

|   |                               |
|---|-------------------------------|
| <b>SIDAC HIGH VOLTAGE<br/>SILICON UNIDIRECTIONAL THYRISTORS</b> | <b>1 AMPERE<br/>220 VOLTS</b> |
|---|-------------------------------|

**FEATURES**

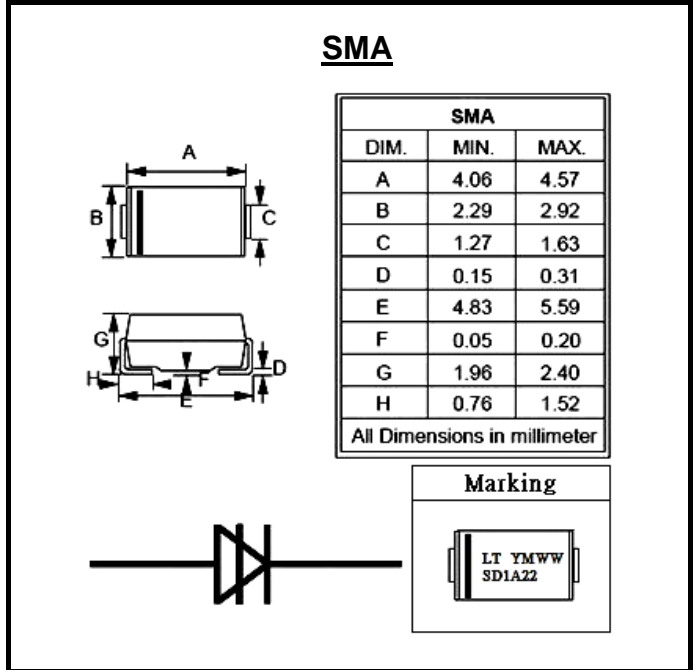
- $V_{BO}$  range is from 210 to 226 Vdc
- $V_{DRM}$  with stand 190V
- $I_H$  is under 60 mA
- Compact package for spacing saving.

**Application**

- Gas Igniters

**MECHANICAL DATA**

- Case: JEDEC DO-214AC molded plastic
- Terminals: Lead Free Plating
- Component in accordance to RoHs 2011/65/EU
- UL Recognition File # E219635



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**  
Ratings at 25°C ambient temperature unless otherwise specified.

**ABSOLUTE RATING**

| PARAMETER  | TEST CONDITION  | SYMBOL           | VALUE      | UNIT |
|--|---|------------------|------------|------|
| Peak repetitive off-state voltage  | T <sub>J</sub> = -40 to 125°C, sine wave, 50 to 60 Hz                         | $V_{DRM}$        | 190        | V    |
| On-state RMS current   | T <sub>L</sub> = 80°C, all conduction angles                                  | $I_{T(RMS)}$     | 1          | A    |
| Pulse on-state current   | T <sub>a</sub> =25°C, pulse width to = 10us, sine wave, repetitive peak value | f=5Hz            | 280        | A    |
|  |   | f=60Hz           | 120        |      |
| Maximum lead solder temperature (Lead length ≥ 1/16" from case, 10s max) |   | T <sub>L</sub>   | 260        | °C   |
| Operating junction temperature range                                     |   | T <sub>J</sub>   | -40 ~ +125 | °C   |
| Storage temperature range  |   | T <sub>STG</sub> | -40 ~ +150 | °C   |

**THERMAL PERFORMANCE**

| PARAMETER                                   | SYMBOL            | TYP. | UNIT |
|---|-------------------|------|------|
| Typical thermal resistance junction to case | R <sub>thJC</sub> | 15   | °C/W |

**OFF CHARACTERISTICS**

| PARAMETER  | SYMBOL    | MAX | UNIT |
|--|-----------|-----|------|
| Peak repetitive forward or reverse blocking current (50 to 60 Hz) $V_{DRM}=190V$ | $I_{DRM}$ | 10  | uA   |

**ON CHARACTERISTICS**

| PARAMETER             | TEST CONDITION         | SYMBOL         | MIN | TYP. | MAX | UNIT |
|-----------------------|------------------------|----------------|-----|------|-----|------|
| Peak on-state voltage | I <sub>T</sub> = 1 A   | $V_{TM}$       | --  | 1.1  | 1.5 | V    |
| Break over voltage    | I <sub>BO</sub> = 5 uA | $V_{BO}$       | 210 | 220  | 226 | V    |
| Break over current    |                        | $I_{BO}$       | --  | --   | 200 | uA   |
| Holding current       |                        | $I_H$          | --  | --   | 60  | mA   |
| Switching resistance  |                        | R <sub>s</sub> | 0.1 | --   | --  | kΩ   |

**ON CHARACTERISTICS**

| PARAMETER                                 | SYMBOL | MIN | TYP. | MAX | UNIT |
|---|--------|-----|------|-----|------|
| Critical rate of rise of on-state current | di/dt  | --  | 80   | --  | A/uS |

