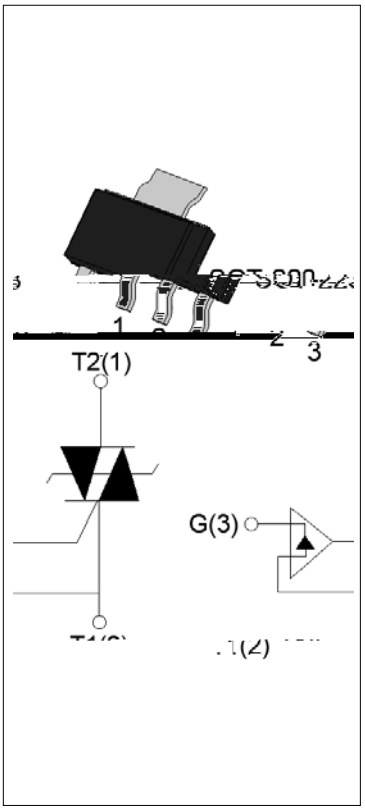
## ACJP04V-800SW 1A TRIAC

Rev.A.1.1

### DESCRIPTION:

The ACJP04V-800SW triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. The ACJP04V-800SW embeds a TVS structure to absorb the inductive turn-off energy such as those described in the IEC 61000-4-5 standards. At the same time, the triac shields the positive signal trigger to reduce the probability of product misoperation. It is triggered with a negative gate current flowing out of the gate pin. Package SOT-223 is RoHS compliant.




### MAIN FEATURES

| Symbol | Value | Unit |
|---|---|---|
| $I_{T(RMS)}$ | 1 | A |
| $V_{DRM}$ /$V_{RRM}$ | 800 | V |
| $I_{GT}$ / | 10/10 | mA |

### ABSOLUTE MAXIMUM RATINGS

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Storage junction temperature range | $T_{stg}$ | -40-150 | |
| Operating junction temperature range | $T_j$ | -40-125 | |
| Repetitive peak off-state voltage ($T_j$=25 ) | $V_{DRM}$ | 800 | V |
| Repetitive peak reverse voltage ($T_j$=25 ) | $V_{RRM}$ | 800 | V |
| RMS on-state current ($T_C \leq$ 103 ) | $I_{T(RMS)}$ | 1 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=20ms , $T_j$=25 ) | $I_{TSM}$ | 25 | A |
| Non repetitive surge peak on-state current (full cycle , $t_p$=16.6ms , $T_j$=25 ) | | 27.5 | |
| $I^2t$ value for fusing ($t_p$=10ms , $T_j$=25 ) | $I^2t$ | 3.125 | $A^2s$ |
| Critical rate of rise of on-state current ($I_G$=2 × $I_{GT}$ , f=100Hz , $T_j$=125 ) | dI/dt | 100 | A s |
| Peak gate current ($t_p$=20 s , $T_j$=125 ) | $I_{GM}$ | 4 | A |
| Positive applied gate voltage | $V_{GM}$ | 15 | V |

| | | | |
|---|---|---|---|
| Average gate power dissipation ($T_j$=125 ) | $P_{G(AV)}$ | 0.5 | W |
| Peak gate power | $P_{GM}$ | 10 | W |
| Peak pulse voltage ($T_j$=25 ; non-repetitive,off-state;FIG.8) | $V_{pp}$ | 2.75 | kV |

## ELECTRICAL CHARACTERISTICS ($T_j$=25 unless otherwise specified)

| Symbol | Test Condition | Quadrant | Value | | Unit |
|---|---|---|---|---|---|
| $I_{GT}$ | $V_D$ =12V $R_L$ =33 | - | MAX. | 10 | mA |
| $V_{GT}$ | | - | MAX. | 1.3 | V |
| $V_{GD}$ | $V_D$ =$V_{DRM}$ $T_j$ =125 $R_L$ =3.3k | - | MIN. | 0.15 | V |
| $I_L$ | $I_G$ =1.2$I_{GT}$ | | MAX. | 35 | mA |
| | | | | 15 | |
| $I_H$ | $I_T$ =100mA | | MAX. | 15 | mA |
| dV/dt | $V_D$=540V Gate Open $T_j$ =125 | | MIN. | 100 | V s |
| (dI/dt)c | (dV/dt)c=1 j=125 | | MIN. | 0.7 | A/ms |
| $t_{on}$ | $I_G$=20mA $I_A$=200mA $I_R$=20mA $T_j$=25 | | | | |

## ORDERING INFORMATION

ACJ P 04 V -800 SW

- ACJ: JieJie AC switch series
- P: Plannar technology
- 04: $I_{T(RMS)}$:1A
- V: SOT-223
- -800: 800:$V_{DRM}$ /$V_{RRM}$ ≥ 800V
- SW: SW:$I_{GT2-3}$ 10mA

