

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

## MECHANICAL DATA

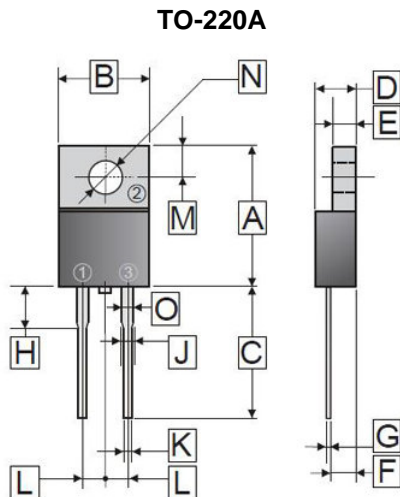
- Case: Molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Lead: Lead solderable per MIL-STD-202 method 208 guaranteed
- Polarity: As Marked
- Mounting position: Any

## APPLICATIONS

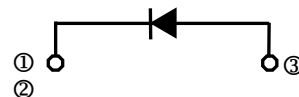
- Switch Mode Power Supplies
- Power Factor Correction
- Motor Drive, PV Inverter, Wind Power Station

## ORDER INFORMATION

Part Number	Type
SIC0665A-C	Lead (Pb)-free and Halogen-free



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	14.68	15.65	H	3.3	4.20
B	9.65	10.45	J	-	1.30
C	12.7	14.62	K	0.63	0.96
D	4.18	4.98	L	4.84	5.32
E	1.14	1.38	M	2.48	3.05
F	2.20	2.98	N	∅ 3.6	∅ 3.9
G	0.27	0.64	O	1.12	1.55



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

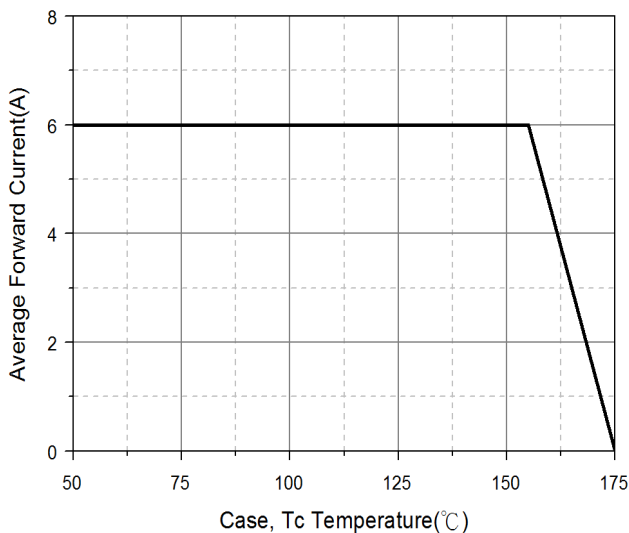
Parameter	Symbol	Rating	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	650	V
Surge Peak Reverse Voltage	$V_{RSM}$	650	V
DC Blocking Voltage	$V_{DC}$	650	V
Forward Current	$I_F$	$T_C \leq 25^\circ\text{C}$	19
		$T_C \leq 135^\circ\text{C}$	9
		$T_C \leq 155^\circ\text{C}$	6
Peak Forward Surge Current@8.3ms half sine-wave	$I_{FSM}$	60	A
Power Dissipation	$P_D$	93	W
Operating Junction and 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	$R_{\theta JC}$	1.6	

