



DESCRIPTION:

The JST41Z-800B 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. By using an internal ceramic pad, JST41Z-800B provides a rated insulation voltage of 2500 VRMS, complying with UL standards (File ref: E252906). Package TO-3P is RoHS compliant.

MAIN FEATURES

ABSOLUTE MAXIMUM RATINGS

| | | | |
|--|--------------|---------|-------------------------------|
| Storage junction temperature range | T_{stg} | -40-150 | |
| Operating junction temperature range | T_j | -40-125 | |
| Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$) | V_{DRM} | 800 | V |
| Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$) | V_{RRM} | 800 | V |
| RMS on-state current ($T_c = 81^\circ\text{C}$) | $I_{T(RMS)}$ | 40 | A |
| Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$) | I_{TSM} | 420 | A |
| Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$) | | 462 | |
| I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$) | I^2t | 1000 | A^2s |
| Critical rate of rise of on-state current ($I_G=2 \cdot I_{GT}$, $f=100\text{Hz}$, $T_j=25^\circ\text{C}$) | - Y | di/dt | 100 $\text{A}/\mu\text{s}$ |



| | | | |
|--|----------|-----|----|
| Peak pulse voltage ($T_j=25$; non-repetitive, off-state; FIG.7) | V_{pp} | 0.9 | kV |
|--|----------|-----|----|

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

| | | | | | |
|-------------|---|-------------|------|------|-----------|
| I_{GT} | $V_D=12V$ $R_L=33$ | - - | MAX. | 50 | mA |
| V_{GT} | | ALL | MAX. | 1.3 | |
| V_{GD} | $V_D=V_{DRM}$ $T_j=125$ $R_L=3.3k$ | ALL | MIN. | 0.2 | V |
| I_L | $I_G=1.2I_{GT}$ | - - | MAX. | 80 | mA |
| I_H | | $I_T=500mA$ | | MAX. | |
| dV/dt | $V_D=540V$ Gate Open $T_j=125$ | | MIN. | 1200 | $V/\mu s$ |
| $(dV/dt)_c$ | $(dI/dt)_c=20A/ms$, $T_j=125$ | | MIN. | 20 | $V/\mu s$ |
| t_{on} | $I_G=80mA$ $I_A=400mA$ $I_R=40mA$ $T_j=25$ | | TYP. | 10 | μs |
| t_{off} | | | | 70 | |

STATIC CHARACTERISTICS

| | | | | |
|-----------|-----------------------------|-----------|------|---------|
| V_{TM} | $I_{TM}=60A$ $t_p=380\mu s$ | $T_j=25$ | 1.4 | V |
| V_{TO} | Threshold voltage | $T_j=125$ | 0.73 | V |
| R_D | Dynamic resistance | $T_j=125$ | 10 | m |
| I_{DRM} | $V_D=V_{DRM}$ $V_R=V_{RRM}$ | $T_j=25$ | 5 | μA |
| I_{RRM} | | $T_j=125$ | 5 | mA |

THERMAL RESISTANCES

| | | | |
|---------------|--------------------------|------|----|
| $R_{th(j-c)}$ | junction to case (AC) | 0.85 | /W |
| $R_{th(j-a)}$ | junction to ambient (AC) | 50 | /W |



ORDERING INFORMATION





FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards





ORDERING INFORMATION

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| Date | Revision | Changes |
|--------------|----------|--------------------------------|
| Apr.14, 2023 | A.1.0 | Last update |
| Oct.17, 2025 | A.1.1 | Revise PACKAGE MECHANICAL DATA |




PACKAGE MECHANICAL DATA





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