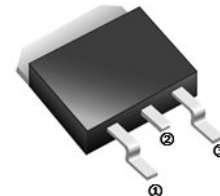


RoHS compliant product
A suffix of "-C" specifies halogen free

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(D²-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
SIC10XC65DS-C	Lead (Pb)-free and Halogen-free

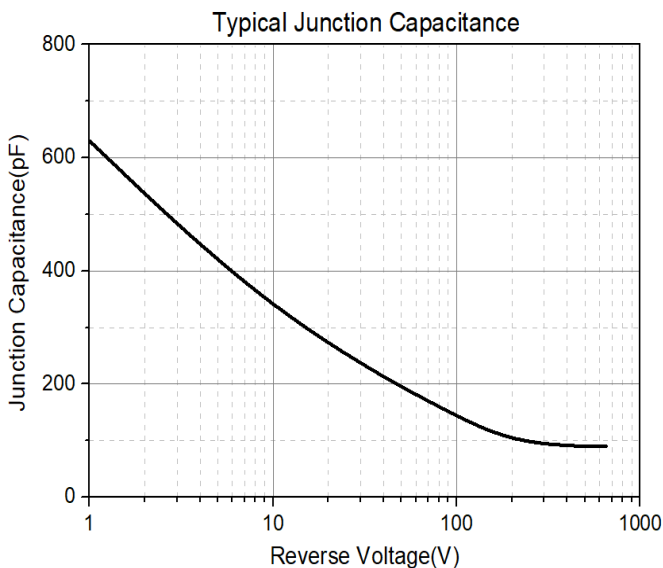
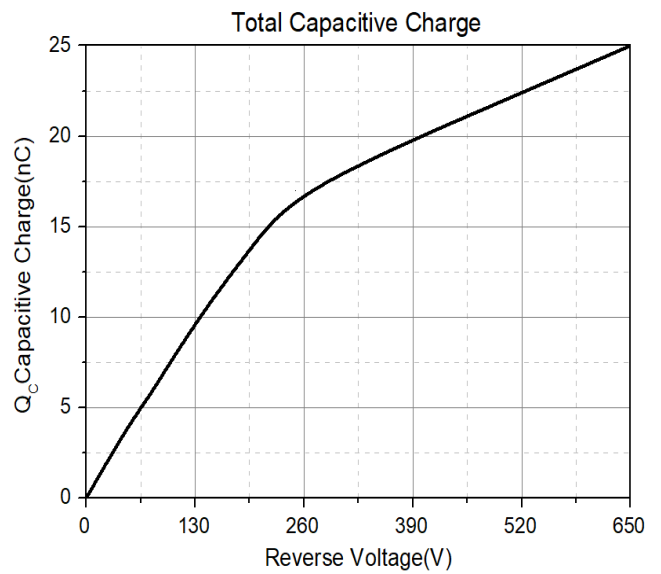
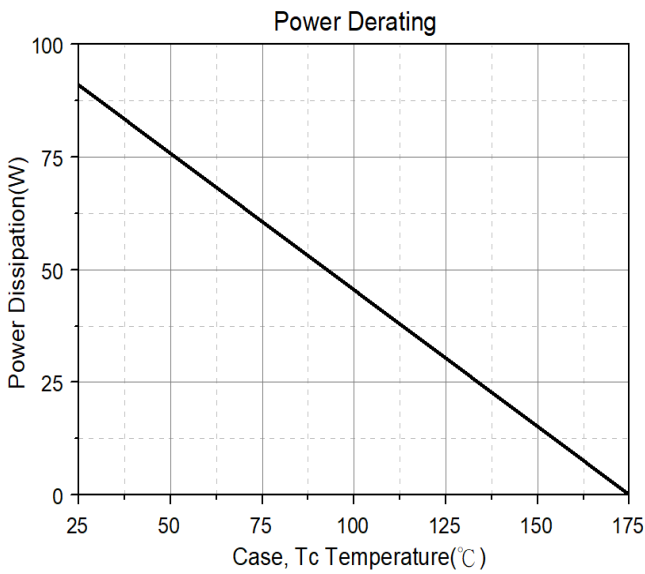
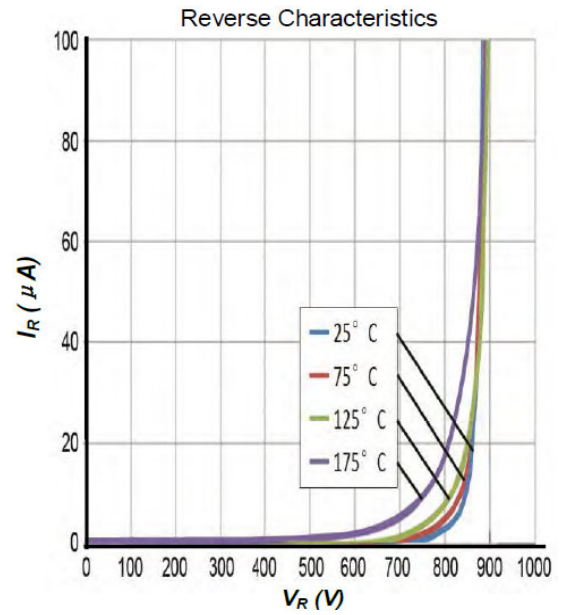
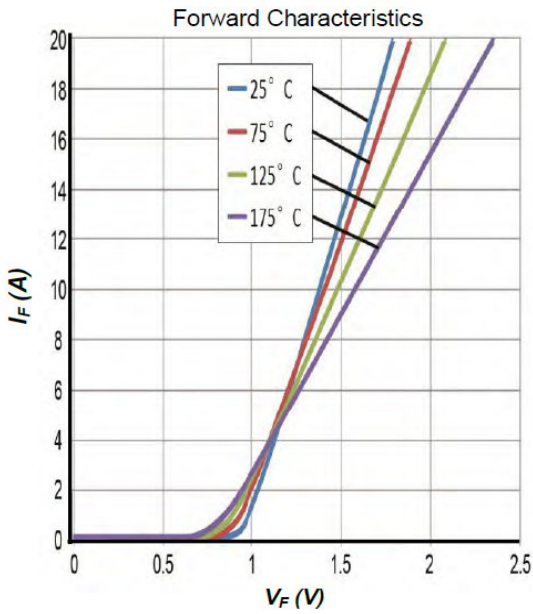
MAXIMUM RATINGS (Rating 25°C Case temperature unless otherwise)

