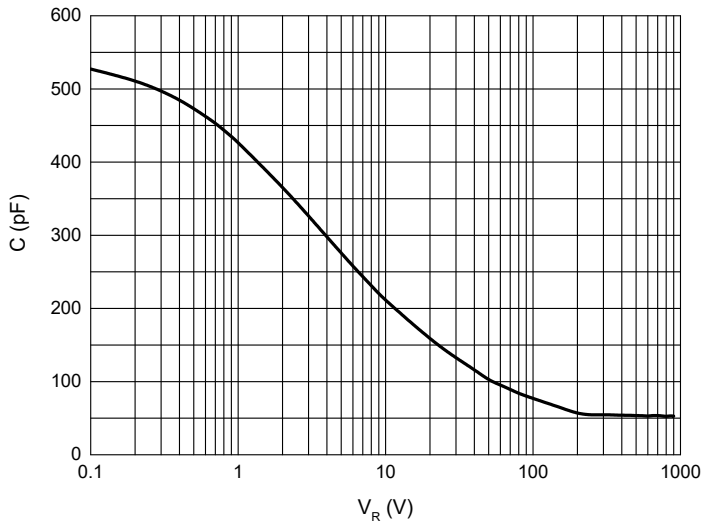


Fig. 4 - Current Derating

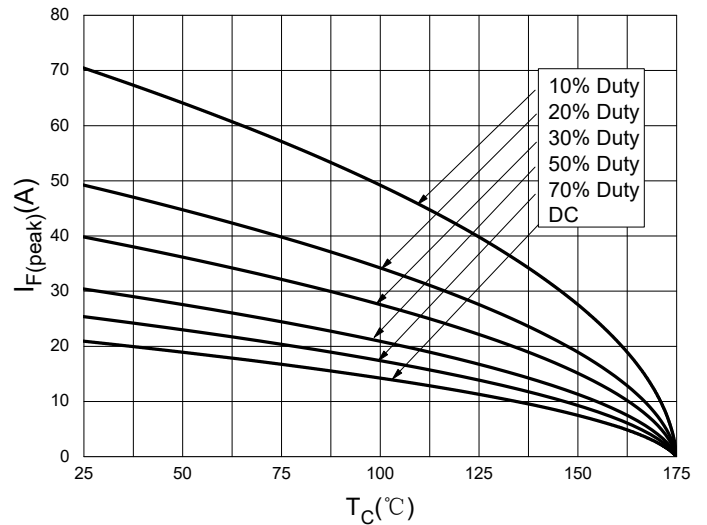


Fig. 5 - Capacitive Charge vs Reverse Voltage

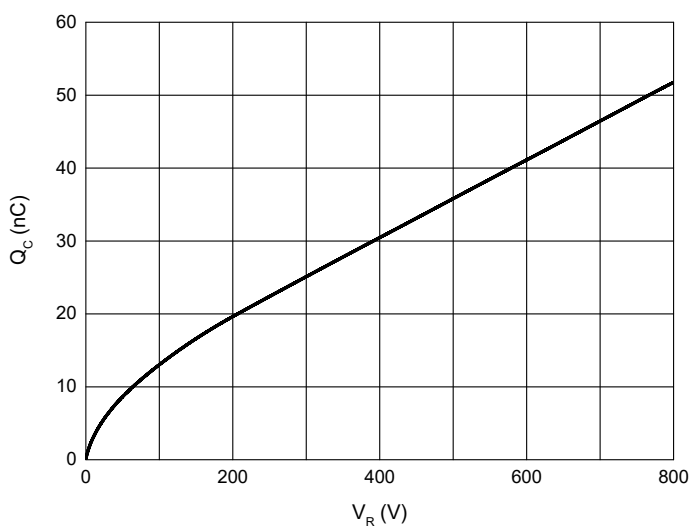
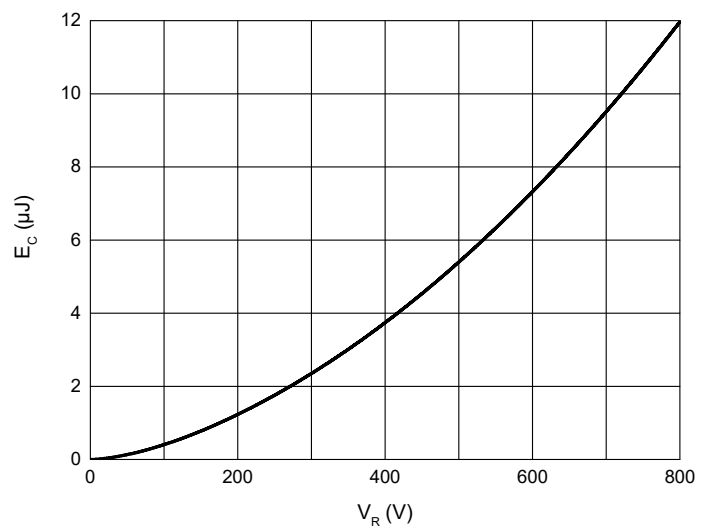


