

Sidac

K0900S Series

Description

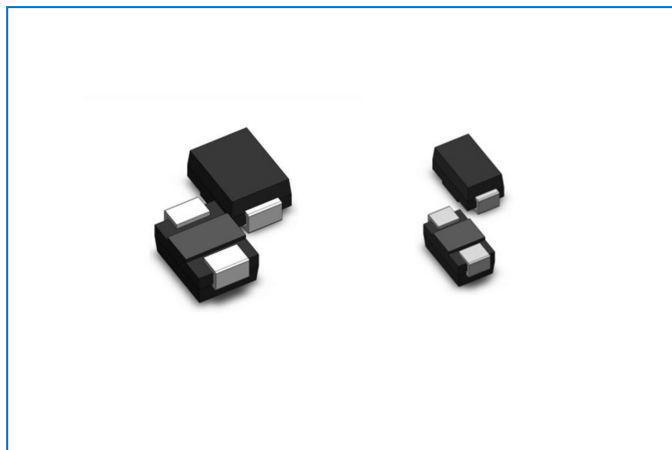
The sidac is a silicon bilateral voltage triggered switch with greater power-handling capabilities than standard diacs. Upon application of a voltage exceeding the sidac breakover voltage point, the sidac switches on through a negative resistance region to a low on-state voltage. Conduction continues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

Feature

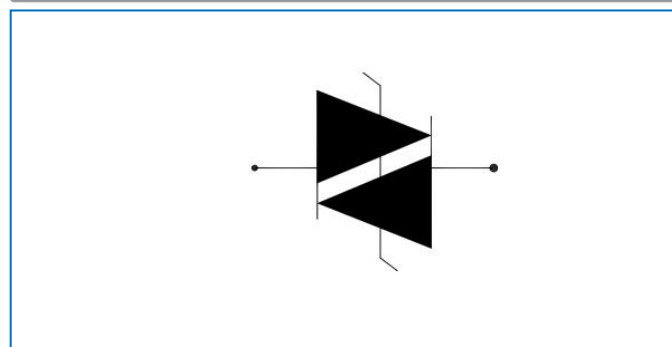
- ◆ Excellent capability of absorbing transient surge
- ◆ Quick response to surge voltage (ns Level)
- ◆ Glass passivated junctions
- ◆ High voltage lcmp ignitors

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



Functional Diagram



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	°C
T _j	Operating junction temperature range	-40 to +125	°C

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Electrical Characteristics (@ 25°C 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		V		uA	V	kΩ	mA	
	Min	Max	Min	Max	Max	Max	Min	Min	
K0900S	70	1	80	97	50	2	0.1	10	K09S
K1050S	90	1	95	113	50	2	0.1	10	K10S
K1200S	100	1	110	125	50	2	0.1	10	K12S
K1300S	110	1	120	138	50	2	0.1	10	K13S
K1400S	120	1	130	146	50	2	0.1	10	K14S
K1500S	130	1	140	170	50	2	0.1	10	K15S
K1800S	160	1	170	195	50	2	0.1	10	K18S
K2000S	180	1	190	215	50	2	0.1	10	K20S
K2200S	190	1	205	230	50	2	0.1	10	K22S
K2400S	200	1	220	250	50	2	0.1	10	K24S
K2600S	220	1	240	270	50	2	0.1	10	K26S

Electrical Characteristics (@ 25°C 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

