

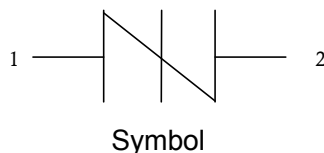


DESCRIPTION:

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 ignitorsHID lighting ignitors



FEATURES:

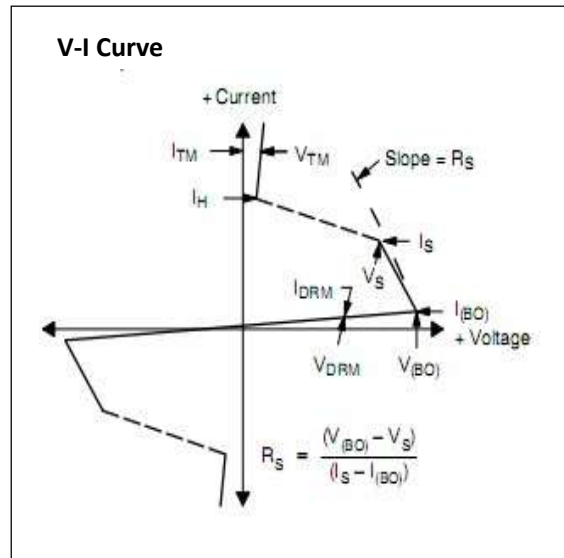
- ✧ Excellent capability of absorbing transient surge
- ✧ Quick response to surge voltage (ns Level)
- ✧ Glass-passivated junctions
- ✧ High voltage lcmp ignitors

ABSOLUTE MAXIMUM RATINGS (T_A=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 | 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 ($T_A=25^{\circ}\text{C}$)

| 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 |



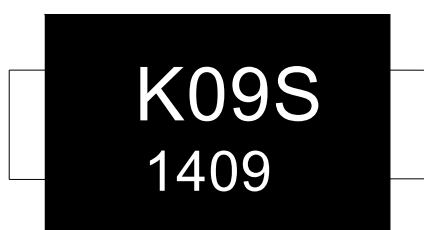
ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, continued)

| Part Number | $I_{\text{DRM}}@V_{\text{DRM}}$ | | V_{BO} | | I_{BO} | $V_T@ I_T=1\text{A}$ | I_H | R_S | Marking |
|-------------|---------------------------------|-----|-----------------|-----|-----------------|----------------------|-------|------------------|---------|
| | μA | V | V | | μA | V | mA | $\text{k}\Omega$ | |
| | max | min | min | max | max | max | min | min | |
| K0900S | 1 | 70 | 80 | 97 | 50 | 2 | 10 | 0.1 | K09S |
| K1050S | 1 | 90 | 95 | 113 | 50 | 2 | 10 | 0.1 | K10S |
| K1200S | 1 | 100 | 110 | 125 | 50 | 2 | 10 | 0.1 | K12S |
| K1300S | 1 | 110 | 120 | 138 | 50 | 2 | 10 | 0.1 | K13S |
| K1400S | 1 | 120 | 130 | 146 | 50 | 2 | 10 | 0.1 | K14S |
| K1500S | 1 | 130 | 140 | 170 | 50 | 2 | 10 | 0.1 | K15S |
| K1800S | 1 | 160 | 170 | 195 | 50 | 2 | 10 | 0.1 | K18S |
| K2000S | 1 | 180 | 190 | 215 | 50 | 2 | 10 | 0.1 | K20S |
| K2200S | 1 | 190 | 205 | 230 | 50 | 2 | 10 | 0.1 | K22S |
| K2400S | 1 | 200 | 220 | 250 | 50 | 2 | 10 | 0.1 | K24S |
| K2600S | 1 | 220 | 240 | 270 | 50 | 2 | 10 | 0.1 | K26S |

ORDERING INFORMATION

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

MARKING



K09S:Device Marking Code
1409: In ninth week, 2014

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 (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

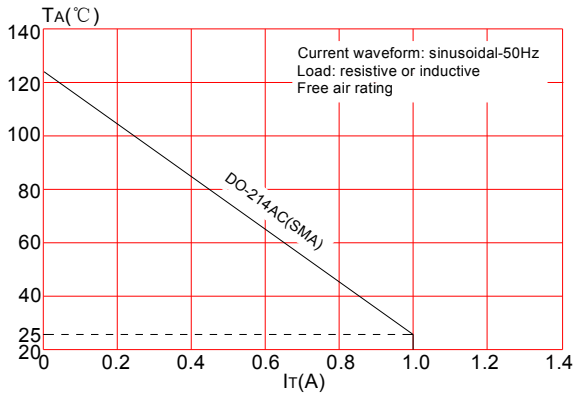


FIG.2: Reflow condition

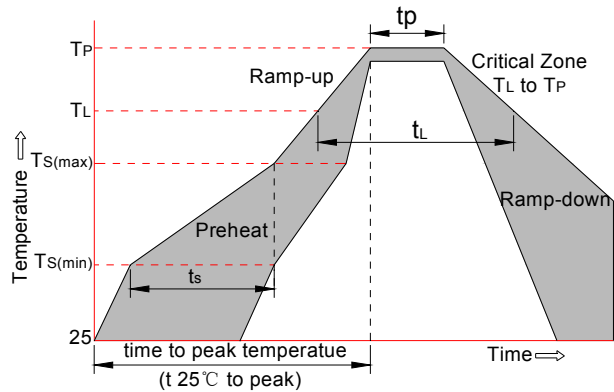


FIG.3: Normalized Vs change vs. junction temperature

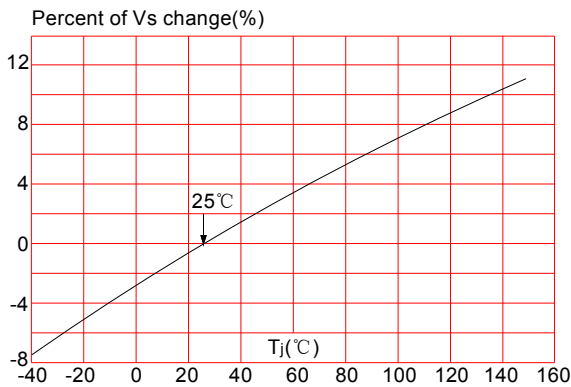
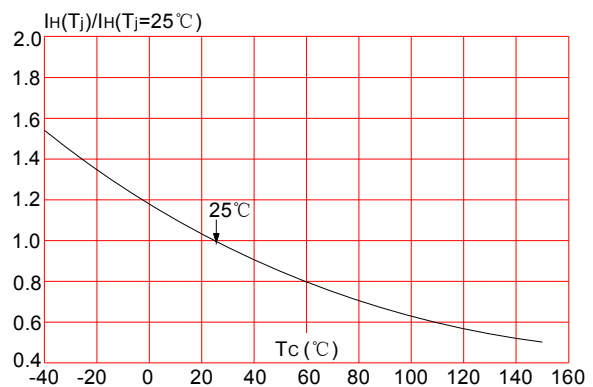


FIG.4: Normalized DC holding current vs. case temperature



TAPE AND REEL SPECIFICATION

| PACKAGE | REEL (PCS) | PER CARTON (PCS) | REEL DIAMETERS (mm) |
|-------------|------------|------------------|---------------------|
| DO214AC/SMA | 5,000 | 80,000 | 330 |
| DO214AA/SMB | 3,000 | 48,000 | 330 |

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