KXXXXSA Series

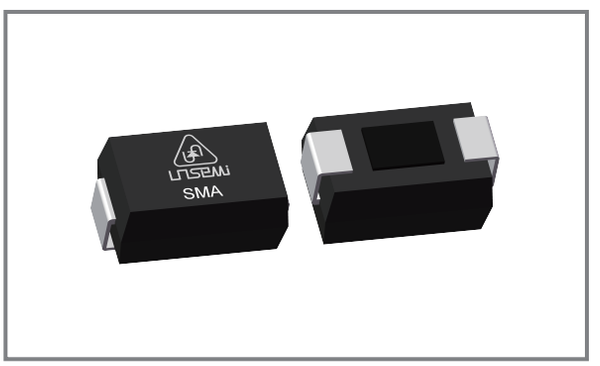
ROHS

Sidac

www.unsemi.com.tw

Description

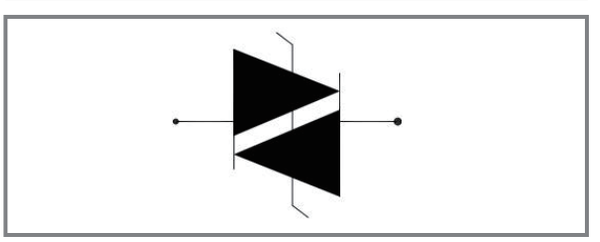
The sidac is a silicon bilateral voltage triggered switch with greater power-handling capabilities than standard diacs. Upon application of a voltage exceeding the sidac breakover voltage point, the sidac switches on through a negative resistance region to a low on-state voltage. Conduction continues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



Features

- ◆ 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

Maximum Characteristics (T_A=25℃ RH=45%-75% ,unless otherwise noted)

Parameter	Symbol	Value	Unit
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
On-state RMS Current	I_T	1	A
Storage temperature range	T_{STG}	- 40 to +125	°C
Operating junction temperature range	T_J	- 40 to +125	°C

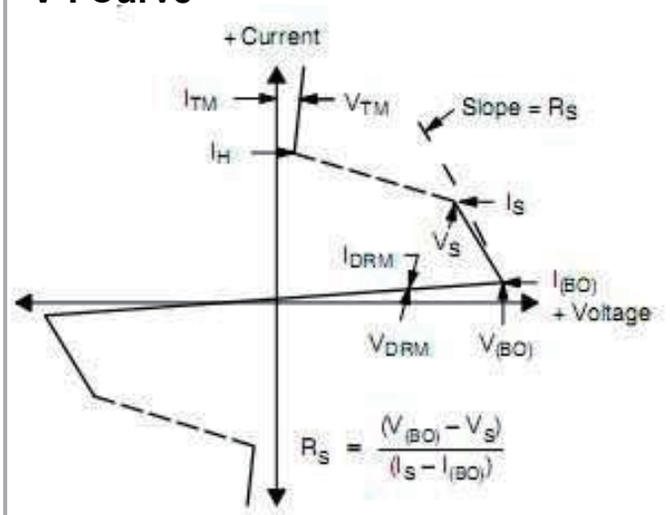
Electrical Characteristics (@=25℃ unless otherwise Specified)

Part Number	V_{DRM} @ I_{DRM}		V_{BO}		I_{BO}	V_T@ I_T=1A	R_S	I_H	Body Marking
	V	μA	V		μA	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)

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

V-I Curve



Electrical Characteristics (@=25℃ unless otherwise Specified)

