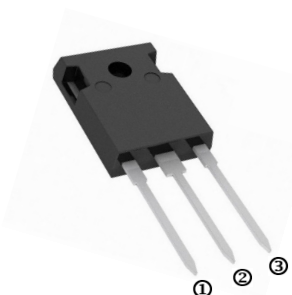


RoHS compliant product  
A suffix of "-C" specifies halogen free

**FEATURES**

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

**TO-247**



**MECHANICAL DATA**

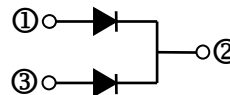
- Case: Molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: As Marked
- Mounting Position: Any

**APPLICATIONS**

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

**ORDER INFORMATION**

Part Number	Type
SIC30X120Q-C	Lead (Pb)-free and Halogen-free



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

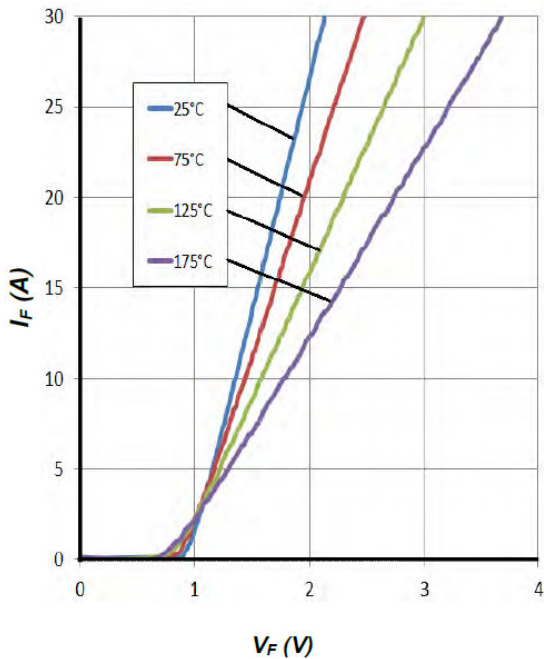
Parameter	Symbol	Rating	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	1200	V
Surge Peak Reverse Voltage	$V_{RSM}$	1200	V
DC Blocking Voltage	$V_{DC}$	1200	V
Forward Current @ $T_C \leq 150^\circ\text{C}$	Per Leg	15	A
	Per Device	30	
Non-Repetitive Peak Forward Surge Current @ 8.3ms half sine-wave	$T_C = 25^\circ\text{C}$ $I_{FSM}$	130	A
Power Dissipation	$T_C = 25^\circ\text{C}$ $P_D$	178	W
Soldering Temperature	$T_{SOL}$	260	°C
Operating Junction and Storage Temperature	$T_J, T_{STG}$	-55~175	
<b>Thermal Resistance Ratings</b>			
Thermal Resistance from Junction-Ambient	$R_{\theta JA}$	80	°C/W
Thermal Resistance from Junction-Case	$R_{\theta JC}$	0.84	

**ELECTRICAL CHARACTERISTICS (Per Leg)**

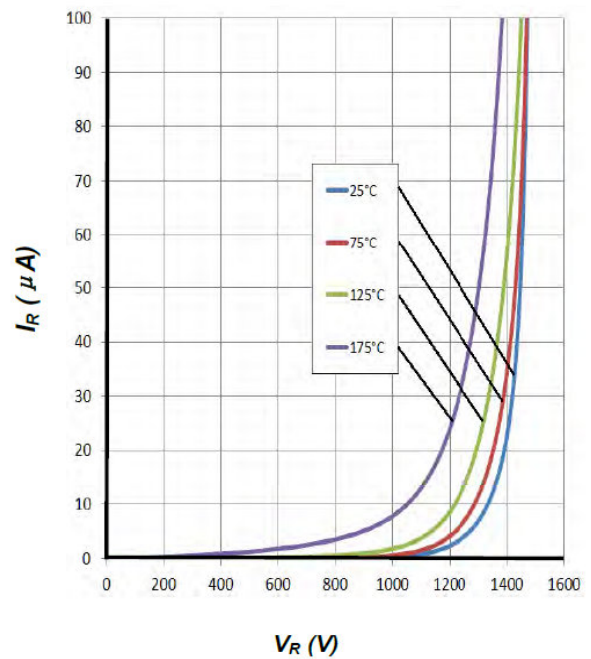
Parameter	Symbol	Typ.	Max.	Unit	Test Conditions
Forward Voltage	$V_F$	1.5	1.8	V	$I_F=15A, T_J=25^\circ C$
		2.2	2.5		$I_F=15A, T_J=175^\circ C$
Reverse Current	$I_R$	5	30	$\mu A$	$V_R=1200V, T_J=25^\circ C$
		10	50		$V_R=1200V, T_J=175^\circ C$
Junction Capacitance	$C_J$	990	-	pF	$V_R=0V, T_J=25^\circ C, f=1MHz$
Total Capacitive Charge	$Q_C$	39.24	-	nC	$V_R=800V, I_F=15A, T_J=25^\circ C$ $di/dt=200A/\mu s$

