

# K120CS

## SIDAC + Diode Silicon Uni-directional

**SIDAC**  
**0.2 AMPERE RMS**  
**120 VOLTS**

### FEATURES

- High pulse current capability
- Glass passivation insure reliable operation
- Maximum dynamic holding current 50mA.
- Compact package, SOT-23 package

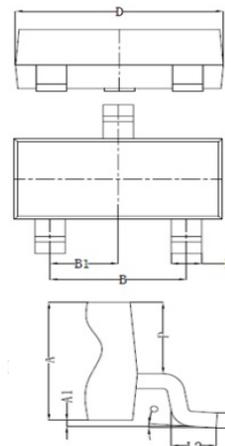
### Application

- Anion Generator
- Pulse generating

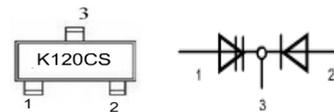
### Mechanical Data

- Terminals: Lead Free Plating
- Polarity: Color band denotes anode
- RoHS 2011/65/EU Compliant

### SOT-23-3L



Symbol	Dim in mm		
	Min	Nor	Max
A	0.900	1.000	1.100
A1	0.000	0.050	0.100
L1	0.350	0.400	0.550
C	0.100	0.110	0.120
D	2.800	2.900	3.000
E	1.200	1.300	1.500
E1	2.250	2.400	2.550
B	1.800	1.900	2.000
B1	0.950TYP		
L2	0.200	0.350	0.450
P	0.550	0.575	0.600



SIDAC PIN ASSIGNMENT	
3	Cathode
1	Anode
DIODE PIN ASSIGNMENT	
3	Cathode
2	Anode

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

### ABSOLUTE RATING

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Peak Repetitive Off-State Voltage	T <sub>J</sub> = -40 to 125 °C, Sine Wave, 50 to 60 Hz	V <sub>DRM</sub>	90	V
On-State RMS Current	T <sub>L</sub> = 80 °C, All Conduction Angles	I <sub>t</sub> (RMS)	0.2	A
Pulse On-State Current (SIDAC)	Waveform: 10/1000us, T <sub>j</sub> =25 °C	I <sub>TSM</sub>	3	A
Peak Forward Surge Current (Diode)	8.3ms single half sine-wave @ T <sub>j</sub> = 25 °C	I <sub>FSM</sub>	5	A
Operating Junction Temperature Range		T <sub>j</sub>	-40 ~ +125	°C
Storage Temperature Range		T <sub>stg</sub>	-40 ~ +150	°C

## RATING AND CHARACTERISTIC CURVES K120CS

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Maximum lead Solder Temperature (Lead Length $\geq$ 1/16 " from Case, 10s Max)	$T_L$	260	$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_j=25^{\circ}\text{C}$ , unless otherwise specified)

Parameter	Test Condition	Symbol	Min	Typ	Max	Unit
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### OFF CHARACTERISTICS

#### SIDAC

Peak repetitive forward or Reverse Blocking Current $V_{DRM} = 90\text{V}$ (pin1 to pin2)	$I_{DRM}$	---	---	10	$\mu\text{A}$
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### ON CHARACTERISTICS

#### SIDAC

Peak On-State Voltage	$I_T=0.2\text{A}$ (pin1 to pin2)	$V_{TM}$	---	1.1	1.5	V
Break Over Voltage	$I_{BO}=5\mu\text{A}$ (pin1 to pin2)	$V_{BO}$	110	---	130	V
Holding Current	(pin1 to pin2)	$I_H$	---	30	50	mA

#### Diode

Breakdown Voltage	$I_R=5\mu\text{A}$ (pin1 to pin3)	$V_B$	1000	---	---	V
Forward Voltage	$I_F=0.2\text{A}$ (pin3 to pin1)	$V_F$	---	---	1.5	V
Leakage Current	$V_R=600\text{V}$ (pin1 to pin3)	$I_R$	---	---	5	$\mu\text{A}$

