

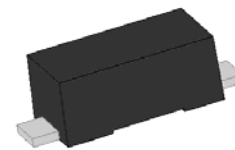


DESCRIPTION

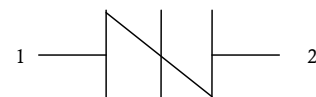
The sidac is a silicon bilateral voltage triggered switch with greater power-handling capabilities than standard diacs. Upon application of a voltage exceeding the sidac breakover voltage point, the sidac switches on through a negative resistance region to a low on-state voltage. Conduction continues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

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



SOD-123FL



Symbol

FEATURES

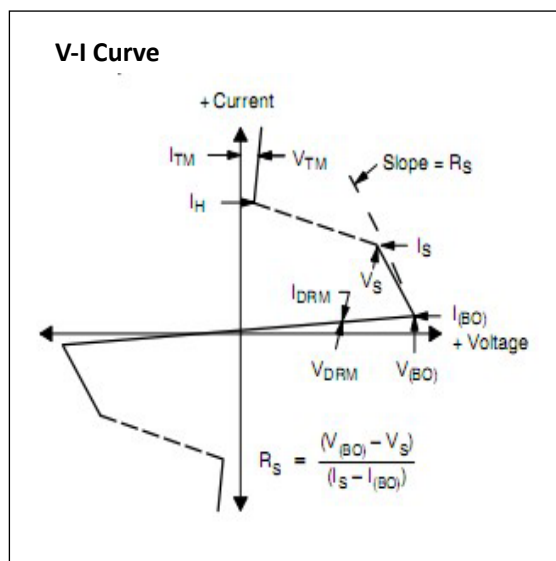
- ✧ Excellent capability of absorbing transient surge
- ✧ Quick response to surge voltage (ns Level)
- ✧ Glass-passivated junctions
- ✧ High voltage lcmp ignitors

ABSOLUTE MAXIMUM RATINGS (TA=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T _{STG}	-40 to +125	°C
Operating junction temperature range	T _J	-40 to +125	°C
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°C)

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



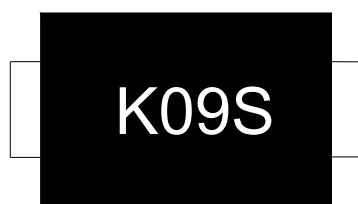
ELECTRICAL CHARACTERISTICS (T_A=25°C, continued)

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	
K0900SD1	1	70	80	97	50	2	10	0.1	K09S
K1050SD1	1	90	95	113	50	2	10	0.1	K10S
K1200SD1	1	100	110	125	50	2	10	0.1	K12S
K1300SD1	1	110	120	138	50	2	10	0.1	K13S
K1400SD1	1	120	130	146	50	2	10	0.1	K14S
K1500SD1	1	130	140	170	50	2	10	0.1	K15S
K1800SD1	1	160	170	195	50	2	10	0.1	K18S
K2000SD1	1	180	190	215	50	2	10	0.1	K20S
K2200SD1	1	190	205	230	50	2	10	0.1	K22S
K2400SD1	1	200	220	250	50	2	10	0.1	K24S
K2600SD1	1	220	240	270	50	2	10	0.1	K26S

ORDERING INFORMATION

K	220	0	SD1
Series code K:Sidac	Median voltage	0: Bi-direction 1: Uni-direction	Package type:SOD-123FL