**Note :**  
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

REV-2, JUN.-2017, KSXA01

## RATING AND CHARACTERISTIC CURVES SD1A220A

Fig.1- TYPICAL FORWARD VOLTAGE

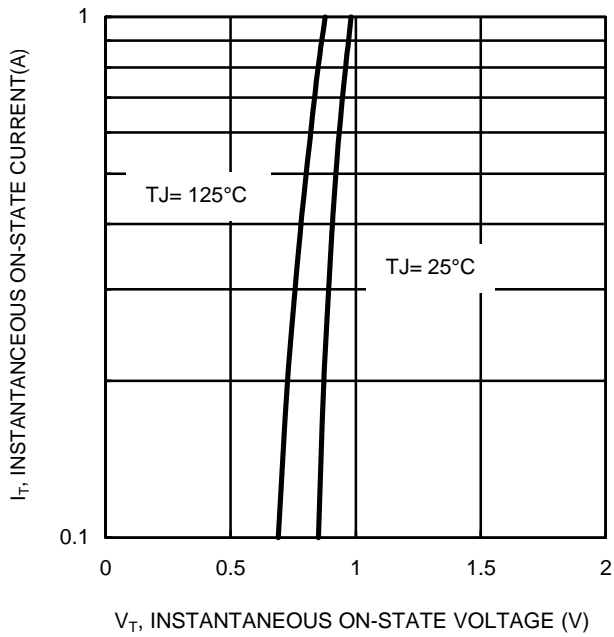


Fig.2- TYPICAL POWER DISSIPATION

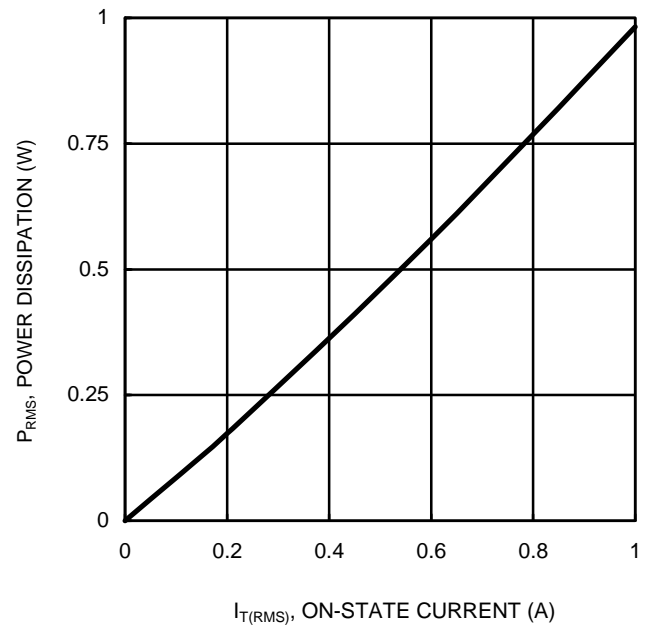


Fig.3- TYPICAL BREAKOVER VOLTAGE

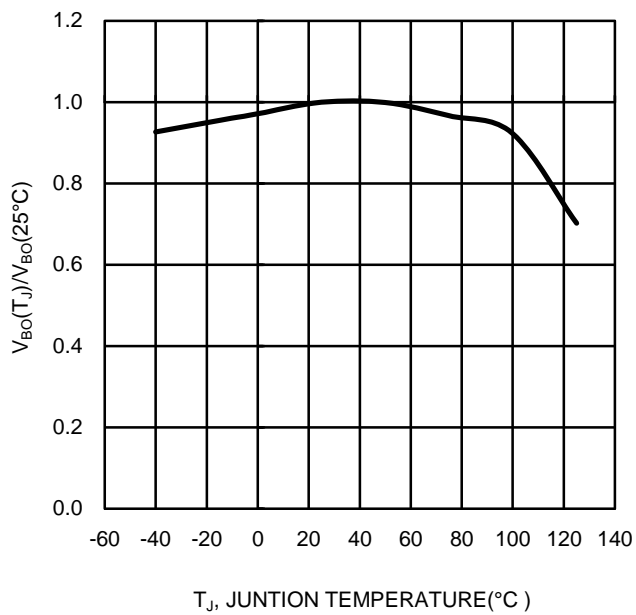
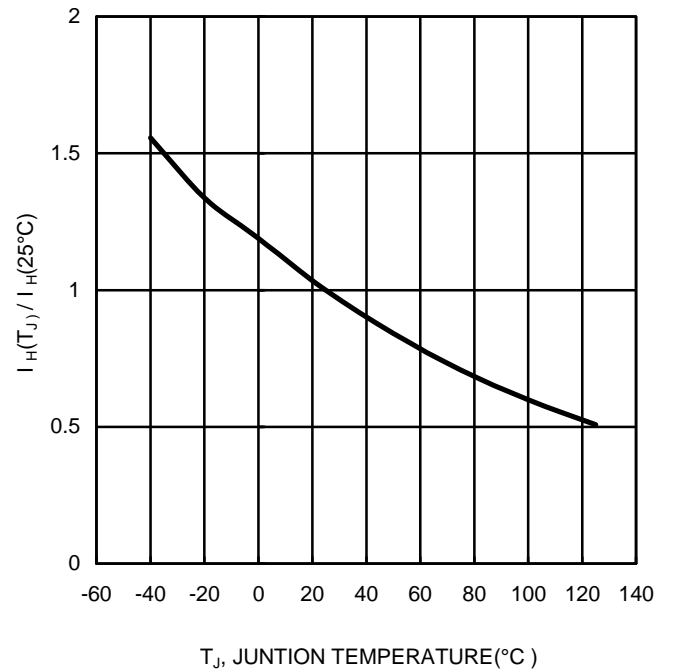


Fig.4- TYPICAL HOLDING CURRENT



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