

Sidac

KXXXXG Series

Description

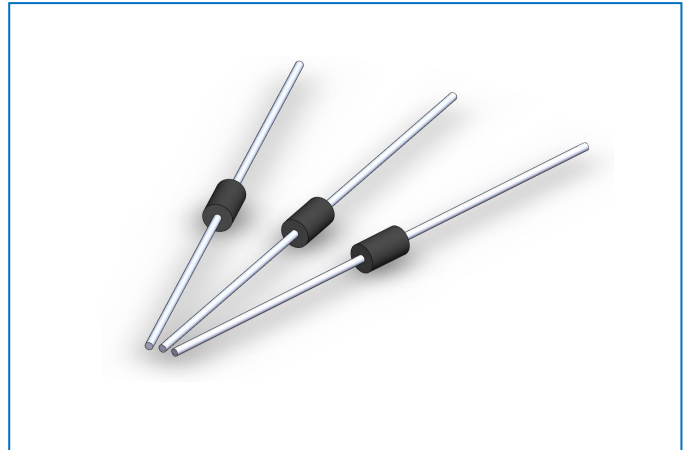
The sidac is a silicon bilateral voltage triggered switch with greater power-handling capabilities than standard diacs. Upon application of a voltage exceeding the sidac breakover voltage point, the sidac switches on through a negative resistance region to a low on-state voltage. Conduction continues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

Feature

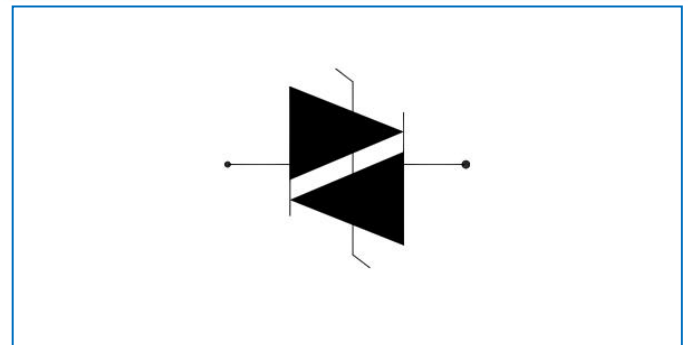
- ◆ Excellent capability of absorbing transient surge
- ◆ Quick response to surge voltage (ns Level)
- ◆ Glass passivated junctions
- ◆ High voltage lcmp ignitors

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 ($T_A=25^\circ\text{C}$, 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	uA	V		uA	V	kΩ	mA	
	Min	Max	Min	Max	Max	Max	Min	Min	
K0900G	70	1	80	97	50	2	0.1	10	DB090
K1050G	90	1	95	113	50	2	0.1	10	DB105
K1200G	100	1	110	125	50	2	0.1	10	DB120
K1300G	110	1	120	138	50	2	0.1	10	DB130
K1400G	120	1	130	146	50	2	0.1	10	DB140
K1500G	130	1	140	170	50	2	0.1	10	DB150
K1800G	160	1	170	195	50	2	0.1	10	DB180
K2000G	180	1	190	215	50	2	0.1	10	DB200BW
K2200G	190	1	205	230	50	2	0.1	10	DB220BW
K2400G	200	1	220	250	50	2	0.1	10	DB240BW
K2600G	220	1	240	270	50	2	0.1	10	DB260BW

