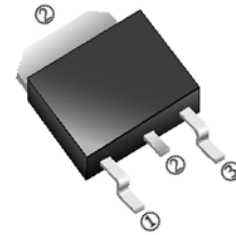


RoHS compliant product
A suffix of "-C" specifies halogen free

FEATURES

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

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MECHANICAL DATA

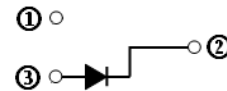
- Case: Molded Plastic
- Epoxy: UL94V-0 Rate Flame Retardant
- Lead: Lead Solderable per MIL-STD-202 Method 208 Guaranteed
- Polarity: As Marked
- Mounting Position: Any

APPLICATIONS

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

ORDER INFORMATION

Part Number	Type
SIC10XC65DS1-C	Lead (Pb)-free and Halogen-free



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

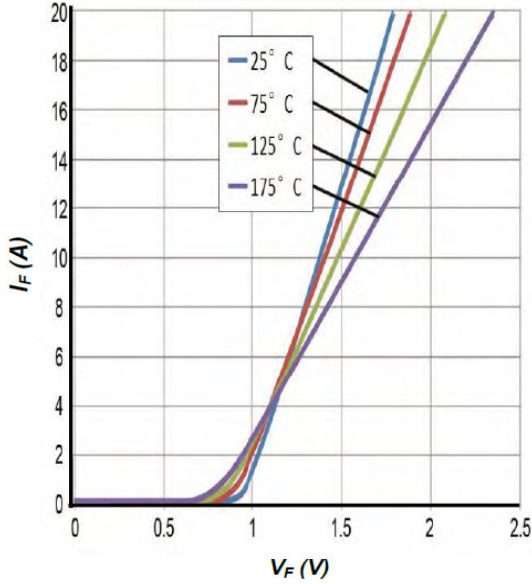
Parameter	Symbol	Rating	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	650	V
Surge Peak Reverse Voltage	V_{RSM}	650	V
DC Blocking Voltage	V_{DC}	650	V
Forward Current	I_F	$T_C \leq 25^\circ\text{C}$	29
		$T_C \leq 135^\circ\text{C}$	14.5
		$T_C \leq 153^\circ\text{C}$	10
Non-Repetitive Peak Forward Surge Current @8.3ms half sine-wave	I_{FSM}	111	A
Power Dissipation	$T_C = 25^\circ\text{C}$	P_D	68 W
Operating Junction & Storage Temperature	T_J, T_{STG}	-55~175	°C
Thermal Resistance Ratings			
Typical Thermal Resistance Junction-Ambient	$R_{\theta JA}$	80	°C/W
Typical Thermal Resistance Junction-Case	$R_{\theta JC}$	2.2	

ELECTRICAL CHARACTERISTICS

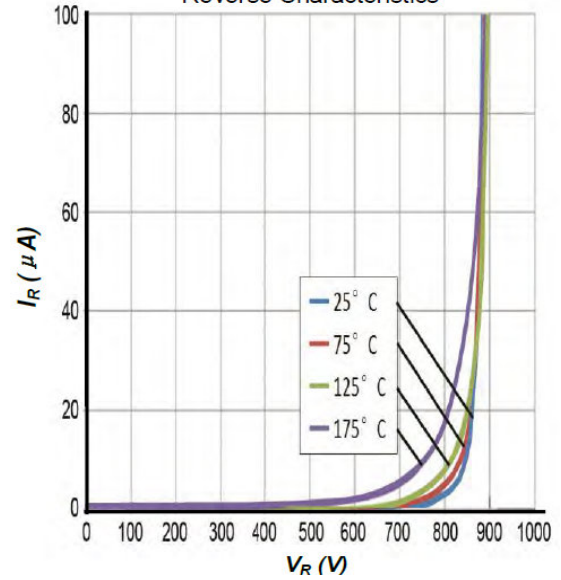
Parameter	Symbol	Typ.	Max.	Unit	Test Conditions
Forward Voltage	V_F	1.4	1.65	V	$I_F = 10\text{A}, T_J = 25^\circ\text{C}$
		1.75	2.3		$I_F = 10\text{A}, T_J = 175^\circ\text{C}$
Reverse Current	I_R	1	30	μA	$V_R = 650\text{V}, T_J = 25^\circ\text{C}$
		5	100		$V_R = 650\text{V}, T_J = 175^\circ\text{C}$
Junction Capacitance	C_J	780	-	pF	$V_R = 0\text{V}, T_J = 25^\circ\text{C}, f = 1\text{MHz}$
Total Capacitive Charge	Q_C	25	-	nC	$V_R = 650\text{V}, I_F = 10\text{A}, T_J = 25^\circ\text{C}, di/dt = 200\text{A}/\mu\text{s}$

