

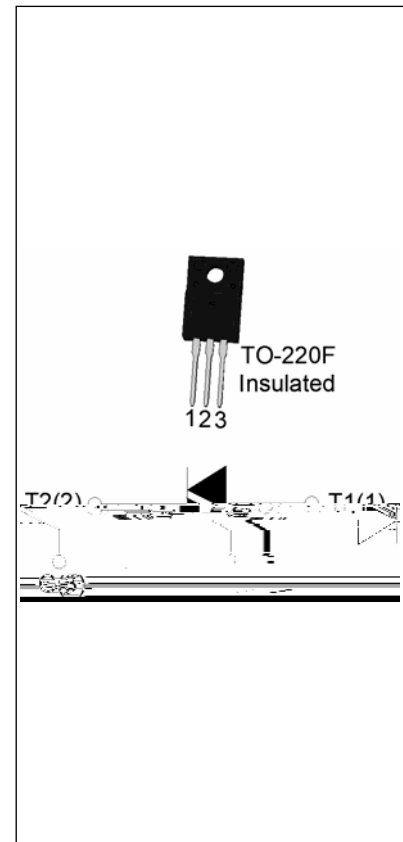


T0850H-8F 8A TRIAC

Rev.A.1.0

DESCRIPTION:

The T0850H-8F 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. Compared to traditional triacs, T0850H-8F provides a very high switching capability up to junction temperatures of 150°C. By using an external plastic package, T0850H-8F provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.



MAIN FEATURES

| Symbol | Value | Unit |
|-------------------|----------|------|
| $I_{T(RMS)}$ | 8 | A |
| V_{DRM}/V_{RRM} | 800 | V |
| $I_{GT} / /$ | 50/50/50 | mA |

ABSOLUTE MAXIMUM RATINGS

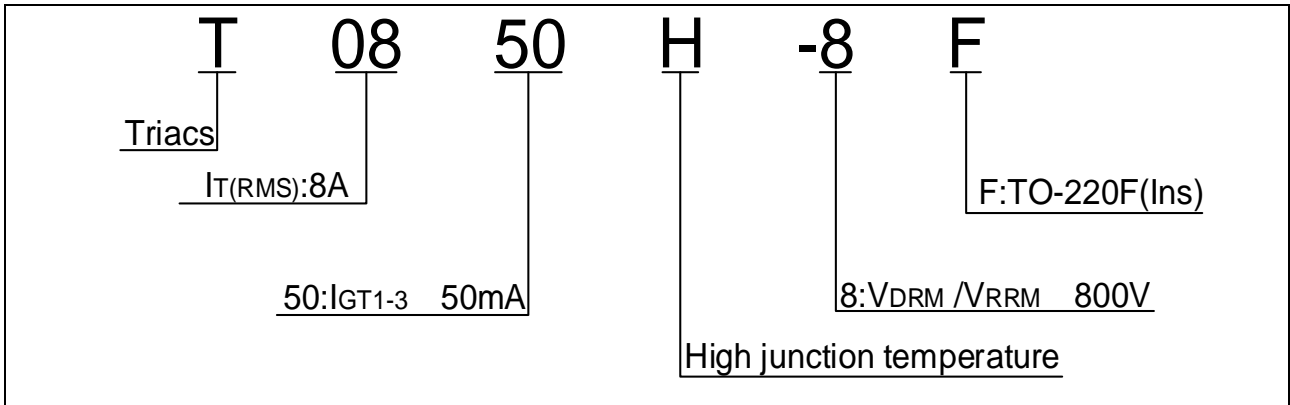
| Parameter | Symbol | Value | Unit |
|---|--------------|---------|-----------|
| Storage junction temperature range | T_{stg} | -40-150 | |
| Operating junction temperature range | T_j | -40-150 | |
| Repetitive peak off-state voltage ($T_j=25^\circ C$) | V_{DRM} | 800 | V |
| Repetitive peak reverse voltage ($T_j=25^\circ C$) | V_{RRM} | 800 | V |
| RMS on-state current ($T_c = 113^\circ C$) | $I_{T(RMS)}$ | 8 | A |
| Non repetitive surge peak on-state current (full cycle, $t_p=20ms$, $T_j=25^\circ C$) | I_{TSM} | 80 | A |
| Non repetitive surge peak on-state current (full cycle, $t_p=16.6ms$, $T_j=25^\circ C$) | | 88 | |
| I^2t value for fusing ($t_p=10ms$, $T_j=25^\circ C$) | I^2t | 32 | A^2s |
| Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100Hz$, $T_j=150^\circ C$) | di/dt | 100 | $A/\mu s$ |
| Peak gate current ($t_p=20\mu s$, $T_j=150^\circ C$) | I_{GM} | 4 | A |

| | | | |
|--|-------------|-----|----|
| Average gate power dissipation ($T_j=150$) | $P_{G(AV)}$ | 1 | W |
| Peak gate power | P_{GM} | 10 | W |
| Peak pulse voltage ($T_j=25$; non-repetitive,off-state;FIG.7) | V_{pp} | 3.5 | kV |