MARKING



K09S: Device Marking Code

SOLDERING PARAMETERS

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

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

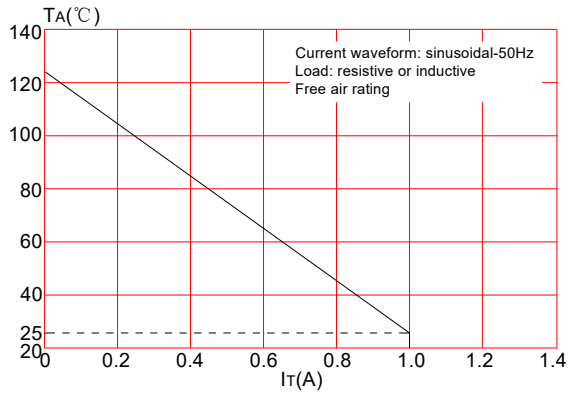


FIG.2: Reflow condition

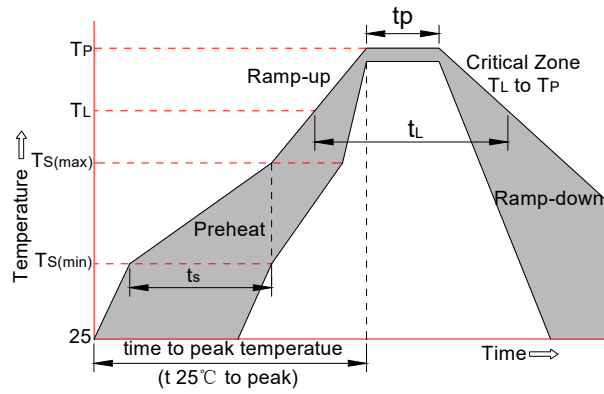


FIG.3: Normalized V_s change vs. junction temperature

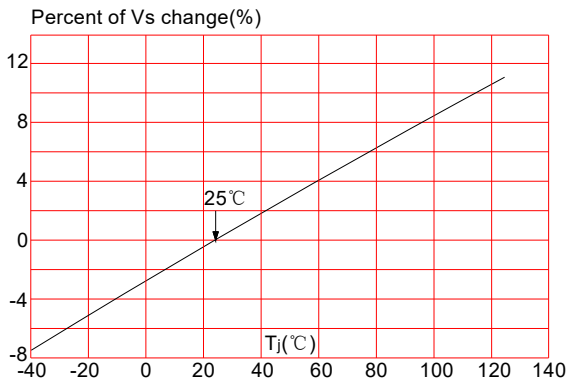
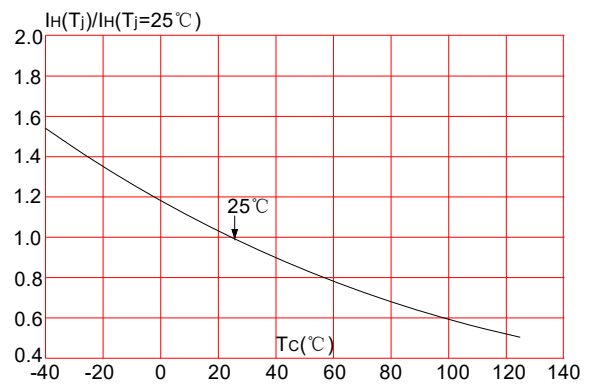
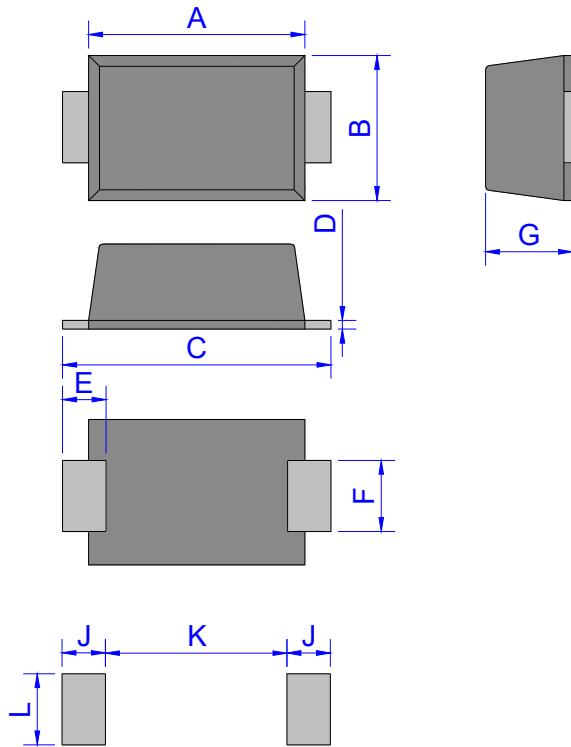


FIG.4: Normalized DC holding current vs. case temperature



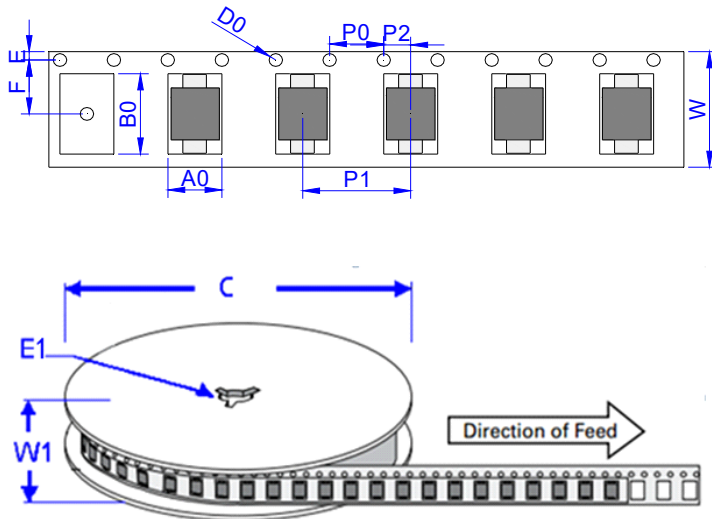
PACKAGE MECHANICAL DATA



SOD-123FL

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	3.00	0.102	0.118
B	1.60	2.00	0.063	0.079
C	3.45	3.95	0.136	0.156
D	0.10	0.25	0.004	0.01
E	0.3	0.9	0.012	0.035
F	0.80	1.20	0.031	0.047
G	0.95	1.35	0.037	0.053
J	1.30		0.051	
K		1.70		0.067
L	1.30		0.051	


TAPE AND REEL SPECIFICATION-SOD-123FL



Ref.	Dimensions	
	Millimeters	Inches
A0	1.95 ± 0.3	0.077 ± 0.012
B0	3.95 ± 0.3	0.156 ± 0.012
C	178	7.0
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	3.50 ± 0.2	0.138 ± 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	8.0 ± 0.2	0.315 ± 0.008
W1	11.5 ± 1.0	0.453 ± 0.039

PART No.	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
KxxxxSD1	0.0144	3000	150,000	7 inch reel pack

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