CHARACTERISTIC CURVES

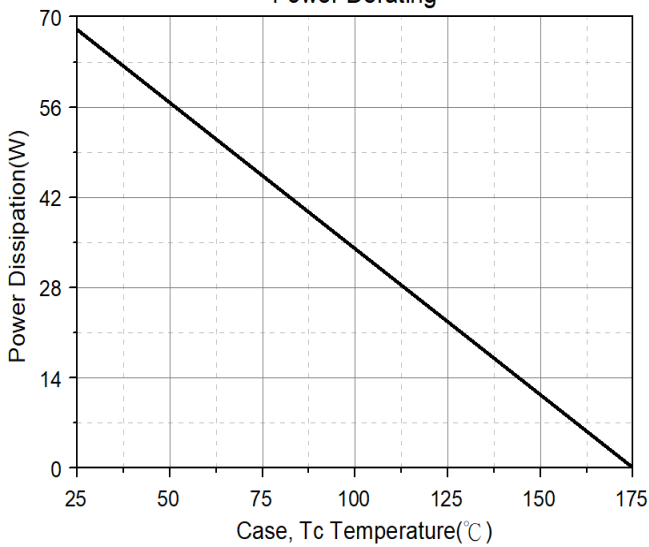
Forward Characteristics



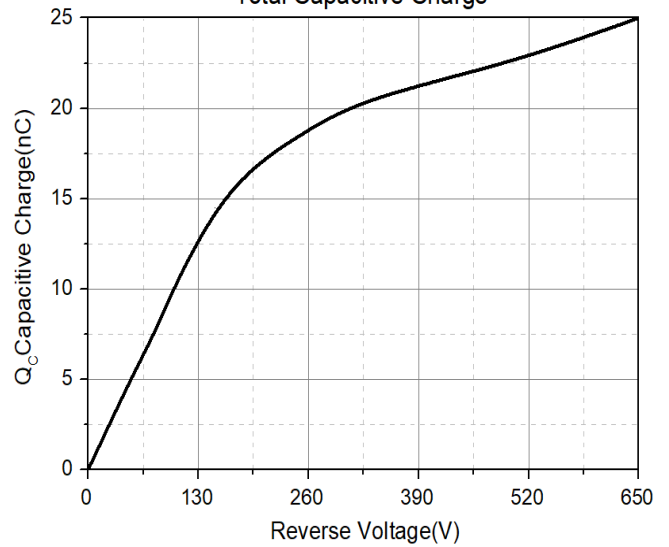
Reverse Characteristics



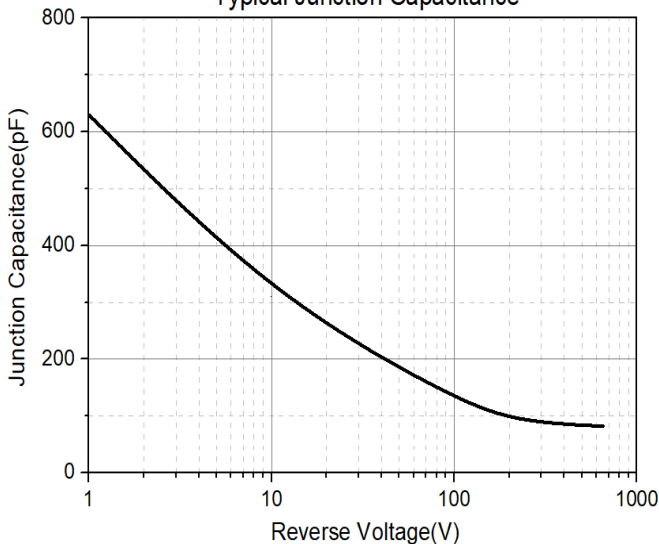
Power Derating



Total Capacitive Charge

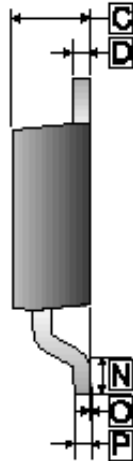
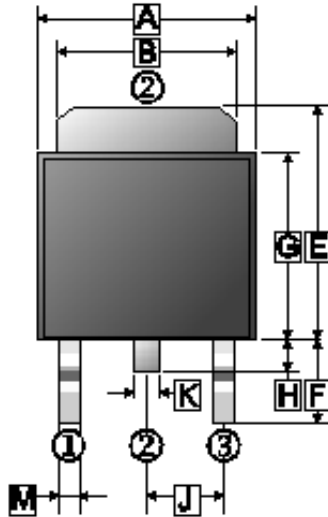


Typical Junction Capacitance



PACKAGE OUTLINE DIMENSIONS

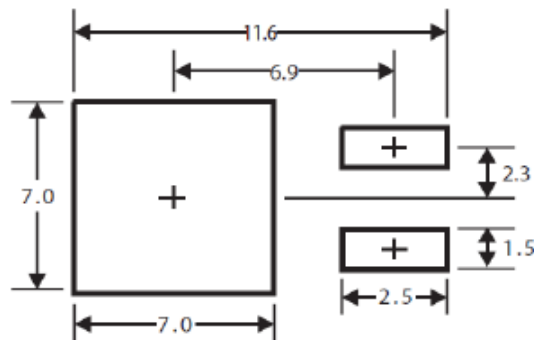
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REF.	Millimeter	
	Min.	Max.
A	6.30	6.90
B	4.95	5.53
C	2.10	2.50
D	0.40	0.90
E	6.00	7.70
F	2.90 REF.	
G	5.40	6.40
H	0.60	1.20
J	2.30 REF.	
K	0.89 REF.	
M	0.45	1.14
N	1.55 TYP.	
O	0	0.15
P	0.58 REF.	

MOUNTING PAD LAYOUT

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*Dimensions in millimeters