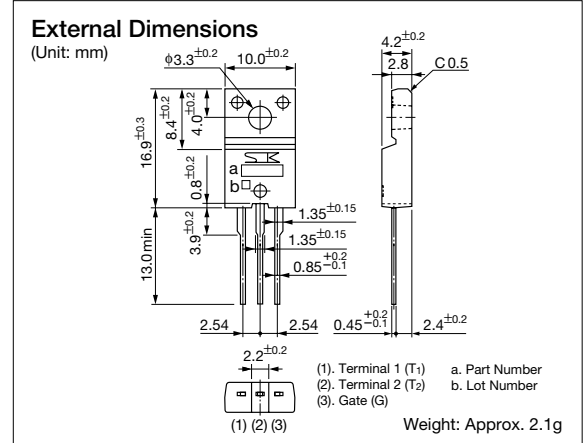


TO-220F 5A Triac

TM541S-R, TM561S-R

■ Features

- Repetitive peak off-state voltage: $V_{DRM}=400, 600V$
- RMS on-state current: $I_{T(RMS)}=5A$
- Gate trigger current: $I_{GT}=12mA$ max (MODE I, II, III)
- Isolation voltage: $V_{ISO}=1500V$ (50Hz Sine wave, RMS)
- For resistive load
- UL approved type available



■ Absolute Maximum Ratings

| Parameter | Symbol | Ratings | | Unit | Conditions |
|-----------------------------------|--------------|-------------|----------|------------------|---|
| | | TM541S-R | TM561S-R | | |
| Repetitive peak off-state voltage | V_{DRM} | 400 | 600 | V | |
| RMS on-state current | $I_{T(RMS)}$ | 5.0 | | A | Conduction angle 360°, $T_c=104^\circ C$ |
| Surge on-state current | I_{TSM} | 50 | | A | 50Hz full-cycle sinewave, Peak value, Non-repetitive, $T_j=125^\circ C$ |
| Peak gate voltage | V_{GM} | — | | V | |
| Peak gate current | I_{GM} | 1 | | A | |
| Peak gate power loss | P_{GM} | 5 | | W | |
| Average gate power loss | $P_{G(AV)}$ | 0.5 | | W | |
| Junction temperature | T_j | -40 to +125 | | $^\circ C$ | |
| Storage temperature | T_{stg} | -40 to +125 | | $^\circ C$ | |
| Isolation voltage | V_{ISO} | 1500 | | V _{rms} | 50Hz Sine wave, RMS, Terminal to Case, 1 min. |

■ Electrical Characteristics

| Parameter | Symbol | Ratings | | | Unit | Conditions | |
|--------------------------|-----------|---------|-----|-----|--------------|---|--------------|
| | | min | typ | max | | | |
| Off-state current | I_{DRM} | | | 2.0 | mA | $V_D=V_{DRM}, R_{GK}=\infty, T_j=125^\circ C$ | |
| | | | | 0.1 | | $V_D=V_{DRM}, R_{GK}=\infty, T_j=25^\circ C$ | |
| On-state voltage | V_{TM} | | | 1.6 | V | Pulse test, $I_{TM}=7A$ | |
| Gate trigger voltage | V_{GT} | I | 1.3 | 1.8 | V | $V_D=6V, R_L=10\Omega, T_c=25^\circ C$ | T_2^+, G^+ |
| | | II | 0.7 | 1.2 | | | T_2^+, G^- |
| | | III | 0.8 | 1.2 | | | T_2^-, G^- |
| | | IV | 3.1 | | | | T_2^-, G^+ |
| Gate trigger current | I_{GT} | I | 8 | 12 | mA | $V_D=6V, R_L=10\Omega, T_c=25^\circ C$ | T_2^+, G^+ |
| | | II | 8.5 | 12 | | | T_2^+, G^- |
| | | III | 9 | 12 | | | T_2^-, G^- |
| | | IV | 70 | | | | T_2^-, G^+ |
| Gate non-trigger voltage | V_{GD} | 0.1 | | | V | $V_D=1/2 \times V_{DRM}, T_j=125^\circ C$ | |
| Holding current | I_H | | 14 | | mA | $V_D=6V$ | |
| Thermal resistance | R_{th} | | | 4.0 | $^\circ C/W$ | Junction to case | |