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

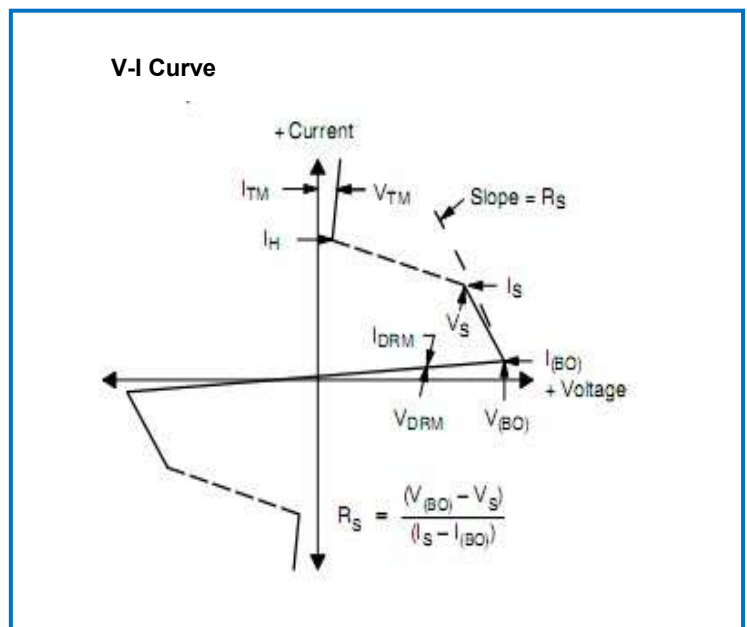


Figure 1- Normalized V_s change vs. junction temperature

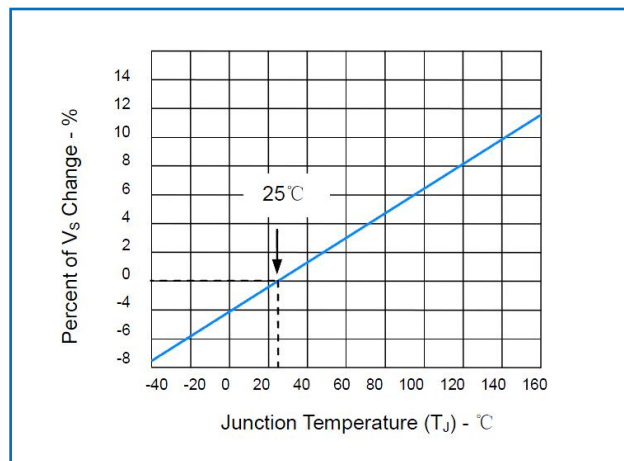
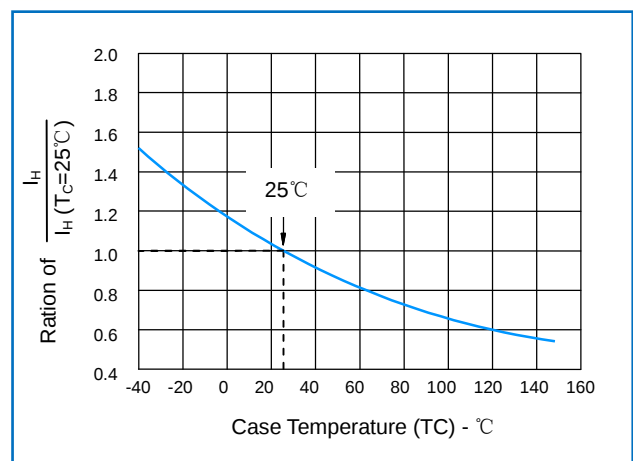


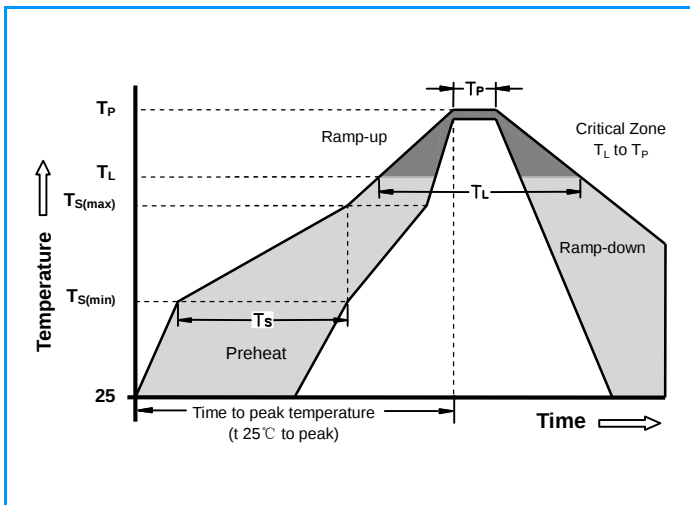
Figure 2- Normalized DC holding current vs. case temperature



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Soldering Parameters

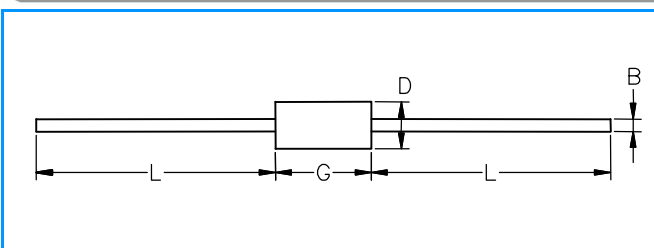


Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ($T_{s(min)}$)	+150°C
	- Temperature Max ($T_{s(max)}$)	+200°C
	- Time (min to max) (t_s)	60 -180 Seconds
Average ramp up rate (Liquidus Temp T_L) to peak		3°C/Second Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/Second Max
Reflow	- Temperature (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

Series code	K	090	0	G	Package type: DO-15
K:Sidac					
Median voltage					
			0:Bi-direction		
			1:Uni-direction		

Dimensions DO-15



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
B	0.028	0.034	0.711	0.864
D	0.120	0.140	3.048	3.556
G	0.235	0.270	5.969	6.858
L	1.000		25.40	

Packing

Part Number	Case Type	Quantity	Packing Option
KxxxxG	DO-15/DO-204AC	2000	Box