

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

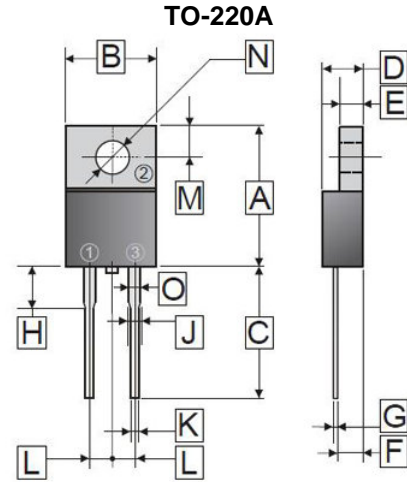
- Case: Molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Lead: Lead solderable per MIL-STD-202 method 208 guaranteed
- Polarity: As Marked
- Mounting position: Any

APPLICATIONS

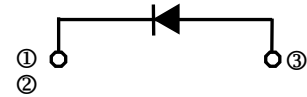
- Switch Mode Power Supplies
- Power Factor Correction
- Motor Drive, PV Inverter, Wind Power Station

ORDER INFORMATION

Part Number	Type
SIC0465A-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	φ 3.6	φ 3.9
G	0.27	0.64	O	1.12	1.55



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

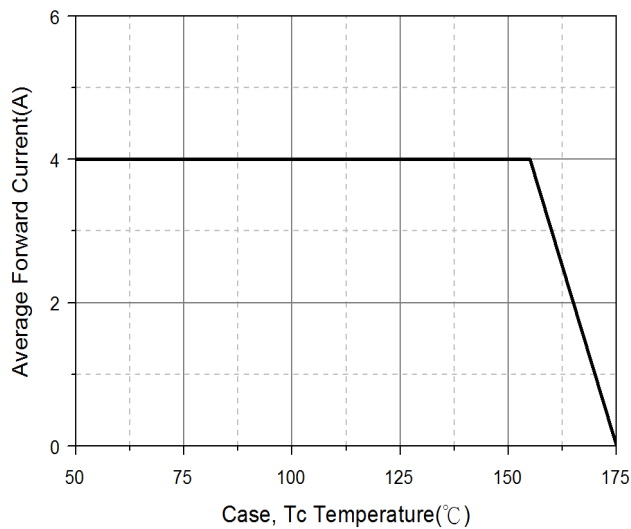
Parameter	Symbol	Rating	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	650	V
Surge Peak Reverse Voltage	V_{RSM}	650	V
DC Blocking Voltage	V_{DC}	650	V
Forward Current	I_F	$T_C \leq 25^\circ\text{C}$	13
		$T_C \leq 135^\circ\text{C}$	6
		$T_C \leq 155^\circ\text{C}$	4
Peak Forward Surge Current @8.3ms half sine-wave	I_{FSM}	40	A
Power Dissipation	P_D	51	W
Operating Junction and 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	$R_{\theta JC}$	2.9	

ELECTRICAL CHARACTERISTICS

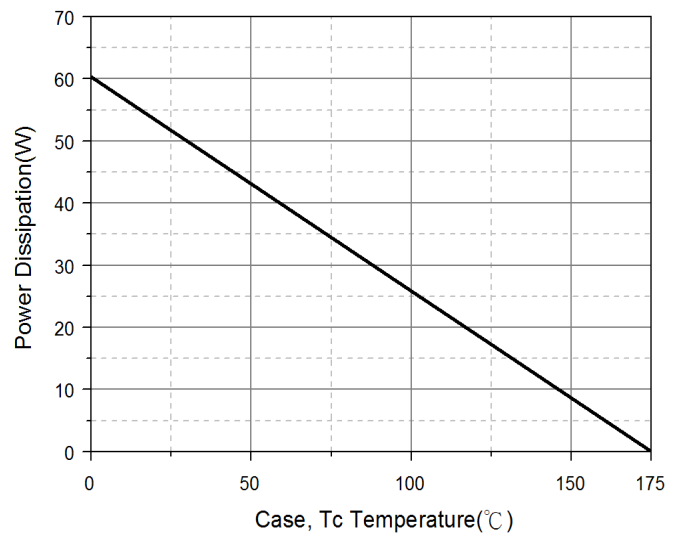
Parameter	Symbol	Typ.	Max.	Unit	Test Conditions
Forward Voltage	V_F	1.4	1.65	V	$I_F=4A, T_J=25^{\circ}C$
		1.7	2.3		$I_F=4A, T_J=175^{\circ}C$
Reverse Current	I_R	1	10	μA	$V_R=650V, T_J=25^{\circ}C$
		5	100		$V_R=650V, T_J=175^{\circ}C$
Junction Capacitance	C_J	230	-	pF	$V_R=0V, T_J=25^{\circ}C, f=1MHz$
		24	-		$V_R=200V, T_J=25^{\circ}C, f=1MHz$
		20	-		$V_R=400V, T_J=25^{\circ}C, f=1MHz$
Total Capacitive Charge	Q_C	7.9	-	nC	$V_R=400V, I_F=4A, dI/dt=200A/\mu S, T_J=25^{\circ}C$