Fig. 6 - Capacitance Stored Energy



Curve Characteristics

Fig. 7 - Typical Power Derating

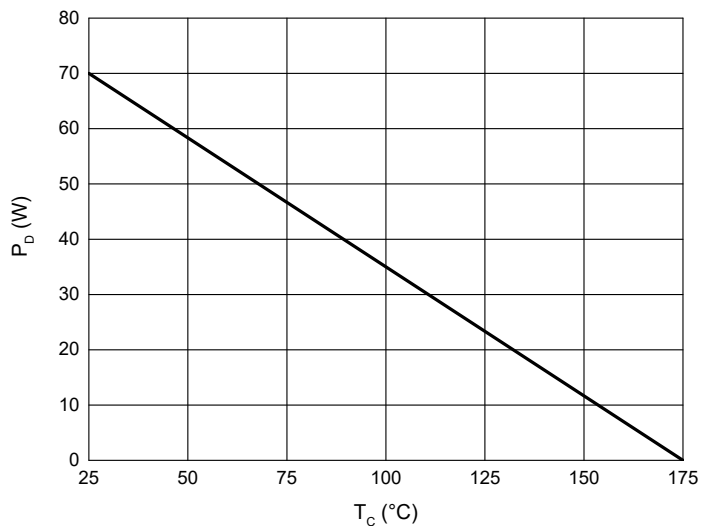
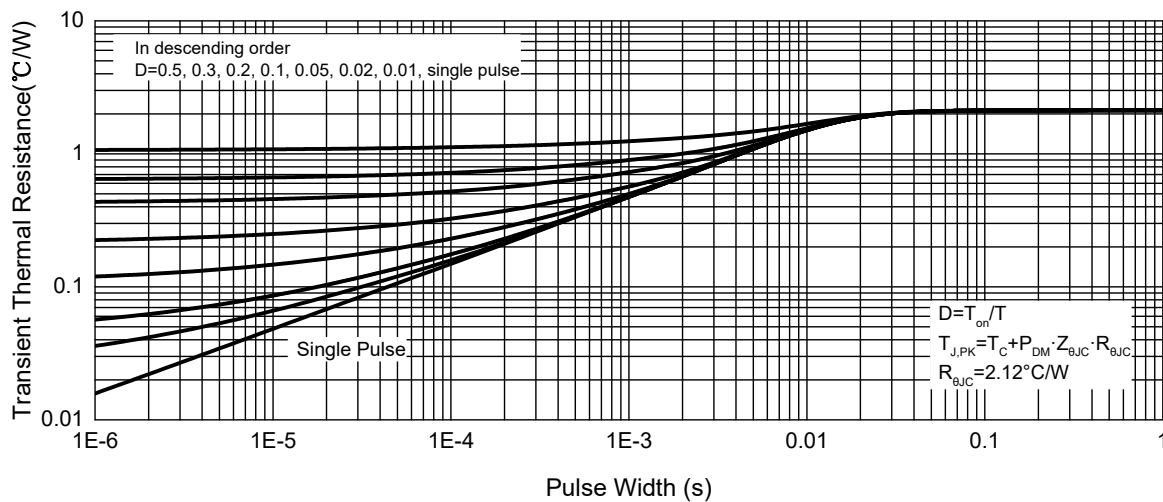


Fig. 8 - Transient Thermal Impedance



Ordering Information

Device	Packing
SIC1060PL8-TP	Tape&Reel:3Kpcs/Reel

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