KXXXXSB Series

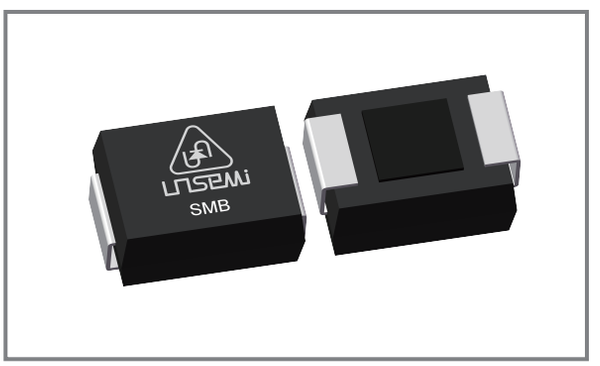
ROHS

Sidac

www.unsemi.com.tw

Description

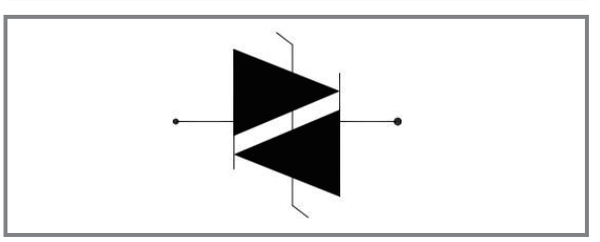
The sidac is a silicon bilateral voltage triggered switch with greater power-handling capabilities than standard diacs. Upon application of a voltage exceeding the sidac breakover voltage point, the sidac switches on through a negative resistance region to a low on-state voltage. Conduction continues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

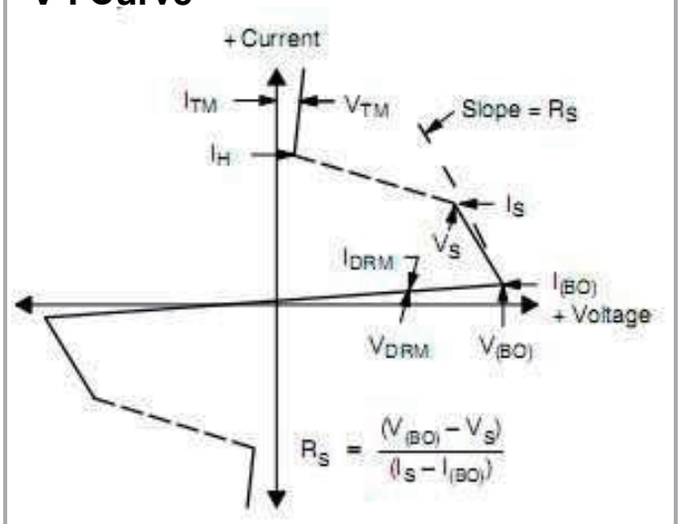
Electrical Characteristics (@=25℃ unless otherwise Specified)

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	
K0900SB	70	1	80	97	50	2	0.1	10	K09S
K1050SB	90	1	95	113	50	2	0.1	10	K10S
K1200SB	100	1	110	125	50	2	0.1	10	K12S
K1300SB	110	1	120	138	50	2	0.1	10	K13S
K1400SB	120	1	130	146	50	2	0.1	10	K14S
K1500SB	130	1	140	170	50	2	0.1	10	K15S
K1800SB	160	1	170	195	50	2	0.1	10	K18S
K2000SB	180	1	190	215	50	2	0.1	10	K20S
K2200SB	190	1	205	230	50	2	0.1	10	K22S
K2400SB	200	1	220	250	50	2	0.1	10	K24S
K2600SB	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