**CHARACTERISTIC CURVES**

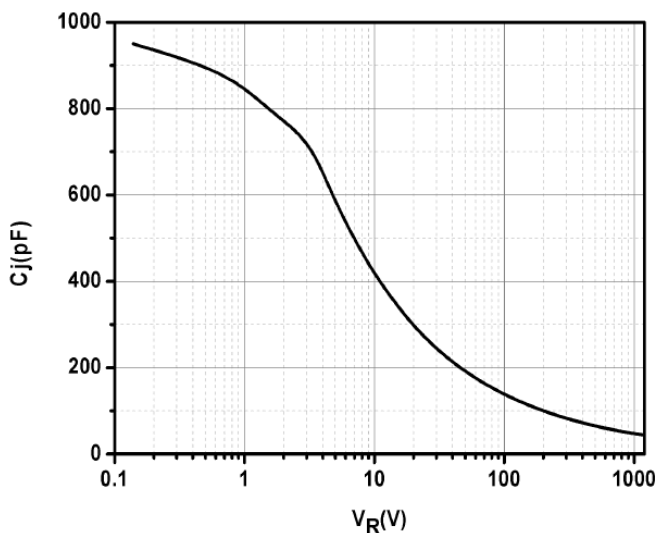
Forward Characteristics



Reverse Characteristics

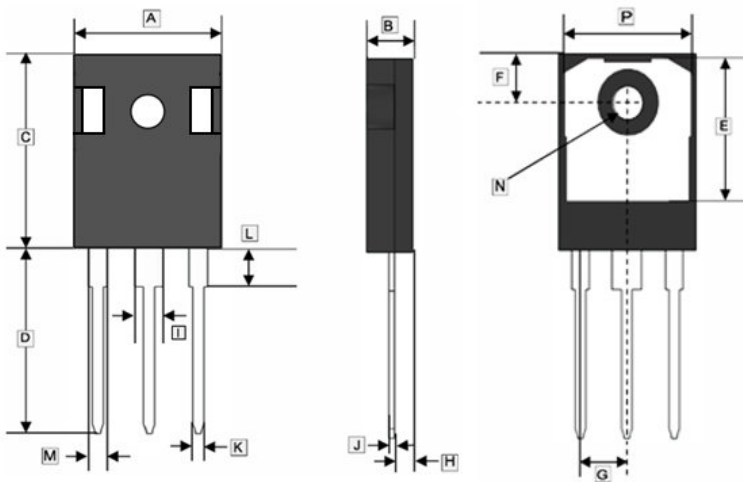


Total Capacitance vs. Reverse Voltage



**PACKAGE OUTLINE DIMENSIONS**

TO-247



REF.	Millimeter	
	Min.	Max.
A	15.60	16.00
B	4.83	5.21
C	20.80	21.10
D	19.72	20.32
E	16.25	17.65
F	6.04	6.30
G	5.44 BSC.	
H	2.29	2.55
I	2.87	3.25
J	0.525	0.725
K	1.12	1.33
L	3.93	4.44
M	1.91	2.39
N	Ø3.56	Ø3.65
P	13.10	14.16