Elektronische Bauelemente

SIC0465DS1-C

Voltage 650V

4.0 Amp Silicon Carbide Schottky Rectifiers

RoHS compliant product

A suffix of "-C" specifies halogen free

FEATURES

- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- Positive Temperature Coefficient on V_F
- Temperature-independent Switching
- 175℃ Operating Junction Temperature

MECHANICAL DATA

- Case: Molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Lead: Lead solderable per MIL-STD-202 method 208 guaranteed
- Polarity: As Marked
- Mounting position: Any

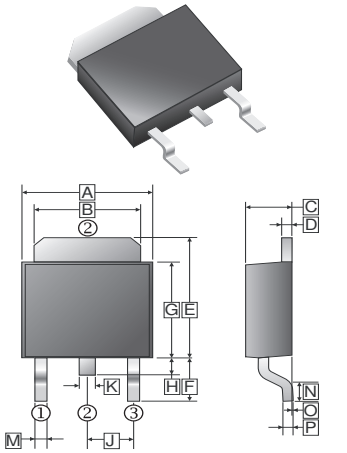
APPLICATIONS

- Switch Mode Power Supplies
- Power Factor Correction
- Motor Drive, PV Inverter, Wind Power Station

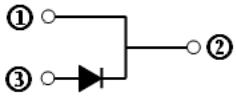
ORDER INFORMATION

Part Number	Type
SIC0465DS1-C	Lead (Pb)-free and Halogen-free

TO-252



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.35	6.80	J	2.30 REF.	
B	5.20	5.50	K	0.64	0.90
C	2.15	2.40	M	0.50	1.1
D	0.45	0.58	N	0.9	1.65
E	6.8	7.5	O	0	0.15
F	2.40	3.0	P	0.43	0.58
G	5.40	6.25			
H	0.64	1.20			



MAXIMUM RATINGS (Rating 25°C Case temperature unless otherwise)

Parameter		Symbol	Rating	Unit
Repetitive Peak Reverse Voltage		V_{RRM}	650	V
Surge Peak Reverse Voltage		V_{RSM}	650	V
DC Blocking Voltage		V_{DC}	650	V
Forward Current	T_C=25℃	I_F	12	A
	T_C=125℃		7	
	T_C=150℃		4	
Non-Repetitive Peak Forward Surge Current @tp=10ms	T_C=25℃	I_{FSM}	27	A
	T_C=125℃		22	
Repetitive Peak Forward Surge Current @tp=10ms	T_C=25℃	I_{FRM}	24	
	T_C=125℃		12	
Power Dissipation	T_C=25℃	P_D	52	W
Operating Junction & Storage Temperature		T_J, T_{STG}	-55~175	℃
Thermal Resistance Ratings				
Typical Thermal Resistance Junction-Case		$R_{\theta JC}$	2.9	℃/W

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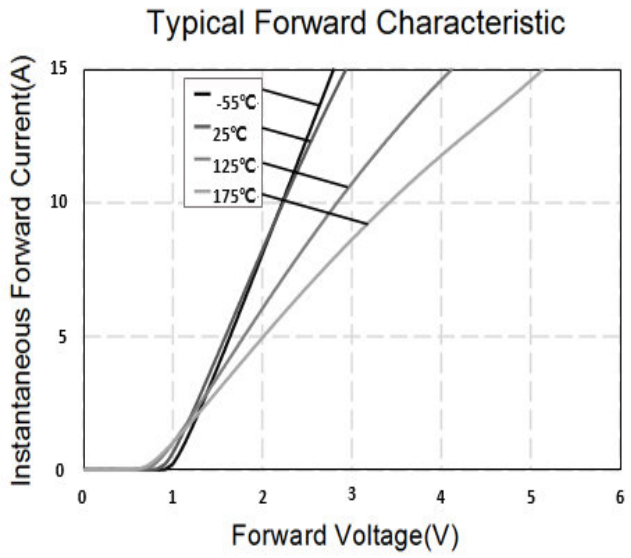
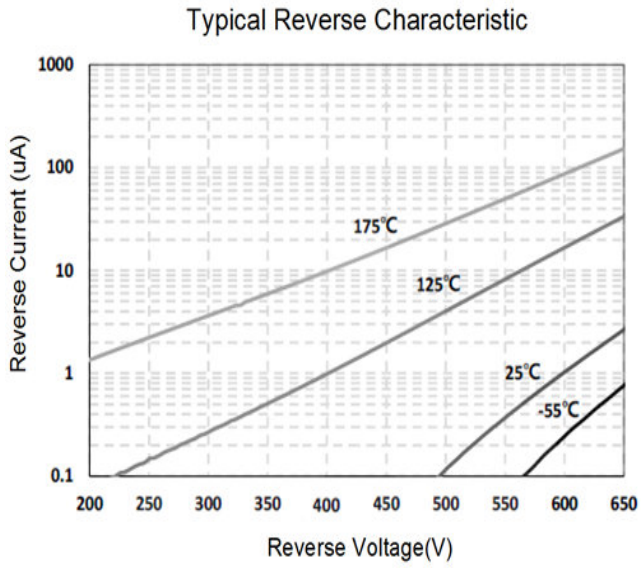
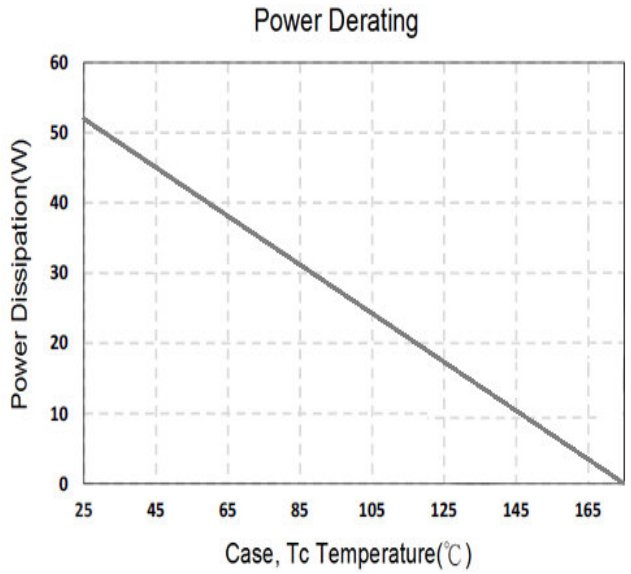
ELECTRICAL CHARACTERISTICS

