KxxxxSA/KxxxxSB Series Sidac

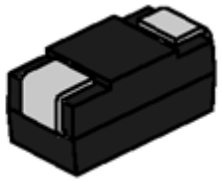
Rev.2.2

DESCRIPTION:

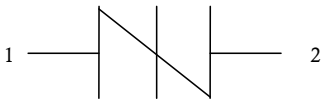
The sidac is a silicon bilateral voltage triggered switch with greater power-handling capabilities than standard diacs. Upon application of a voltage exceeding the sidac breakover voltage point, the sidac switches on through a negative resistance region to a low on-state voltage. Conduction continues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

APPLICATIONS:

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



SMA/SMB



Symbol

FEATURES:

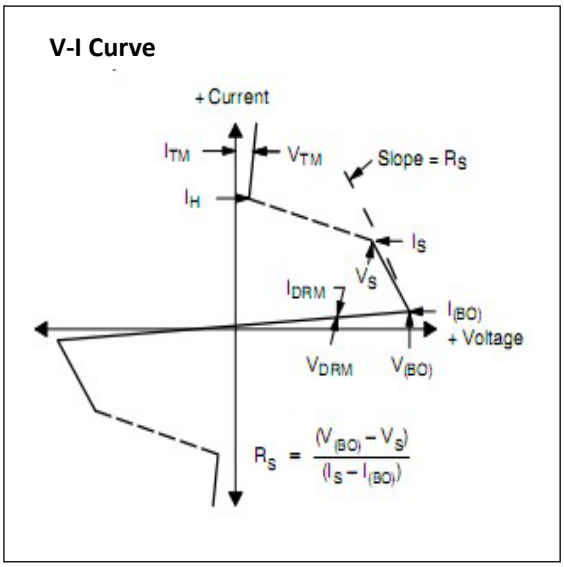
- ✧ Excellent capability of absorbing transient surge
- ✧ Quick response to surge voltage (ns Level)
- ✧ Glass-passivated junctions
- ✧ High voltage lcmp ignitors

ABSOLUTE MAXIMUM RATINGS(T_A=25ºC, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{STG}	-40 to +125	℃
Operating junction temperature range	T_J	-40 to +125	℃
On-state RMS current	I_T	1.0	A
Maximum surge on-state current non-repetitive one cycle peak value(50Hz)	I_{TSM}	16.7	A
Critical rate-of-rise of on-state current	di_T/dt	80	A/μs

ELECTRICAL CHARACTERISTICS(T_A=25℃)

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}	Breakover voltage
I_{BO}	Breakover current



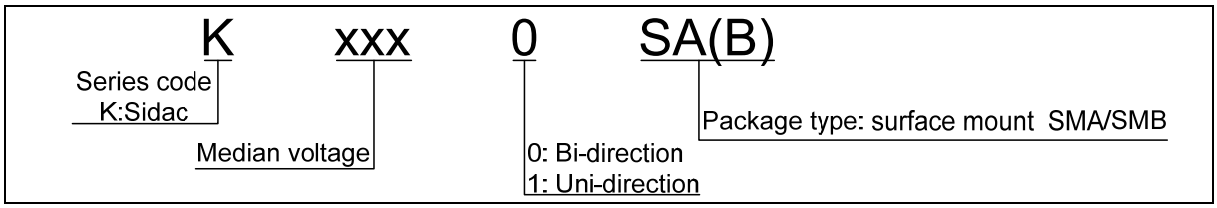
ELECTRICAL CHARACTERISTICS(T_A=25℃, continued)

