

**JST137D-800D 8A TRIAC**

Rev.A.1.1

DESCRIPTION:

The JST137D-800D 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. Package TO-262 is RoHS compliant.

MAIN FEATURES**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 ($T_j=25^\circ\text{C}$) | V_{DRM} | 800 | V | |
| Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$) | V_{RRM} | 800 | V | |
| RMS on-state current ($T_c=100^\circ\text{C}$) | $I_{T(RMS)}$ | 8 | A | |
| Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$) | I_{TSM} | 65 | A | |
| Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$) | | 72 | | |
| I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$) | I^2t | 21 | A^2s | |
| Critical rate of rise of on-state current ($I_G=2 I_{GT}$, $f=100\text{Hz}$, $T_j=125^\circ\text{C}$) | - | di/dt | 50 | $\text{A}/\mu\text{s}$ |
| | | | 20 | |

Peak gate current ($t_p=20\mu\text{s}$) p

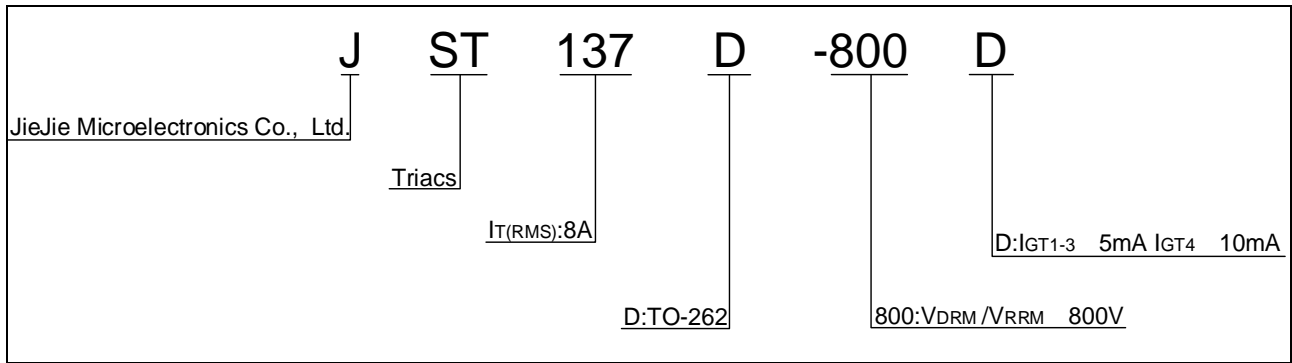
ELECTRICAL CHARACTERISTICS ($T_j=25$ unless otherwise specified)

| Symbol | Test Condition | Quadrant | Value | | Unit |
|-------------|---|----------|-------|-----|-----------|
| I_{GT} | $V_D=12V$ $R_L=33$ | - - | MAX. | 5 | mA |
| | | | | 10 | |
| V_{GT} | | ALL | MAX. | 1 | V |
| 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. | 15 | mA |
| | | | | 20 | |
| I_H | $I_T=500mA$ | | MAX. | 10 | mA |
| dV/dt | $V_D=540V$ Gate Open $T_j=125$ | | MIN. | 50 | $V/\mu s$ |
| $(dV/dt)_c$ | $(dI/dt)_c=2.7A/ms$, $T_j=125$ | | MIN. | 2 | $V/\mu s$ |
| t_{on} | $I_G=20mA$ $I_A=200mA$ $I_R=20mA$ $T_j=25$ | | TYP. | 1.2 | μs |
| t_{off} | | | | 15 | |

STATIC CHARACTERISTICS

| Symbol | Parameter | Value(MAX.) | Unit |
|--------|-----------|-------------|------|
|--------|-----------|-------------|------|