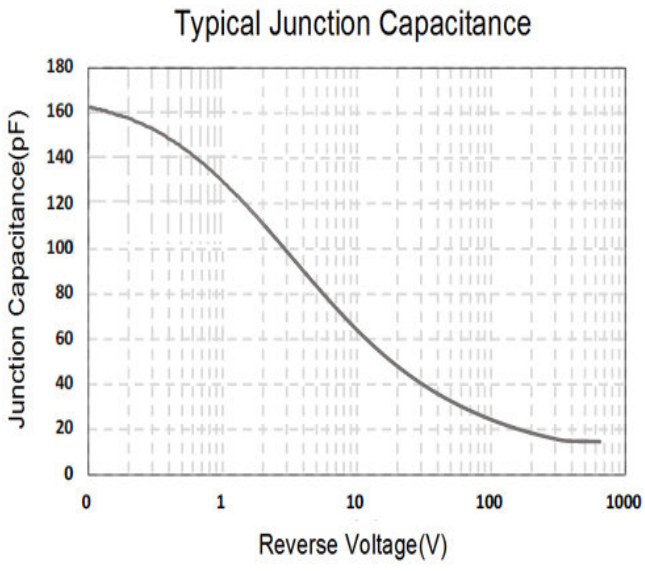
Parameter	Symbol	Typ.	Max.	Unit	Test Conditions
Forward Voltage	V_F	1.5	1.7	V	I_F=4A, T_J=25℃
		1.8	-		I_F=4A, T_J=175℃
Reverse Current	I_R	2.3	18	μA	V_R=650V, T_J=25℃
		153	-		V_R=650V, T_J=175℃
Junction Capacitance	C_J	163	-	pF	V_R=0V, T_J=25℃, f=1MHz
		19	-		V_R=200V, T_J=25℃, f=1MHz
		15	-		V_R=400V, T_J=25℃, f=1MHz
Total Capacitive Charge	Q_C	9.4	-	nC	V_R=400V, I_F=4A, T_J=25℃
Capacitance Stored Energy	E_C	1.21	-	μJ	V_R=400V

CHARACTERISTIC CURVES



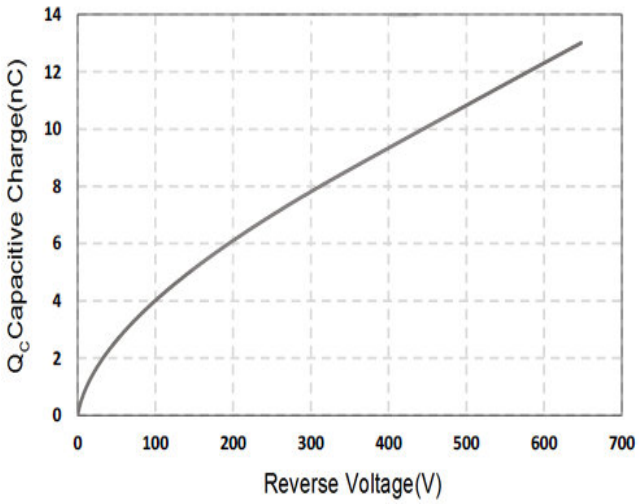




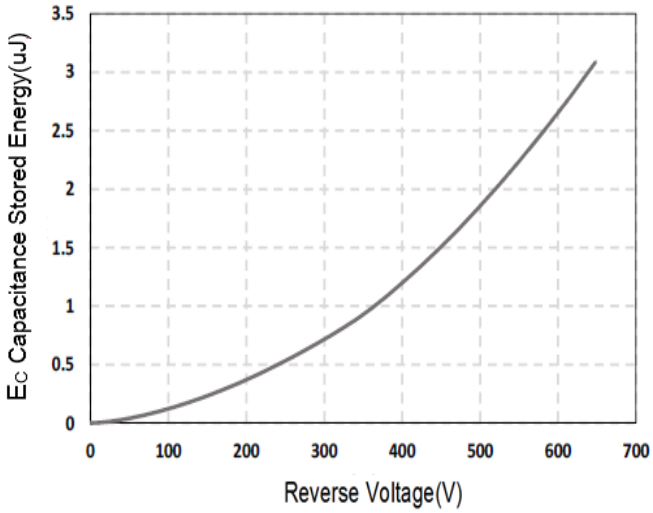


CHARACTERISTIC CURVES

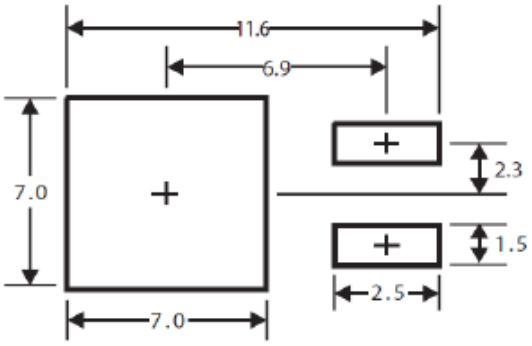
Total Capacitive Charge



Capacitance Stored Energy



Mounting Pad Layout



*Dimensions in millimeters