Part Number	I_{DRM}@V_{DRM}		V_{BO}		I_{BO}	V_T@ I_T=1A	I_H	R_S	Marking
	μA	V	V		μA	V	mA	kΩ	
	max	min	min	max	max	max	min	min	
K0900SA	1	70	80	97	50	2	10	0.1	K09S
K1050SA	1	90	95	113	50	2	10	0.1	K10S
K1200SA	1	100	110	125	50	2	10	0.1	K12S
K1300SA	1	110	120	138	50	2	10	0.1	K13S
K1400SA	1	120	130	146	50	2	10	0.1	K14S
K1500SA	1	130	140	170	50	2	10	0.1	K15S
K1800SA	1	160	170	195	50	2	10	0.1	K18S
K2000SA	1	180	190	215	50	2	10	0.1	K20S
K2200SA	1	190	205	230	50	2	10	0.1	K22S
K2400SA	1	200	220	250	50	2	10	0.1	K24S
K2600SA	1	220	240	270	50	2	10	0.1	K26S
K0900SB	1	70	80	97	50	2	10	0.1	K09S
K1050SB	1	90	95	113	50	2	10	0.1	K10S

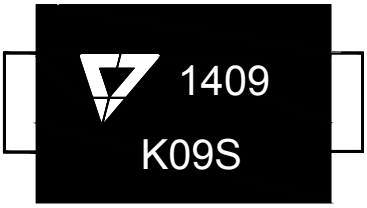
ELECTRICAL CHARACTERISTICS(T_A=25℃, continued)

Part Number	I_{DRM}@V_{DRM}		V_{BO}		I_{BO}	V_T@ I_T=1A	I_H	R_S	Marking
	μA	V	V		μA	V	mA	kΩ	
	max	min	min	max	max	max	min	min	
K1200SB	1	100	110	125	50	2	10	0.1	K12S
K1300SB	1	110	120	138	50	2	10	0.1	K13S
K1400SB	1	120	130	146	50	2	10	0.1	K14S
K1500SB	1	130	140	170	50	2	10	0.1	K15S
K1800SB	1	160	170	195	50	2	10	0.1	K18S
K2000SB	1	180	190	215	50	2	10	0.1	K20S
K2200SB	1	190	205	230	50	2	10	0.1	K22S
K2400SB	1	200	220	250	50	2	10	0.1	K24S
K2600SB	1	220	240	270	50	2	10	0.1	K26S

ORDERING INFORMATION



MARKING



K09S:Device Marking Code
1409: In ninth week, 2014

SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L)to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L) (Liquidus)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