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
Peak Forward Surge Current @8.3ms half sine-wave	I_{FSM}	103	A
Power Dissipation	P_D	91	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	$R_{\theta JC}$	1.65	

ELECTRICAL CHARACTERISTICS

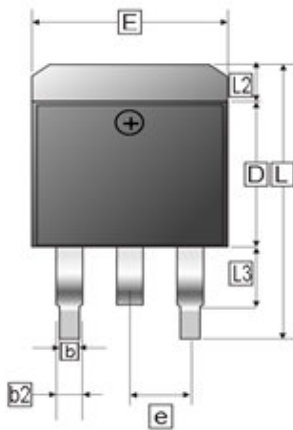
Parameter	Symbol	Typ.	Max.	Unit	Test Conditions
Forward Voltage	V_F	1.4	1.65	V	$I_F=10\text{A}, T_J=25^\circ\text{C}$
		1.75	2.3		$I_F=10\text{A}, T_J=175^\circ\text{C}$
Reverse Current	I_R	1	30	μA	$V_R=650\text{V}, T_J=25^\circ\text{C}$
		5	100		$V_R=650\text{V}, T_J=175^\circ\text{C}$
Junction Capacitance	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	$V_R=650\text{V}, I_F=8\text{A}, T_J=25^\circ\text{C}, dI/dt=200\text{A/us}$

CHARACTERISTIC CURVES



PACKAGE OUTLINE DIMENSIONS

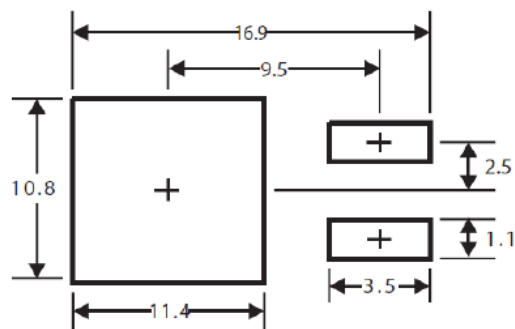
TO-263



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