Figure 1- Normalized Vs change Vs. junction temperature

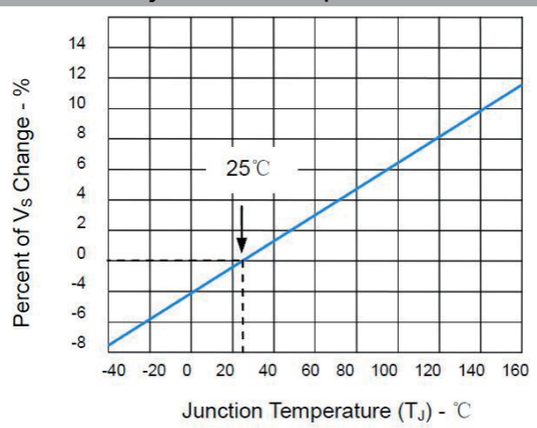
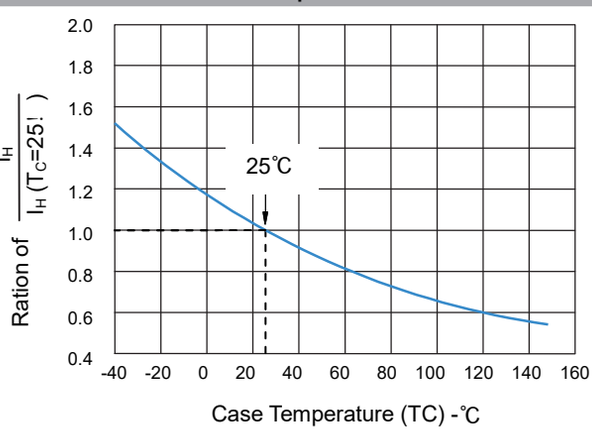
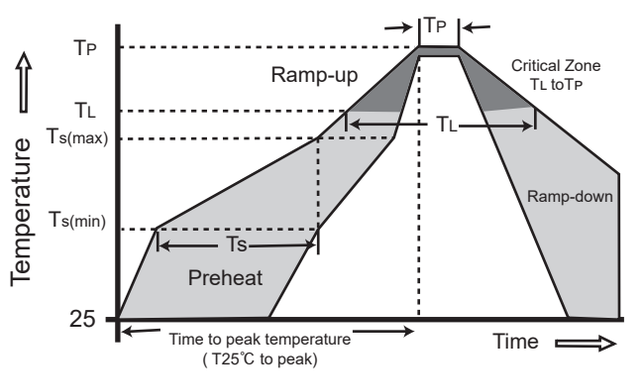


Figure 2- Normalized DC holding current Vs. case temperature



Soldering Parameters



Reflow Condition		Lead–free assembly
Pre Heat	**-Temperature Min (Ts(min))**	150°C
	-Temperature Max (Ts(max))	200°C
	- Time (min to max) (Ts)	60 -180 Seconds
Average ramp up rate (Liquidus Temp TL) to peak		3°C/Second max
Ts(max) to TL - Ramp-up Rate		3°C/Second max
Reflow	**- Temperature (TL) (Liquidus)**	217°C
	- Time (min to max) (Ts)	60 -150 Seconds
Peak Temperature (TP)		260 +0/-5°C
Time within 5°C of actual peak Temperature (TP)		8-15 Seconds
Ramp-down Rate		6°C/Second Max
Time 25°C to peak Temperature (TP)		8 minutes Max
Do not exceed		260°C

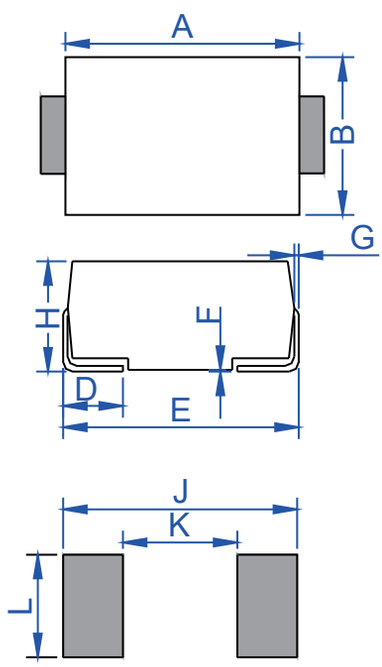
Ordering Information

K 090 0 SA

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

Package Mechanical Data

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



DO-214AC (SMA)

Tape And Reel Specification

Part Number	Component Package	Reel (PCS)	Per carton(PCS)
KxxxxSA	DO214AC/SMA	5,000	80,000

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