# RATING AND CHARACTERISTIC CURVES

## K120CS

Fig.1- TYPICAL ON-STATE VOLTAGE

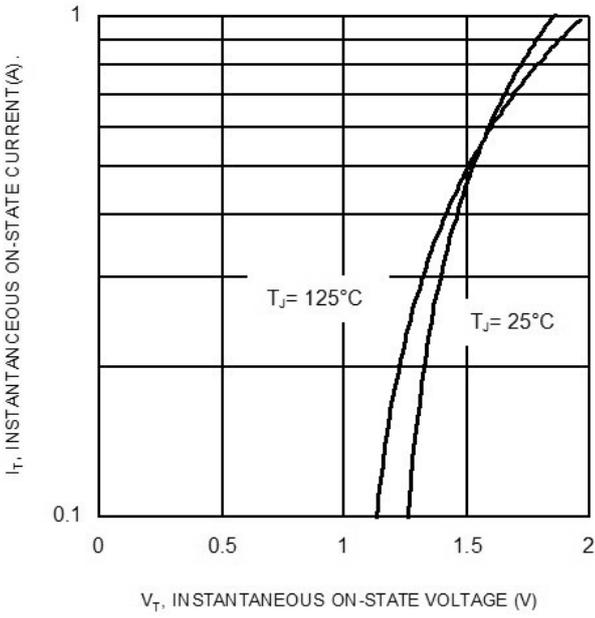


Fig.2- TYPICAL POWER DISSIPATION

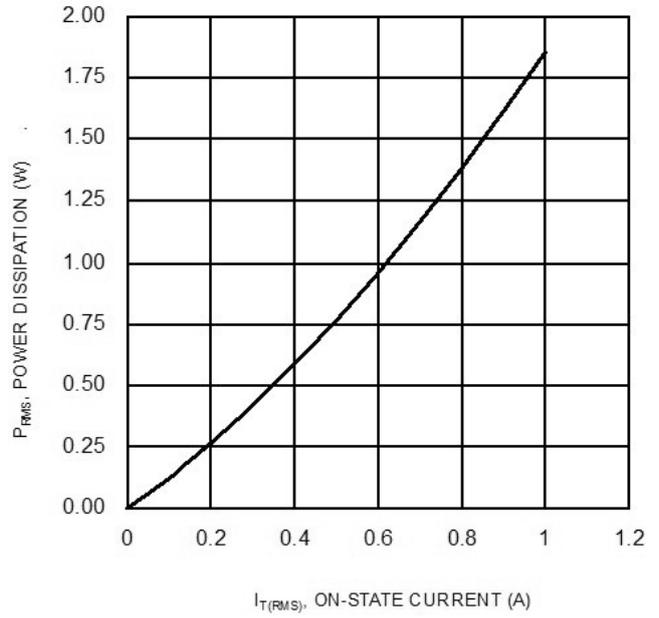


Fig.3- TYPICAL BREAKOVER VOLTAGE

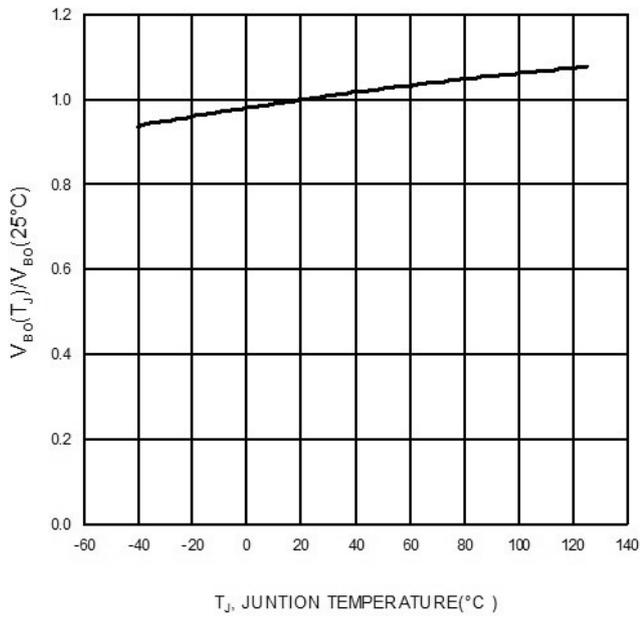


Fig.4- TYPICAL HOLDING CURRENT

