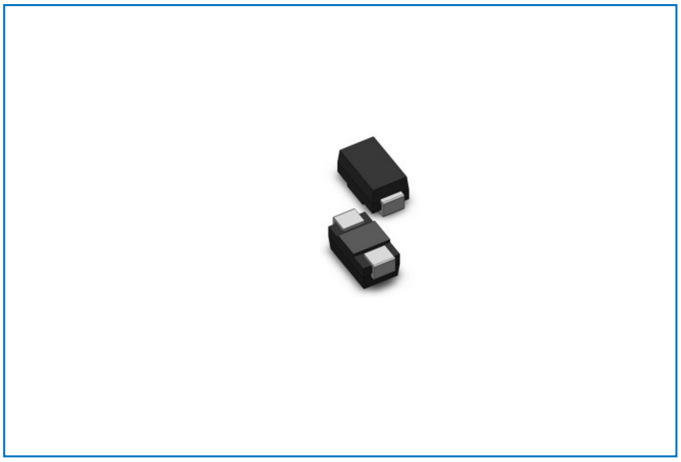
Sidac

KXXXXSA Series

Description

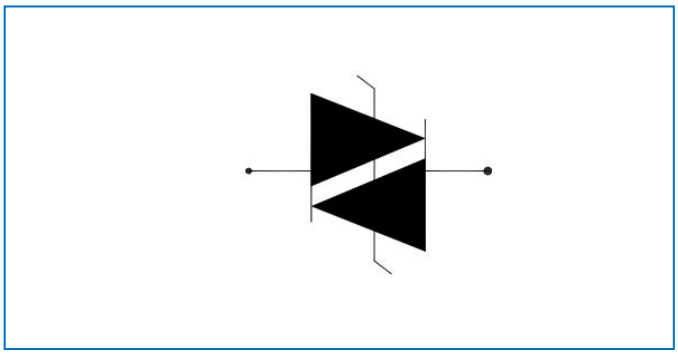
The sidac is a silicon bilateral voltage triggered switch with greater power-handling capabilities than standard diacs. Upon application of a voltage exceeding the sidac breakover voltage point, the sidac switches on through a negative resistance region to a low on-state voltage. Conduction continues until the current is interrupted or drops below the minimum holding current of the device.



Feature

- Excellent capability of absorbing transient surge
- Quick response to surge voltage (ns Level)
- Glass passivated junctions
- High voltage lcmp ignitors

Functional Diagram



Applications

- High-voltage lamp ignitors
- Natural gas ignitors
- Gas oil ignitors
- High-voltage power supplies
- Xenon ignitors
- Over voltage protector
- Pulse generators
- Fluorescent lighting ignitors HID lighting ignitors

Mechanical Characteristics (T_A=25° C, RH=45%-75%, unless otherwise noted)

Symbol	Parameter	Value	Units
I_{TSM}	**Maximum surge on-state current non-repetitive one cycle peak value（50Hz）**	16.7	A
di_T/dt	**Critical rate-of-rise of on-state current**	80	A
I_T	**On-state RMS Current**	1	A
T_{Stg}	**Storage temperature range**	-40 to +125	ºC
T_j	**Operating junction temperature range**	-40 to +125	ºC

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Electrical Characteristics (@ 25℃ Unless Otherwise Specified)

Part Number	V_{DRM} @ I_{DRM}		V_{BO}		I_{BO}	V_T @ I_T =1A	R_S	I_H	Body Marking
	V	uA	V		uA	V	kΩ	mA	
	Min	Max	Min	Max	Max	Max	Min	Min	
K0900SA	70	1	80	97	50	2	0.1	10	K09S
K1050SA	90	1	95	113	50	2	0.1	10	K10S
K1200SA	100	1	110	125	50	2	0.1	10	K12S
K1300SA	110	1	120	138	50	2	0.1	10	K13S
K1400SA	120	1	130	146	50	2	0.1	10	K14S
K1500SA	130	1	140	170	50	2	0.1	10	K15S
K1800SA	160	1	170	195	50	2	0.1	10	K18S
K2000SA	180	1	190	215	50	2	0.1	10	K20S
K2200SA	190	1	205	230	50	2	0.1	10	K22S
K2400SA	200	1	220	250	50	2	0.1	10	K24S
K2600SA	220	1	240	270	50	2	0.1	10	K26S

Electrical Characteristics (@ 25℃ Unless Otherwise Specified)

Symbol	Parameter
V_{DRM}	Peak off-state voltage
I_{DRM}	Off-state current
V_S	Switching voltage
I_S	Switching current
R_S	Switching resistance
V_T	On-state voltage
I_H	Holding current
V_{BO}	Break over Voltage
I_{BO}	Break over current