## MARKING

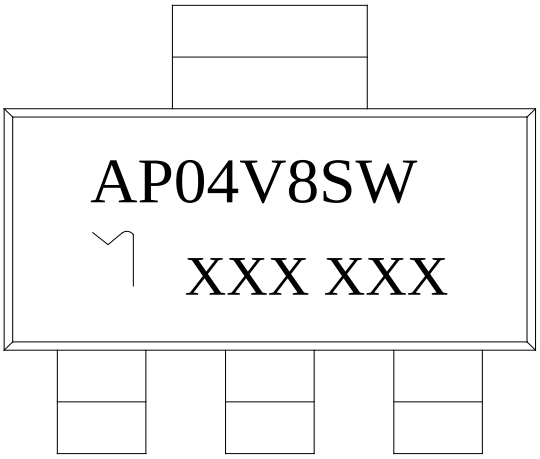


**FIG.1:** Maximum power dissipation versus RMS on-state current

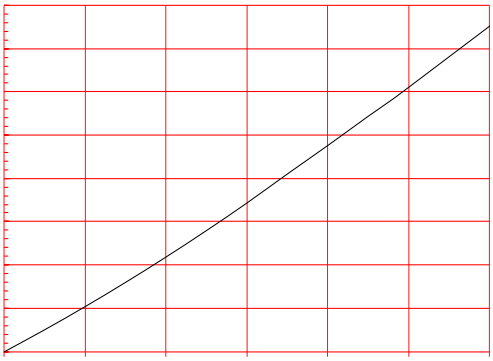


**FIG.2:** RMS on-state current versus case temperature

**FIG.7:** Relative variations of gate trigger current, holding current and latching current versus junction temperature

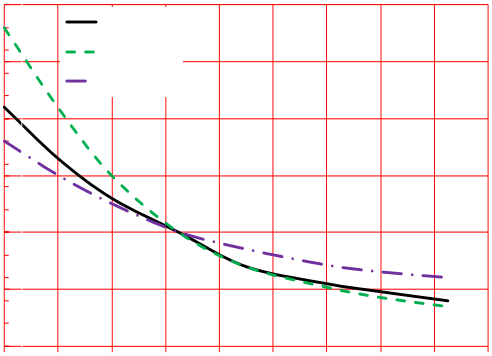
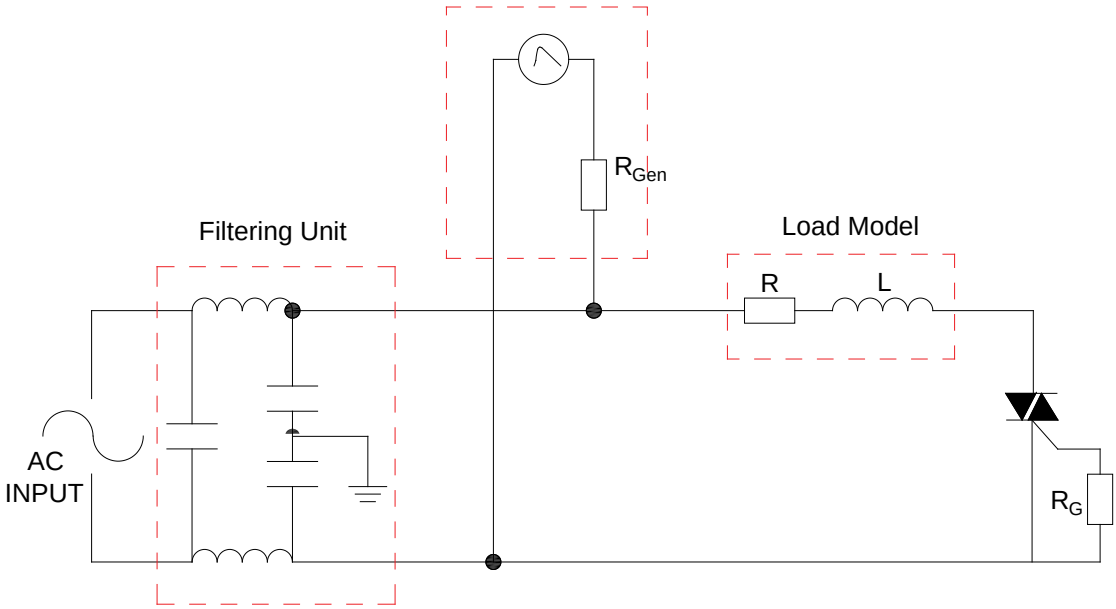


FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



| Order code | Voltage $V_{DRM}/V_{RRM}$ (V) | IGT(mA) | Package | Base qty. (pcs) | Delivery mode | ( |
|---|---|---|---|---|---|---|

## PACKAGE MECHANICAL DATA

| Ref. | Dimensions | | | | | |
|---|---|---|---|---|---|---|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | | | | | | |

## DELIVERY MODE

| Ref. | Dimensions | | | | | |
|---|---|---|---|---|---|---|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| W | - | | 12.30 | - | | 0.482 |
| E | 1.65 | 1.75 | 1.85 | 0.065 | 0.069 | 0.073 |
| F | 5.45 | 5.50 | 5.55 | 0.215 | 0.217 | 0.219 |
| D0 | | 1.55 | 1.60 | | 0.061 | 0.063 |
| D1 | | - | | | | |
| P0 | 3.90 | 4.00 | 4.10 | | 0.157 | (1.95)Tj 4.18 |
| P1 | 7.90 | 8.00 | 8.10 | | | |
| P2 | 1.95 | 2.00 | 2.05 | | | |
| 10P0 | 39.80 | 40.00 | 40.20 | | | |
| A0 | 6.85 | 6.95 | 7.05 | | | |
| B0 | 7.15 | 7.25 | 7.35 | | | |
| K0 | 1.95 | 2.05 | 2.15 | | | |
| T | 0.20 | 0.25 | 0.30 | | | |