### ELECTRICAL CHARACTERISTICS

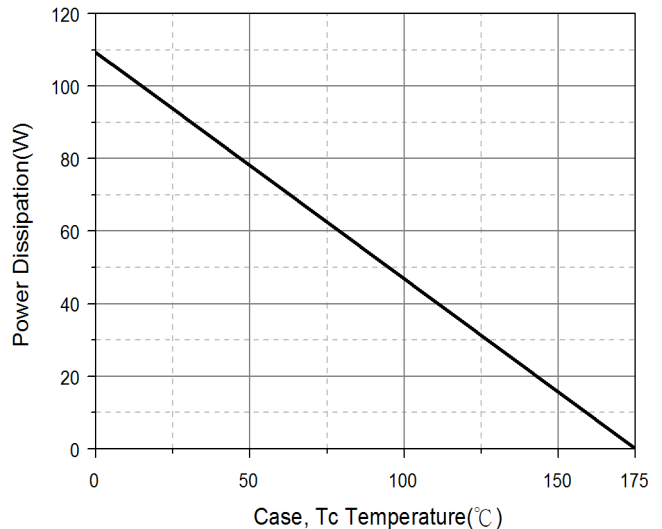
Parameter	Symbol	Typ.	Max.	Unit	Test Conditions
Forward Voltage	$V_F$	1.4	1.65	V	$I_F=6A, T_J=25^\circ C$
		1.7	2.3		$I_F=6A, T_J=175^\circ C$
Reverse Current	$I_R$	1	20	$\mu A$	$V_R=650V, T_J=25^\circ C$
		5	100		$V_R=650V, T_J=175^\circ C$
Junction Capacitance	$C_J$	300	-	pF	$V_R=0V, T_J=25^\circ C, f=1MHz$
		34	-		$V_R=200V, T_J=25^\circ C, f=1MHz$
		30	-		$V_R=400V, T_J=25^\circ C, f=1MHz$
Total Capacitive Charge	$Q_C$	17	-	nC	$V_R=400V, I_F=6A, di/dt=200A/\mu S, T_J=25^\circ C,$