FIG.1: Maximum allowable ambient temperature versus on-state current

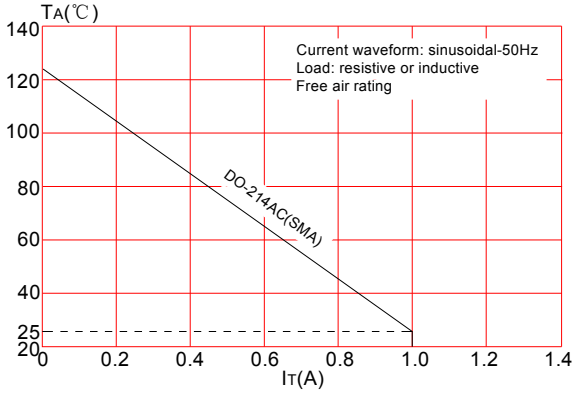


FIG.2: Reflow condition

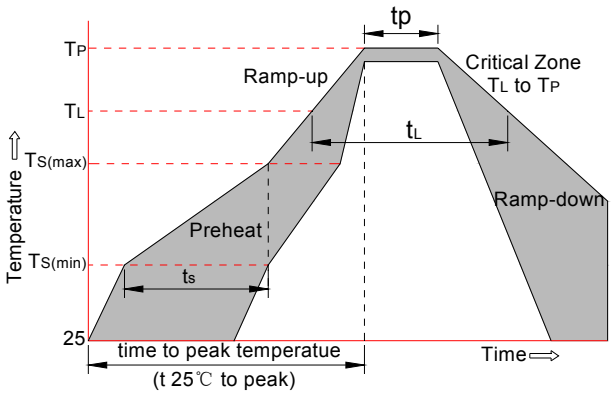


FIG.3: Normalized Vs change vs. junction temperature

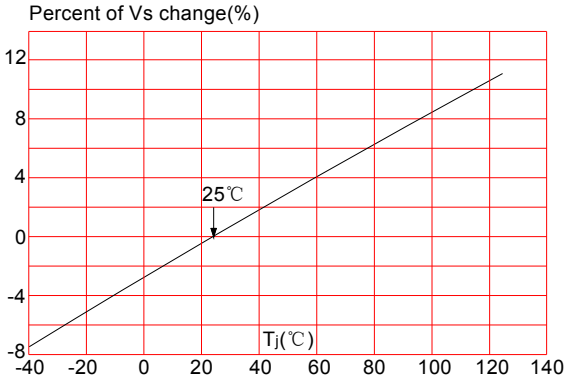
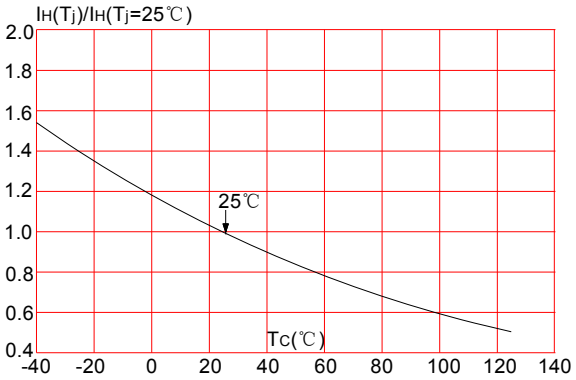
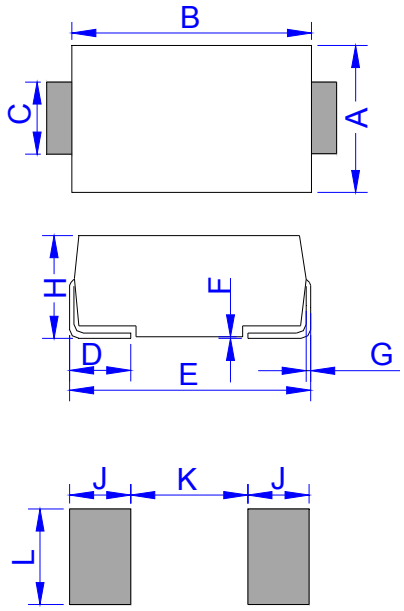


FIG.4: Normalized DC holding current vs. case temperature



PACKAGE MECHANICAL DATA

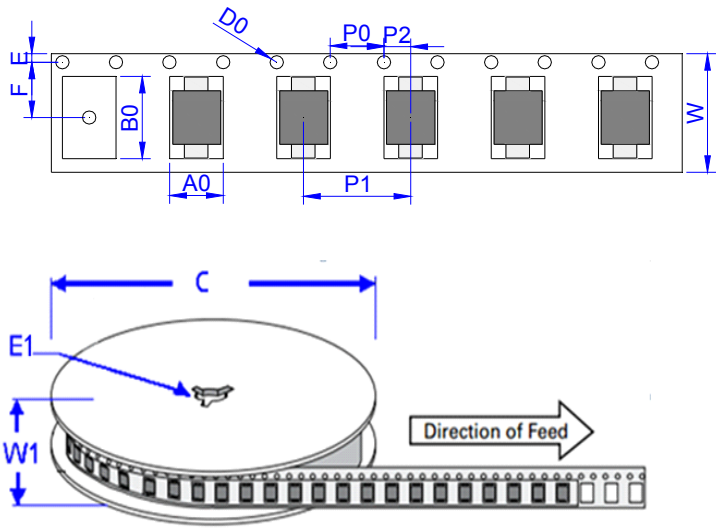
1）DO-214AC（SMA）



DO-214AC (SMA)