ORDERING INFORMATION



MARKING

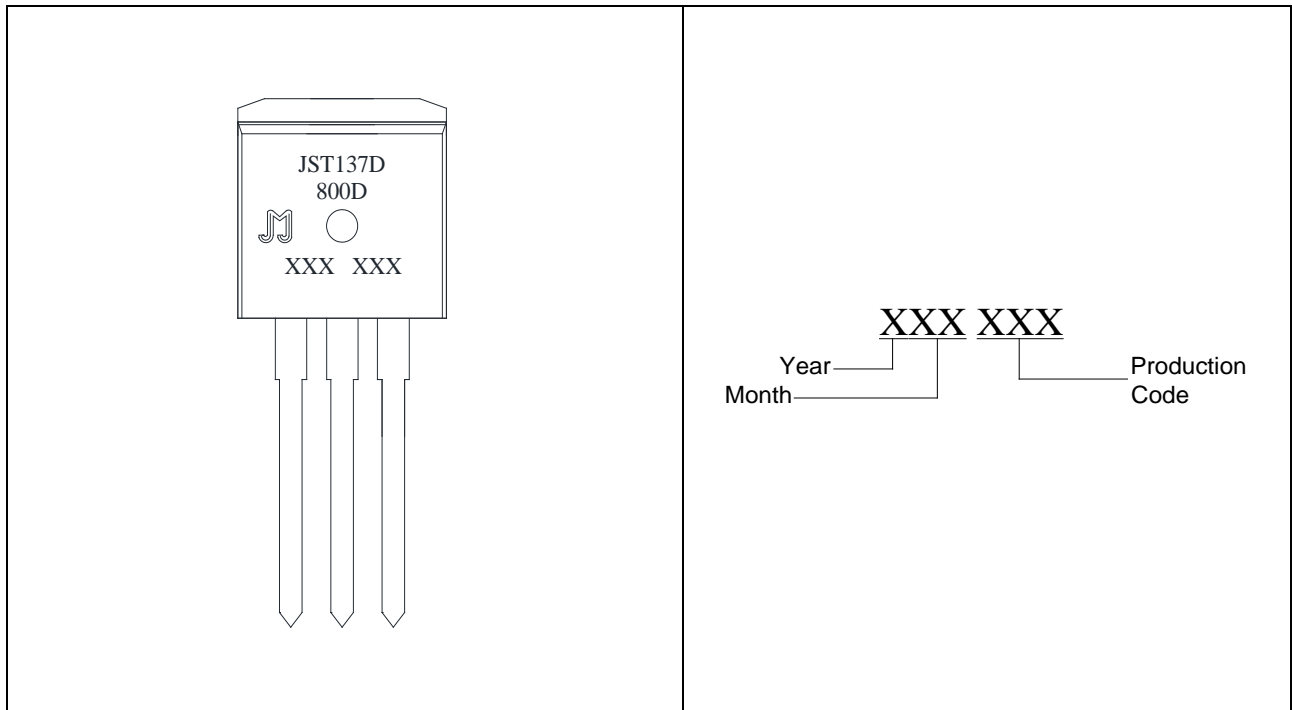


FIG.1: Maximum power dissipation versus RMS on-state current

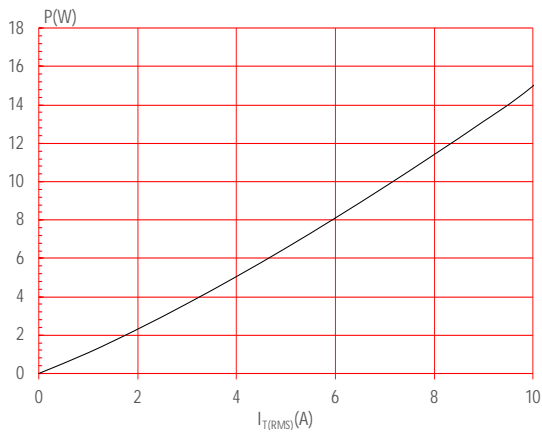


FIG.2: RMS on-state current versus case temperature

FIG.3: Surge peak on-state current versus number of cycles

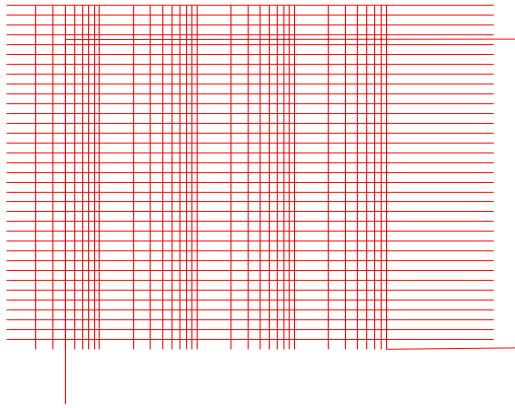
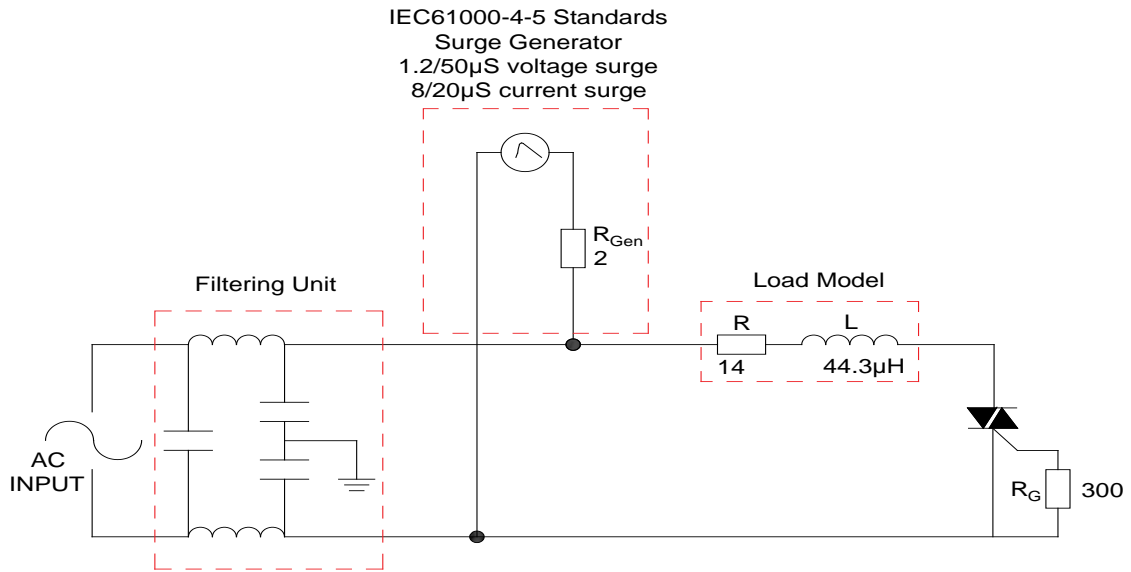
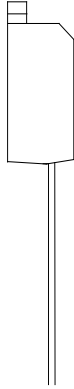


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards




Mechanical Data



| Ref. | Dimensions | | | | | |
|------|-------------|------|-------|--------|------|-------|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 9.95 | | 10.20 | 0.392 | | 0.402 |
| B | 23.85 | | 24.05 | 0.939 | | 0.947 |
| C | 9.40 | | 9.60 | 0.370 | | 0.378 |
| D | 4.95 | | 5.25 | 0.195 | | 0.207 |
| E | 1.35 | | 1.40 | 0.053 | | 0.055 |
| F | 0.80 | | 0.85 | 0.031 | | 0.033 |
| G | | | | | | |
| H | 4.45 | | 4.55 | 0.175 | | 0.179 |
| J | 2.20 | | 2.60 | 0.087 | | 0.102 |
| K | 0.48 | | 0.52 | 0.019 | | 0.020 |
| | | | | | | |

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