CHARACTERISTIC CURVES

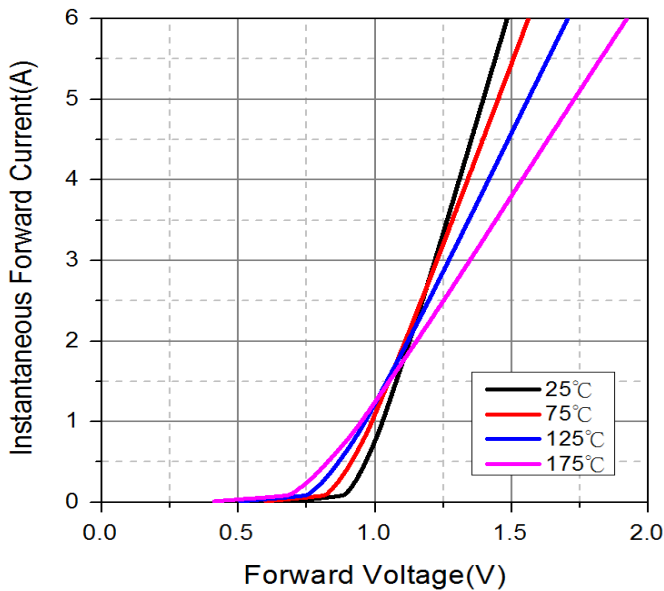
Typical Forward Current Derating Curve



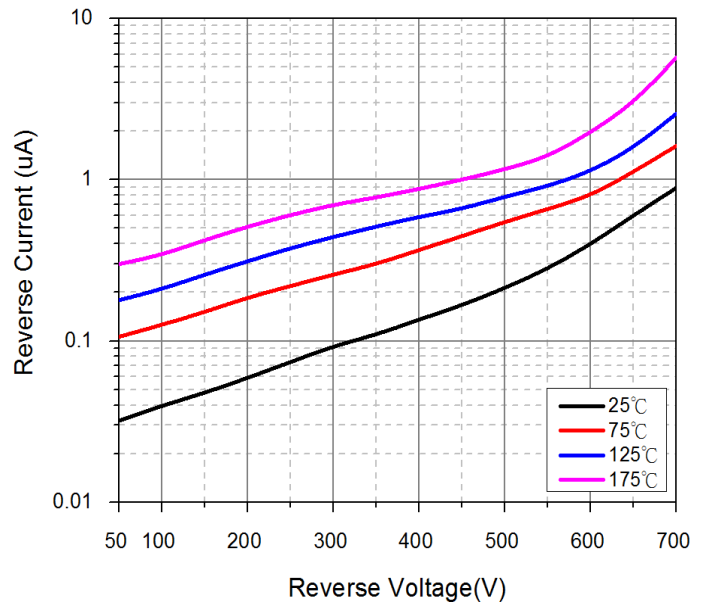
Power Derating



Typical Forward Characteristic

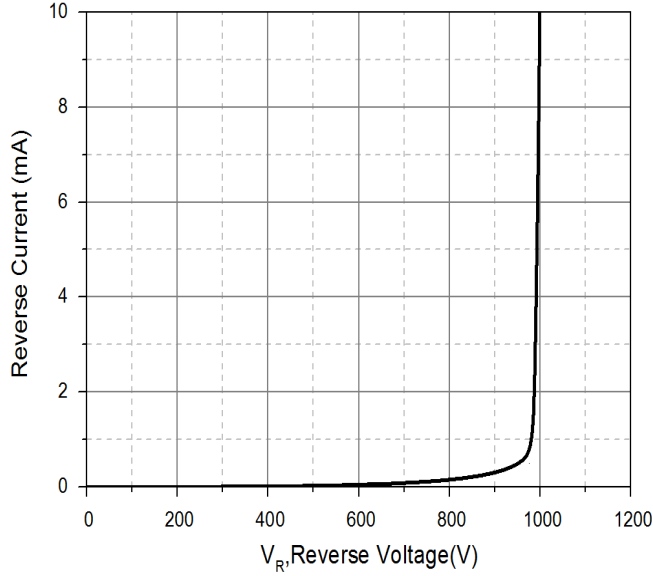


Typical Reverse Characteristic