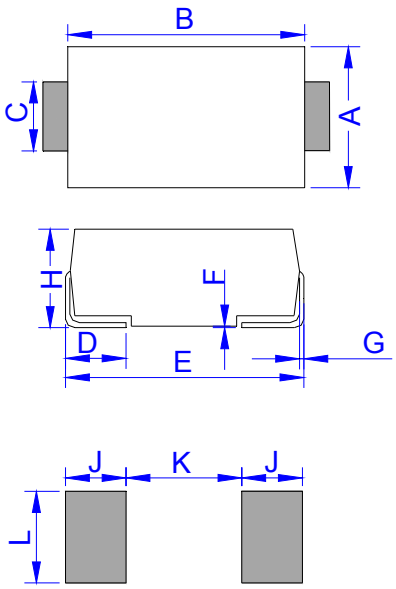
Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	3.00	0.102	0.118
B	4.15	4.65	0.163	0.183
C	1.25	1.65	0.049	0.065
D	0.95	1.52	0.037	0.060
E	4.90	5.30	0.193	0.209
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.00	2.44	0.079	0.096
J	2.00		0.079	
K		2.30		0.091
L	1.80		0.071	

TAPE AND REEL SPECIFICATION-SMA



Ref.	Dimensions	
	Millimeters	Inches
A0	2.79 ± 0.3	0.110 ± 0.012
B0	5.33 ± 0.3	0.210 ± 0.012
C	330.0	13.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524± 0.012
F	5.5 ± 0.2	0.217 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	4.00 ± 0.2	0.157 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	12.0± 0.2	0.472 ± 0.008
W1	15.7 ± 2.0	0.618 ± 0.079

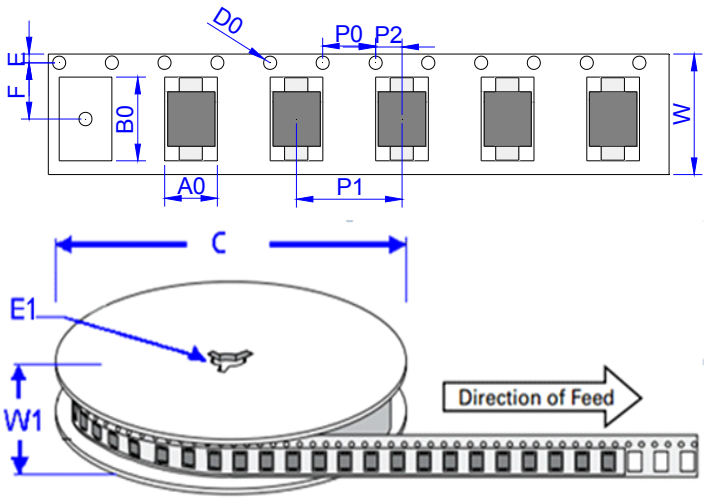
2）DO-214AA（SMB）



DO-214AA (SMB)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.94	0.130	0.155
B	4.30	4.80	0.169	0.189
C	1.90	2.20	0.075	0.087
D	0.95	1.52	0.037	0.060
E	5.20	5.60	0.205	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.10	2.40	0.083	0.094
J	2.20		0.087	
K		2.60		0.102
L	2.30		0.091	

TAPE AND REEL SPECIFICATION-SMB



Ref.	Dimensions	
	Millimeters	Inches
A0	3.76 ± 0.3	0.148 ± 0.012
B0	5.69± 0.3	0.224 ± 0.012
C	330.0	13.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524± 0.012
F	5.5 ± 0.2	0.217 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	8.00 ± 0.2	0.3145 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	12.0± 0.2	0.472 ± 0.008
W1	15.7 ± 2.0	0.618 ± 0.079

TAPE AND REEL SPECIFICATION

PART No.	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)
KxxxxSA	0.07	5,000	80,000	330
KxxxxSB	0.098	3,000	48,000	330