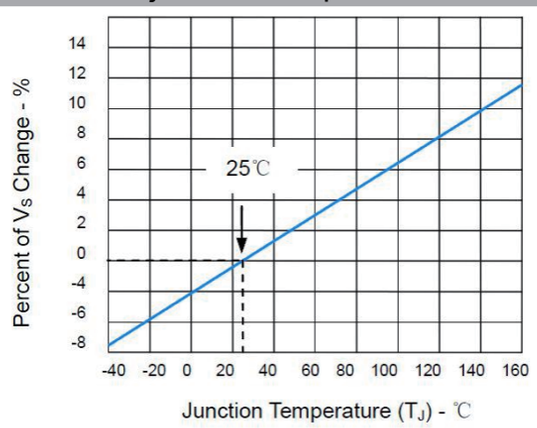
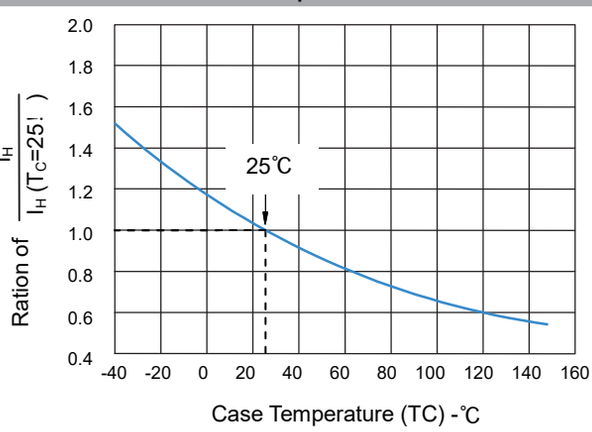
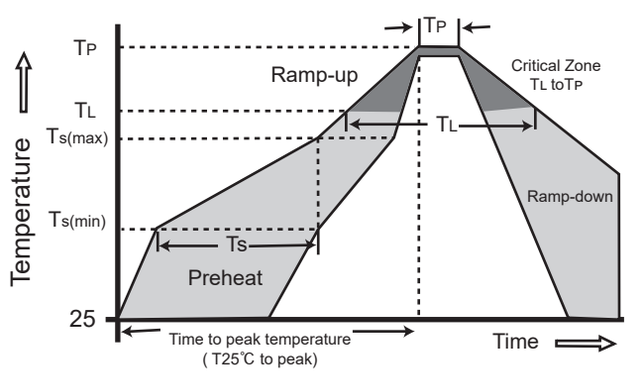


Figure 2- Normalized DC holding current Vs. case temperature



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

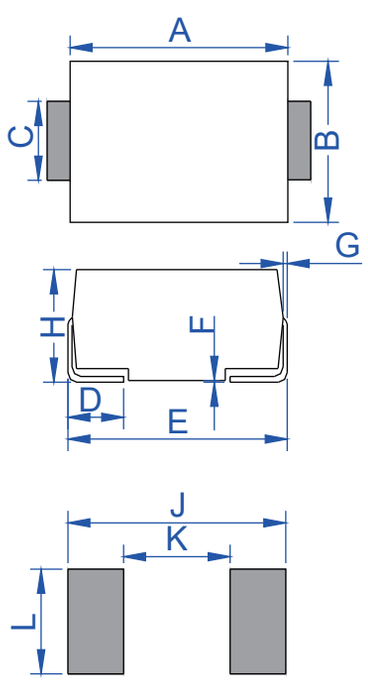
Ordering Information

K 090 0 SB

- SB: Package type:Surface mount SMB
- 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	0.187	4.25	4.75
B	0.130	0.155	3.30	3.96
C	0.073	0.087	1.85	2.21
D	0.030	0.060	0.76	1.52
E	0.200	0.220	5.08	5.59
F	0.002	0.008	0.051	0.203
G	0.006	0.012	0.15	0.31
H	0.083	0.096	2.11	0.44
J	0.270	--	6.80	--
K	--	0.100	--	2.60
L	0.090	--	2.40	--



DO-214AA (SMB)

Tape And Reel Specification

Part Number	Component Package	Reel (PCS)	Per carton(PCS)
KxxxxSB	DO214AA/SMB	3,000	48,000

優恩半導體 UNSEMI

ROHS

Disclaimer

UNSEMI RESERVES THE RIGHT TO MAKE CHANGE ON OUR PRODUTS , PRODUCTS SPECIFICATION AND DATA WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

UN SEMICONDUCTOR LIMITED its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “UNSEMI”)does not give any representations or warranties for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

In no event shall UNSEMI be liable for any indirect, incidental, punitive, special or consequential damages (including any and all implied warranties, warranties of fitness for particular purpose, non-infringement and merchantability.) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory.

Statements regarding the suitability of products for certain types of applications are based on UNSEMI knowledge of typical requirements that are often placed on UNSEMI products in generic applications. Such statements are not binding, statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify UNSEMI's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Unless otherwise agreed in writing, UNSEMI product is not designed, authorized or warranted to be suitable for use in medical life-saving, or life-sustaining application , nor in applications where failure or malfunction of a UNSEMI product can reasonably be expected to result in personal injury, death or severe property or environmental damage. UNSEMI and its suppliers accept no liability for inclusion or use of UNSEMI products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

All referenced brands, product names, service names and trademarks are the property of their respective owners.