V-I Curve

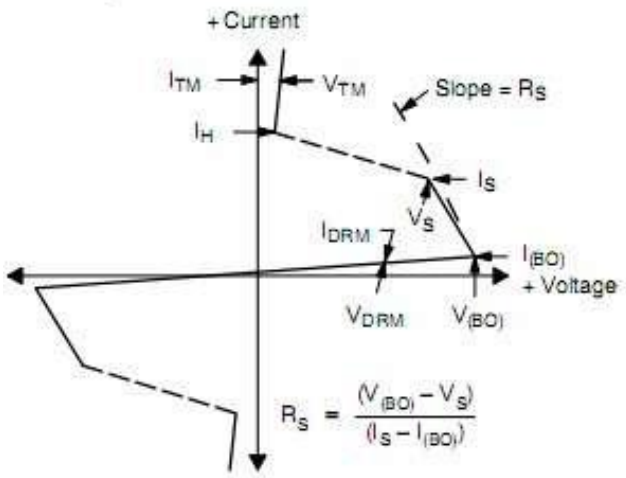


Figure 1- Normalized Vs change vs. junction temperature

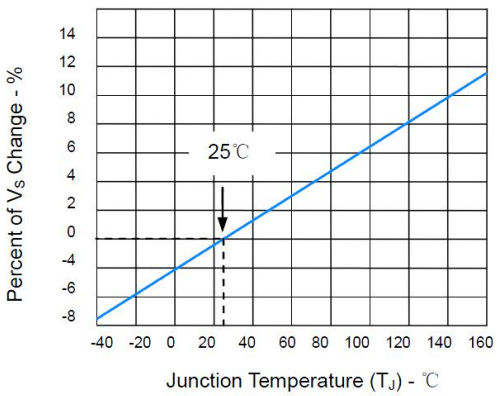
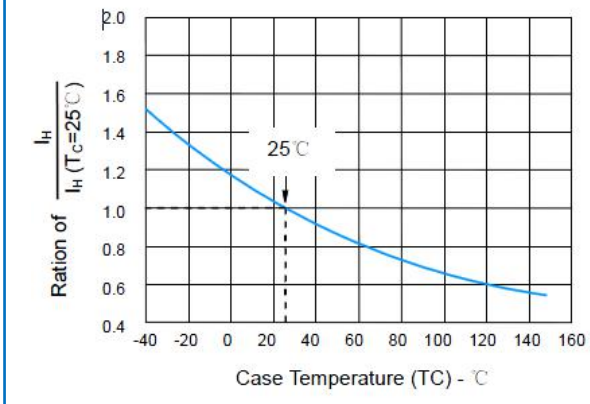


Figure 2- Normalized DC holding current vs. case temperature



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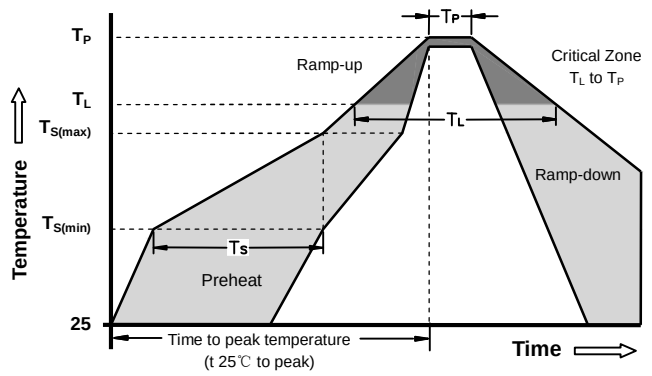
Soldering Parameters



Reflow Condition		Lead–free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max ($T_{s(max)}$)	+200°C
	-Time (min to max) (t_s)	60 -180 Seconds
Average ramp up rate (Liquidus Temp T_L) to peak		3°C/Second Max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/Second Max
Reflow	- Temperature (T_L) (Liquidus)	+217°C
	- Time (min to max) (t_s)	60 -150 Seconds
Peak Temperature (T_P)		260 +0/-5°C
Time within 5°C of actual peak Temperature (t_p)		8-15 Seconds
Ramp-down Rate		6°C/Second Max
Time 25°C to peak Temperature (T_P)		8 minutes Max
Do not exceed		+260°C

Ordering Information

K 090 0 SA

- K: Series code — K:Sidac
- 090: Median voltage
- 0: 0:Bi-direction / 1:Uni-direction
- SA: Package type:Surface mount SMA

TAPE AND REEL SPECIFICATION

Part Number	REEL DIAMETERS (mm)	REEL(PCS)	PER CARTON (PCS)
DO214AC/SMA	330	5000	80000

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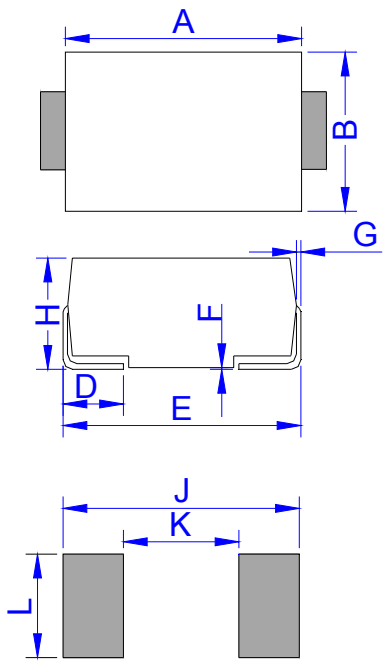
PACKAGE MECHANICAL DATA



DO-214AC (SMA)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.65	0.167	0.183
B	2.50	2.90	0.098	0.114
C	1.35	1.65	0.053	0.065
D	0.76	1.52	0.030	0.060
E	4.93	5.28	0.194	0.208
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	1.98	2.41	0.078	0.095
J	6.50		0.256	
K		2.30		0.090
L	1.70		0.067	