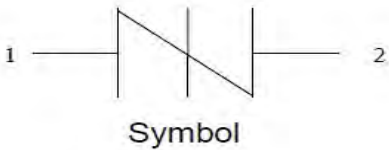


Description

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

Features:

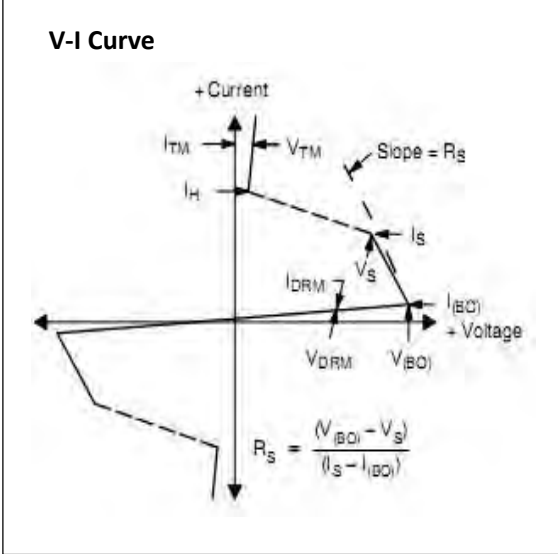
- Excellent capability of absorbing transient surge
- Quick response to surge voltage (ns Level)
- Glass-passivated junctions
- High voltage lcmp ignitors

ABSOLUTE MAXIMUM RATINGS (TA=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	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

ELECTRICAL CHARACTERISTICS (TA=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 (TA=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		uA	V	mA	kΩ	
	max	min	min	max	max	max	min	min	
TK1V0900D	1	70	80	97	50	2	10	0.1	TBD
TK1V1050D	1	90	95	113	50	2	10	0.1	TBD
TK1V1200D	1	100	110	125	50	2	10	0.1	TBD
TK1V1300D	1	110	120	138	50	2	10	0.1	TBD
TK1V1400D	1	120	130	146	50	2	10	0.1	TBD
TK1V1500D	1	130	140	170	50	2	10	0.1	TBD

Part Number	I _{DRM} @V _{DRM}		V _{BO}		I _{BO}	V _T @ I _T =1A	I _H	R _S	Marking
	μA	V	V		uA	V	mA	kΩ	
	max	min	min	max	max	max	min	min	
TK1V1800D	1	160	170	195	50	2	10	0.1	TBD
TK1V2000D	1	180	190	215	50	2	10	0.1	TBD
TK1V2200D	1	190	205	230	50	2	10	0.1	TBD
TK1V2400D	1	200	220	250	50	2	10	0.1	TBD
TK1V2600D	1	220	240	270	50	2	10	0.1	TBD

ORDERING INFORMATION

TK	1	V090	0	D
Series code TK:Sidac	1A	Median voltage	0: Bi-direction 1: Uni-direction	Package type:DO15

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) (t_s)	60-180 secs.
Average ramp up rate (Liquid us 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) (Liquid us)	+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)		8-15 secs.
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

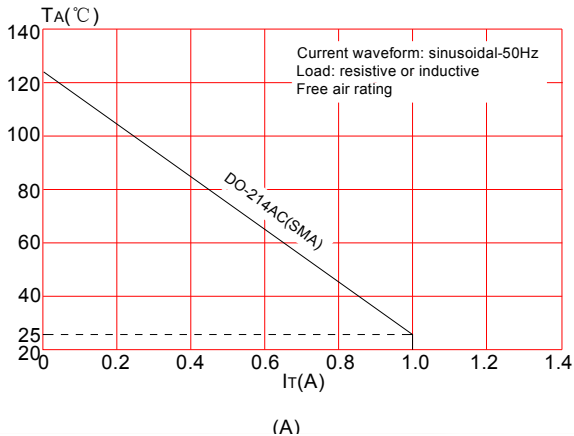


FIG.2: Reflow condition

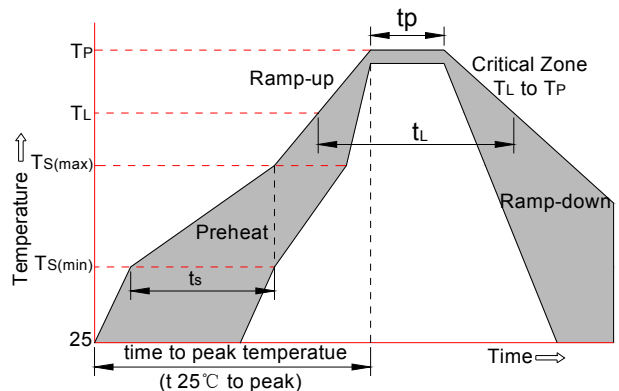


FIG.3: Normalized Vs change vs. junction temperature

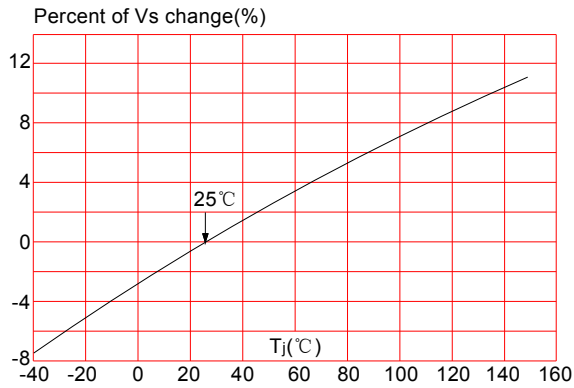
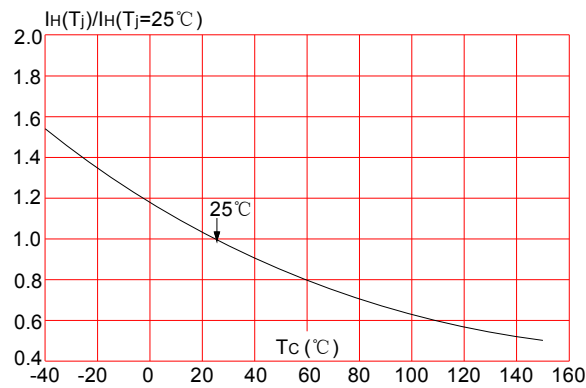
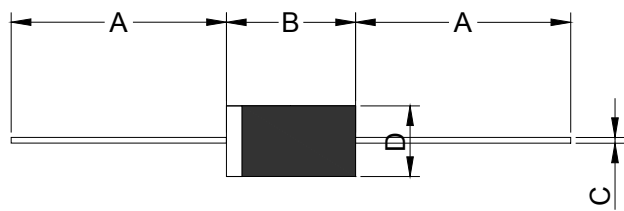


FIG.4: Normalized DC holding current vs. case temperature



PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	1.000	-	25.40	-
B	0.228	0.300	5.80	7.62
C	0.027	0.035	0.69	0.89
D	0.118	0.140	3.00	3.60

Part Number	Case Type	Quantity	Packing Option
TK1VxxxxD	DO-15	2000	Box