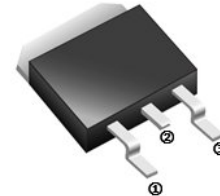


RoHS compliant product  
A suffix of "-C" specifies halogen free

## FEATURES

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

TO-263(D<sup>2</sup>-PACK)



## 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
SIC06XC65DS-C	Lead (Pb)-free and Halogen-free

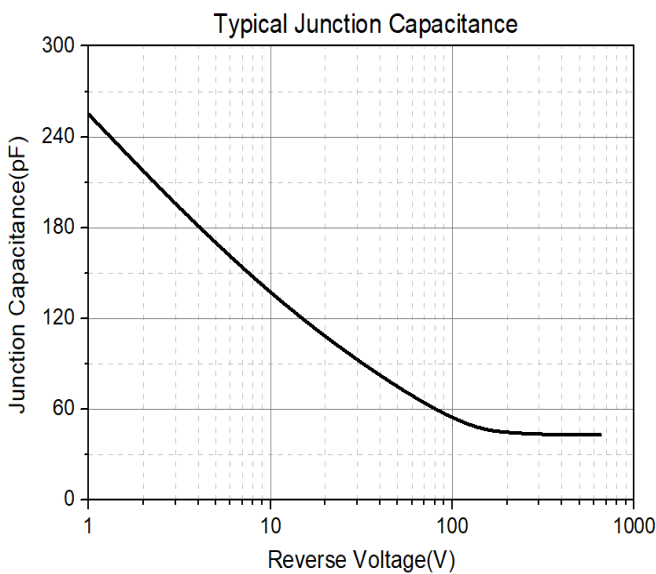
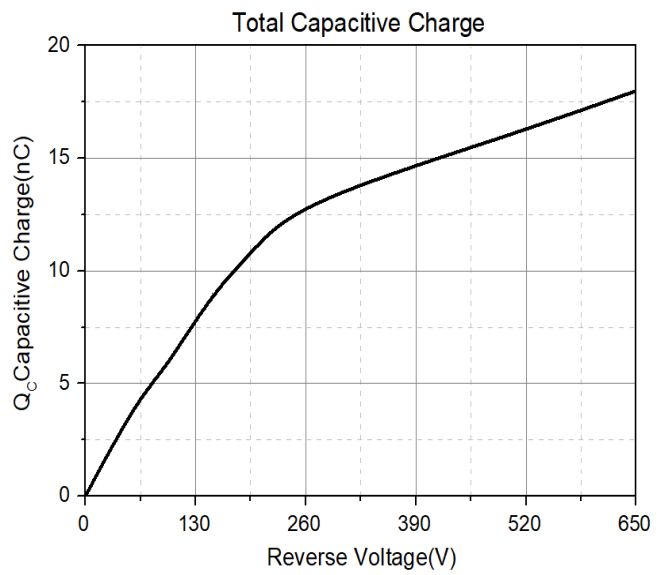
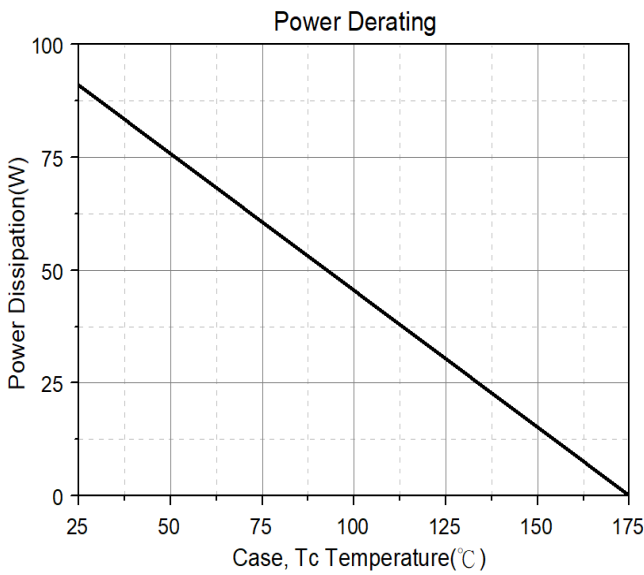
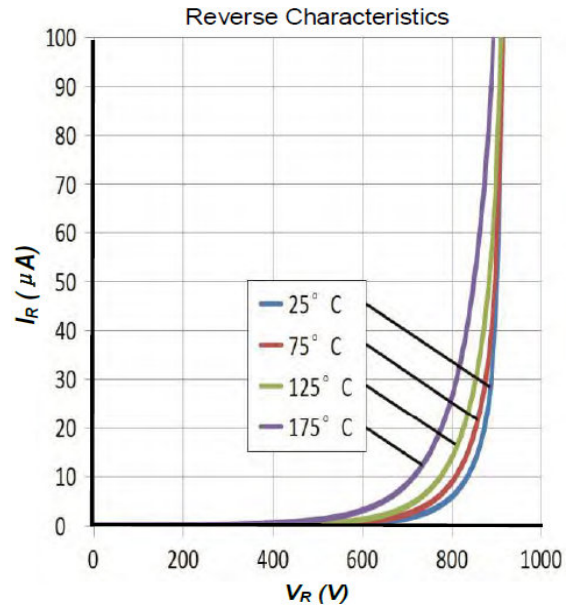
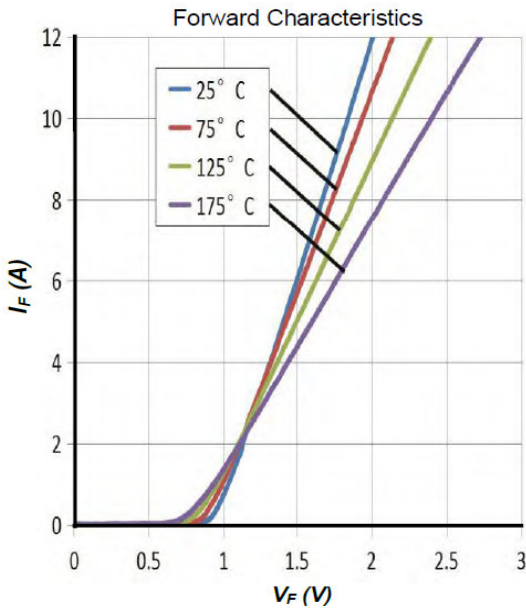
## MAXIMUM RATINGS (Rating 25°C Case temperature unless otherwise)