### CHARACTERISTIC CURVES

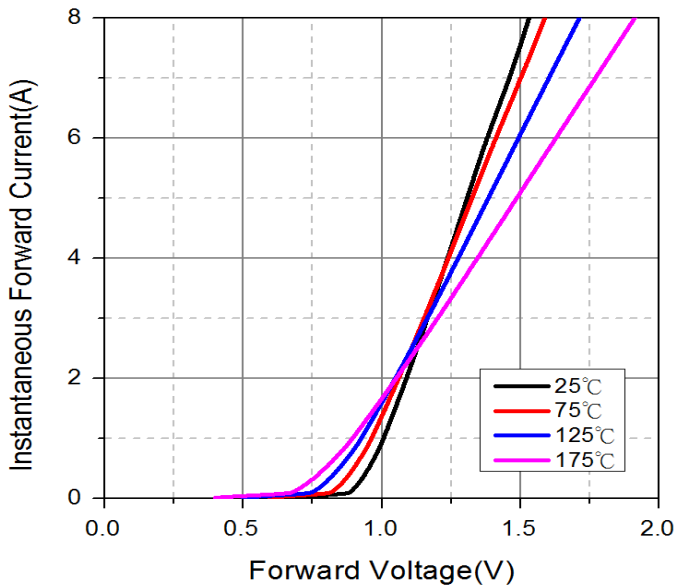
Typical Forward Current Derating Curve



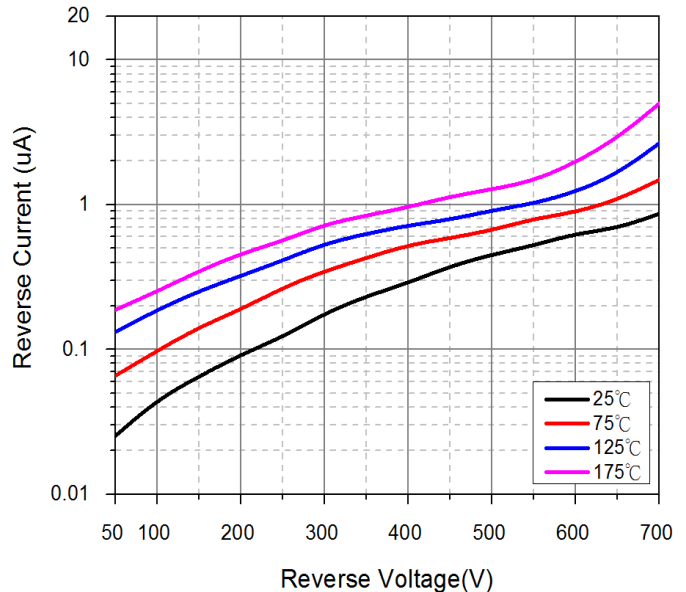
Power Derating



Typical Forward Characteristic

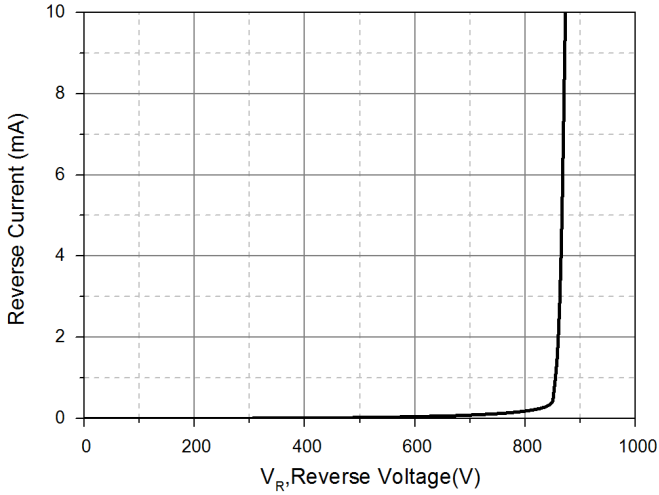


Typical Reverse Characteristic

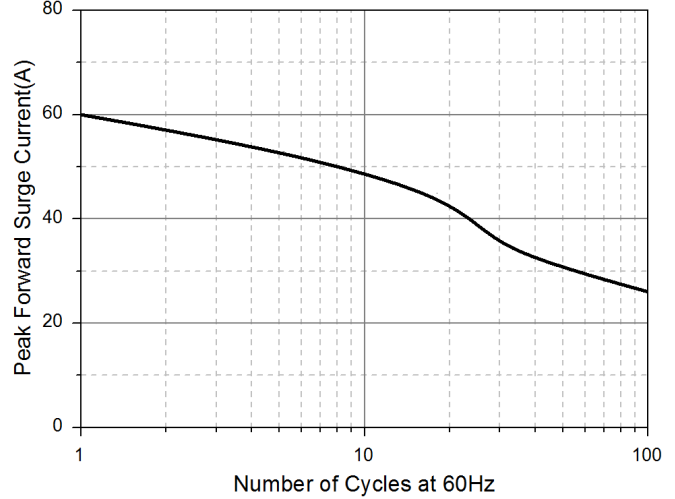


**CHARACTERISTIC CURVES**

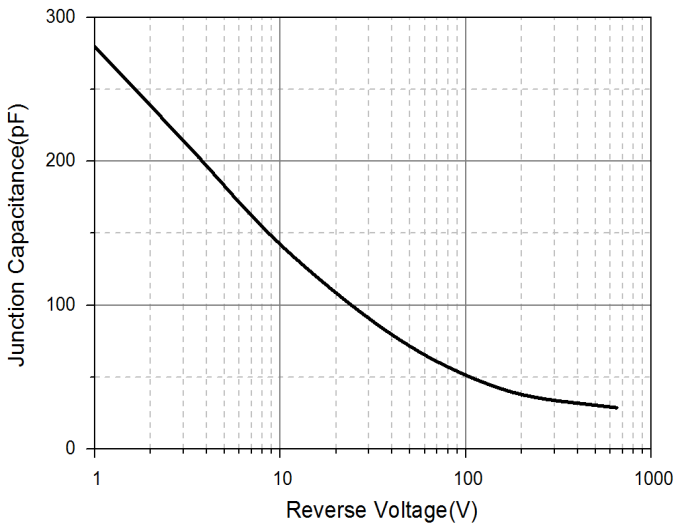
Reverse Characteristics



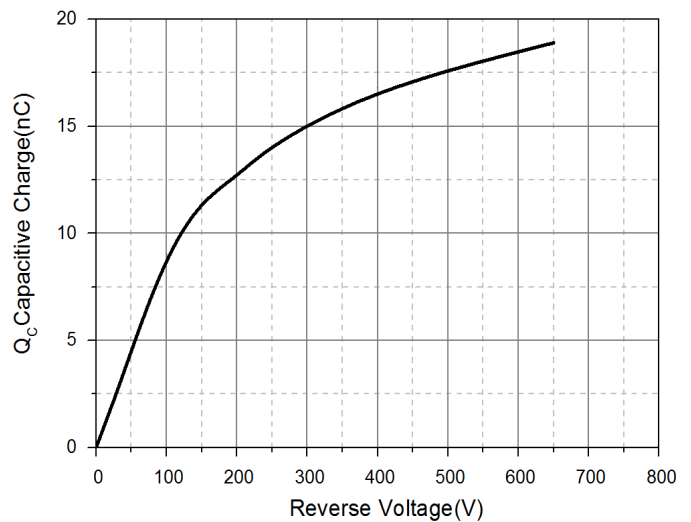
Non-Repetitive Forward Surge Current



Typical Junction Capacitance



Total Capacitive Charge



Transient Thermal Impedance