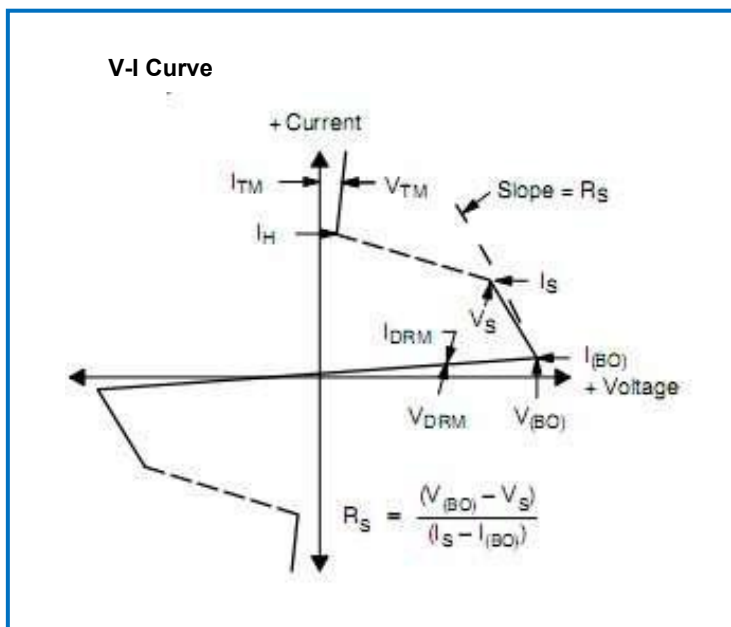


Figure 1- Normalized V_s change vs. junction temperature

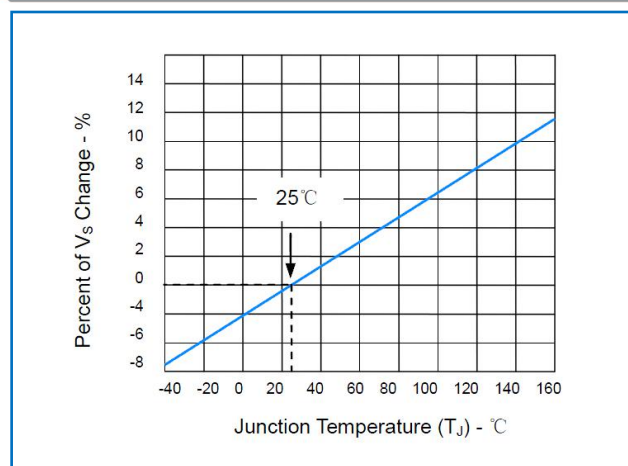
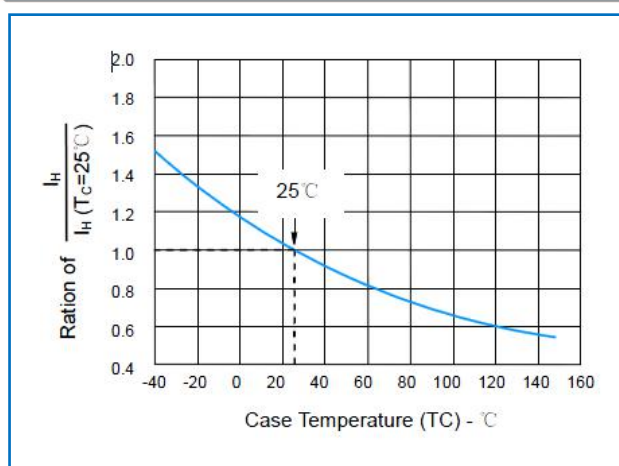


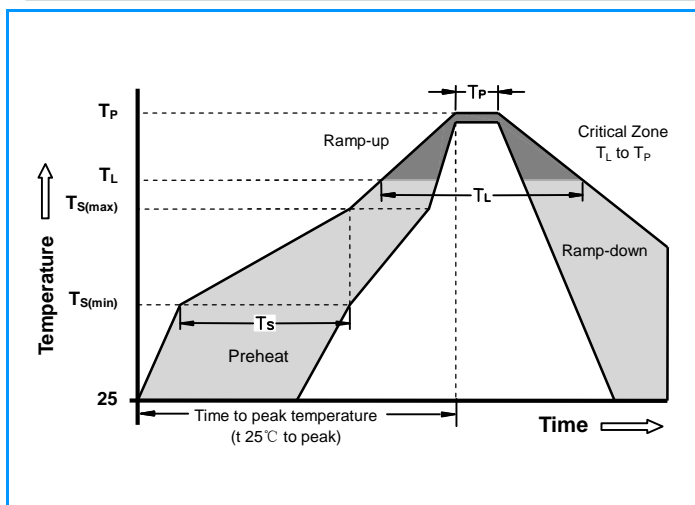
Figure 2- Normalized DC holding current vs. case temperature



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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	S
Series code K:Sidac	Median voltage	0: Bi-direction 1: Uni-direction	Package type:Surface mount