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	$I_F$	$T_C \leq 25^\circ\text{C}$	19
		$T_C \leq 135^\circ\text{C}$	9
		$T_C \leq 155^\circ\text{C}$	6
Peak Forward Surge Current @8.3ms half sine-wave	$I_{FSM}$	60	A
Power Dissipation	$P_D$	91	W
Operating Junction & Storage Temperature	$T_J, T_{STG}$	-55~175	°C
<b>Thermal Resistance Ratings</b>			
Typical Thermal Resistance Junction-Ambient	$R_{\theta JA}$	80	°C/W
Typical Thermal Resistance Junction-Case	$R_{\theta JC}$	1.65	

## ELECTRICAL CHARACTERISTICS

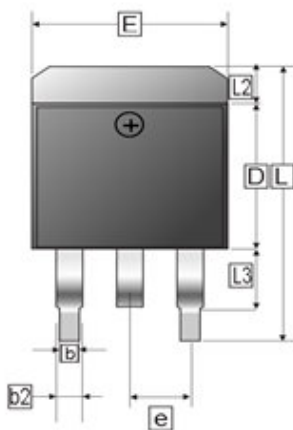
Parameter	Symbol	Typ.	Max.	Unit	Test Conditions
Forward Voltage	$V_F$	1.4	1.65	V	$I_F=6A, T_J=25^\circ\text{C}$
		1.75	2.3		$I_F=6A, T_J=175^\circ\text{C}$
Reverse Current	$I_R$	1	30	$\mu\text{A}$	$V_R=650V, T_J=25^\circ\text{C}$
		5	100		$V_R=650V, T_J=175^\circ\text{C}$
Junction Capacitance	$C_J$	300	-	pF	$V_R=0V, T_J=25^\circ\text{C}, f=1\text{MHz}$
Total Capacitive Charge	$Q_C$	18	-	nC	$V_R=650V, I_F=6A, T_J=25^\circ\text{C}, dI/dt=200A/\mu\text{s}$

**CHARACTERISTIC CURVES**



**PACKAGE OUTLINE DIMENSIONS**

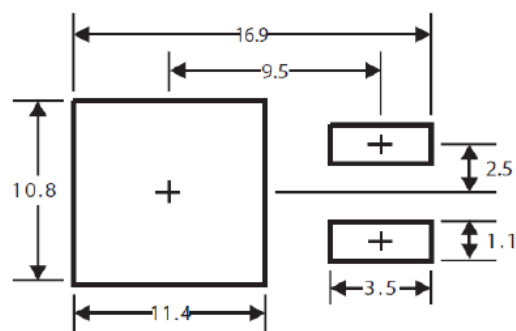
**TO-263**



REF.	Millimeter	
	Min.	Max.
A	4.00	4.87
b	0.508	1.01
L4	0	0.30
C	0.30	0.74
L3	1.50 REF.	
L1	2.50 REF.	
E	9.60	10.67
c2	1.07	1.65
b2	1.34 REF.	
D	8.00	9.652
e	2.54 REF.	
L	14.6	16.1
L2	1.27 REF.	

**MOUNTING PAD LAYOUT**

**TO-263**



\*Dimensions in millimeters