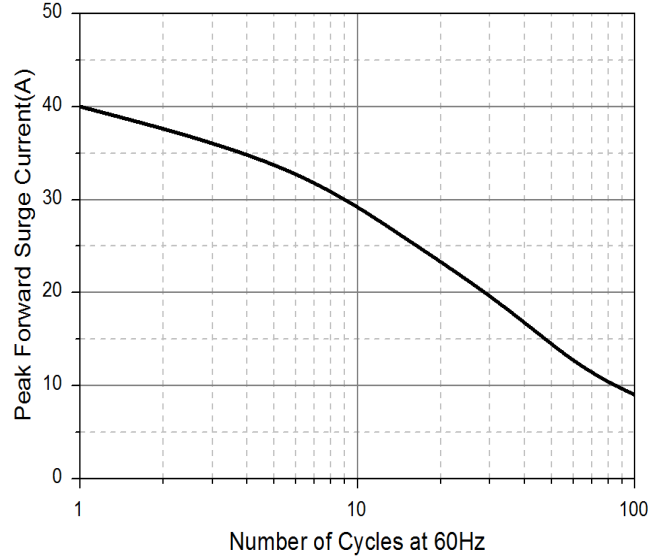


CHARACTERISTIC CURVES

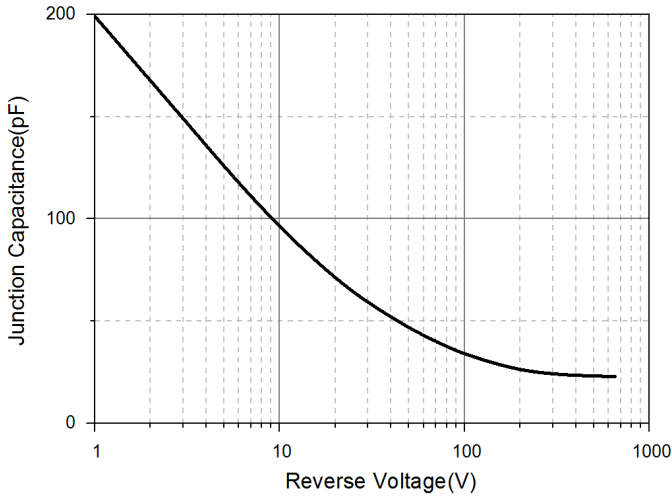
Reverse Characteristics



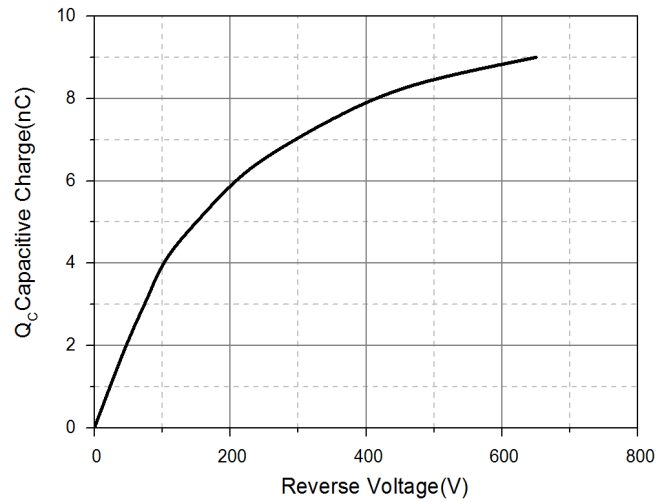
Non-Repetitive Forward Surge Current



Typical Junction Capacitance



Total Capacitive Charge



Transient Thermal Impedance