TAPE AND REEL SPECIFICATION

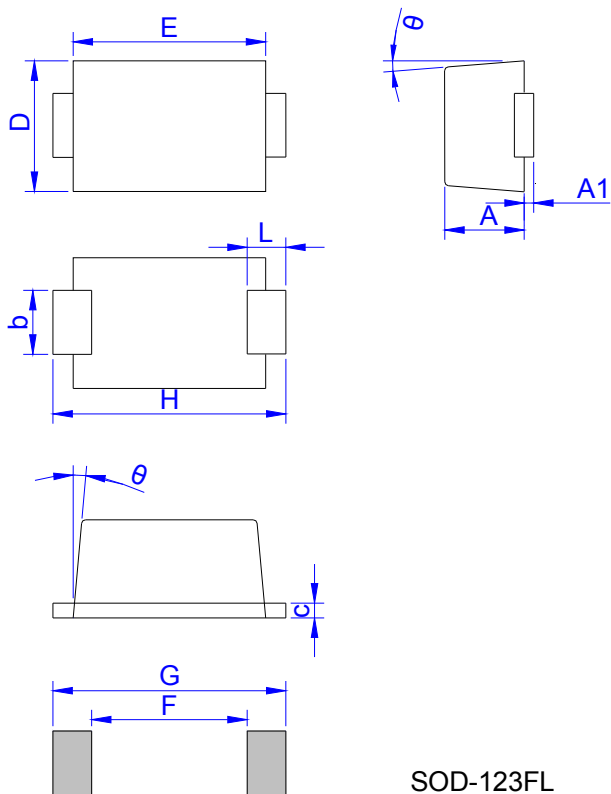
Part Number	REEL DIAMETERS (mm)	REEL(PCS)	PER CARTON (PCS)
SOD-123FL	178	3000	96000
DO214AC/SMA	330	5000	80000
DO214AA/SMB	330	3000	48000

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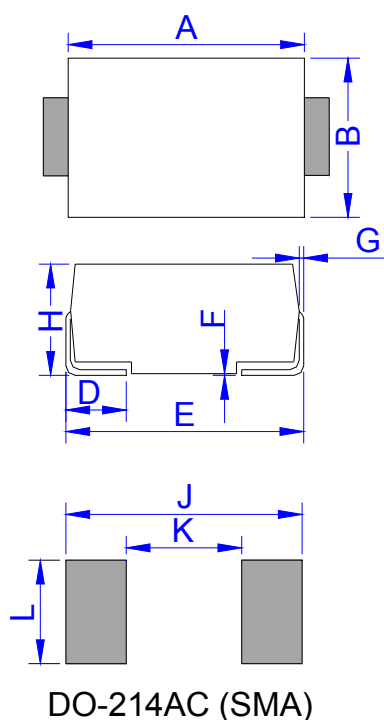
PACKAGE MECHANICAL DATA

1) SOD-123FL



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.00	0.035	0.039
A1	0	0.10	0	0.004
b	0.70	1.10	0.028	0.043
c	0.10	0.20	0.004	0.008
D	1.50	1.80	0.059	0.071
E	2.50	2.90	0.098	0.114
F	2.36	-	0.093	-
G	4.19	-	0.165	-
H	3.40	3.80	0.134	0.150
L	0.55	0.95	0.022	0.037
θ	0	8°	0	8°

2) DO214AC (SMA)



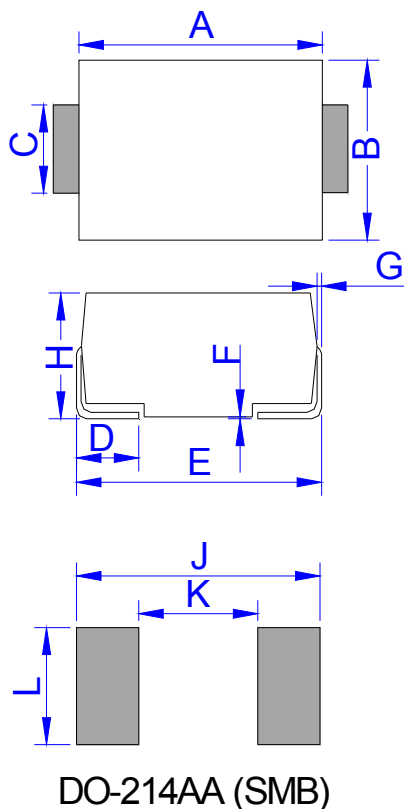
Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.65	0.167	0.183
B	2.50	2.90	0.098	0.114
C	1.35	1.65	0.053	0.065
D	0.76	1.52	0.030	0.060
E	4.93	5.28	0.194	0.208
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	1.98	2.41	0.078	0.095
J	6.50		0.256	
K		2.30		0.090
L	1.70		0.067	

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PACKAGE MECHANICAL DATA

3) DO214AA (SMB)



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.75	0.167	0.187
B	3.30	3.94	0.130	0.155
C	1.85	2.21	0.073	0.087
D	0.76	1.52	0.030	0.060
E	5.08	5.59	0.200	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.11	2.44	0.083	0.096
J	6.80		0.270	
K		2.60		0.100
L	2.40		0.090	