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

| Symbol | Test Condition | Quadrant | Value | | Unit |
|----------|--------------------------------|----------|-------|-----|------------------|
| I_{GT} | $V_D=12V$ $R_L=33$ | - - | MAX. | 50 | mA |
| V_{GT} | | - - | MAX. | 1 | V |
| V_{GD} | $V_D=V_{DD}=150$ $R_L=3.3K$ | N - - | MIN. | 0.2 | V m ² |

ORDERING INFORMATION



MARKING

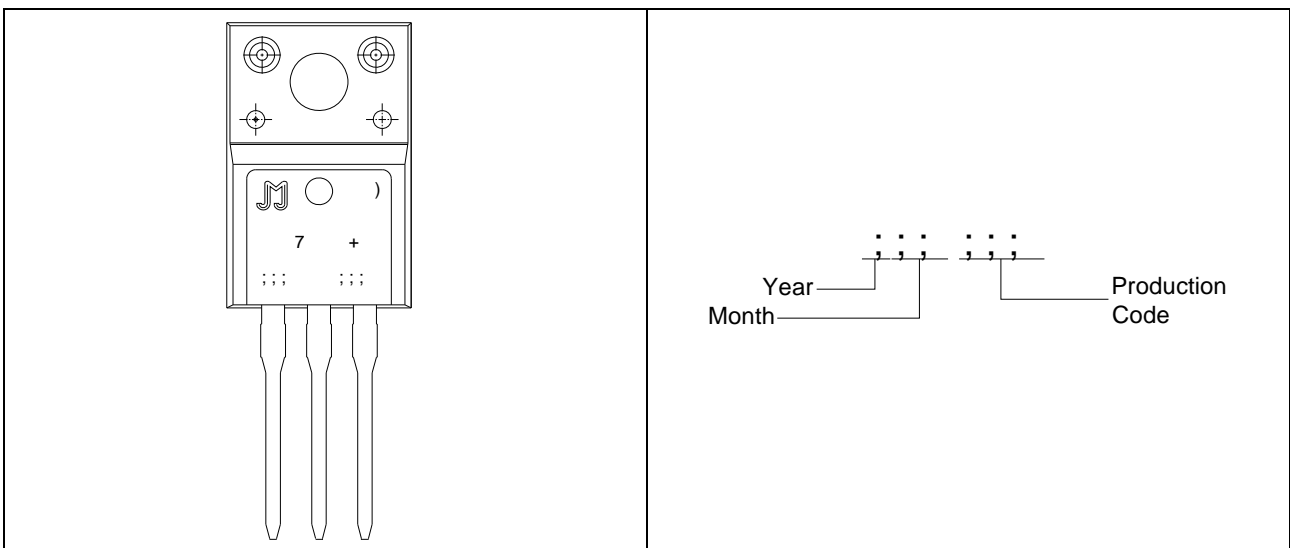


FIG.1 Maximum power dissipation versus RMS on-state current

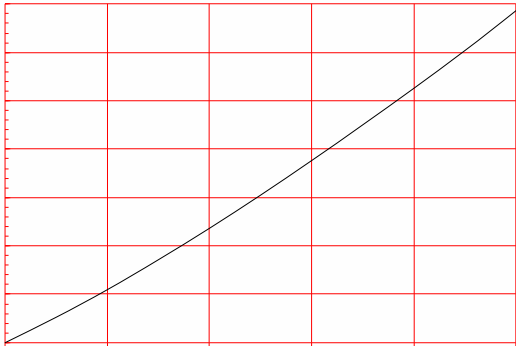


FIG.2: RMS on-state current versus case temperature

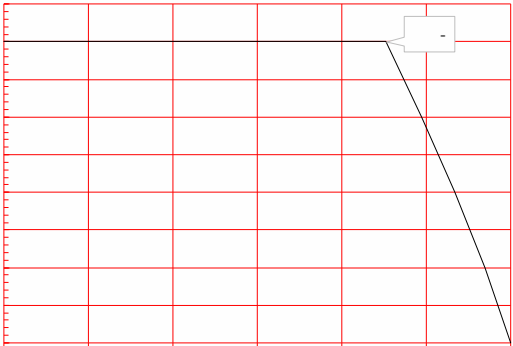


FIG.3: Surge peak on-state current versus number of cycles

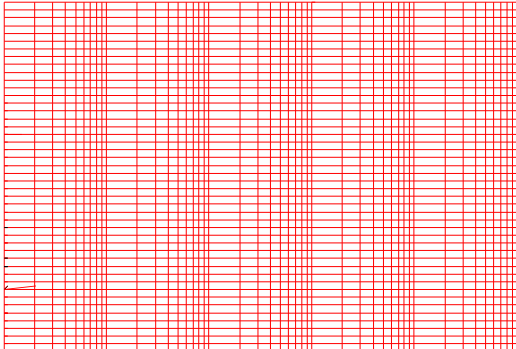
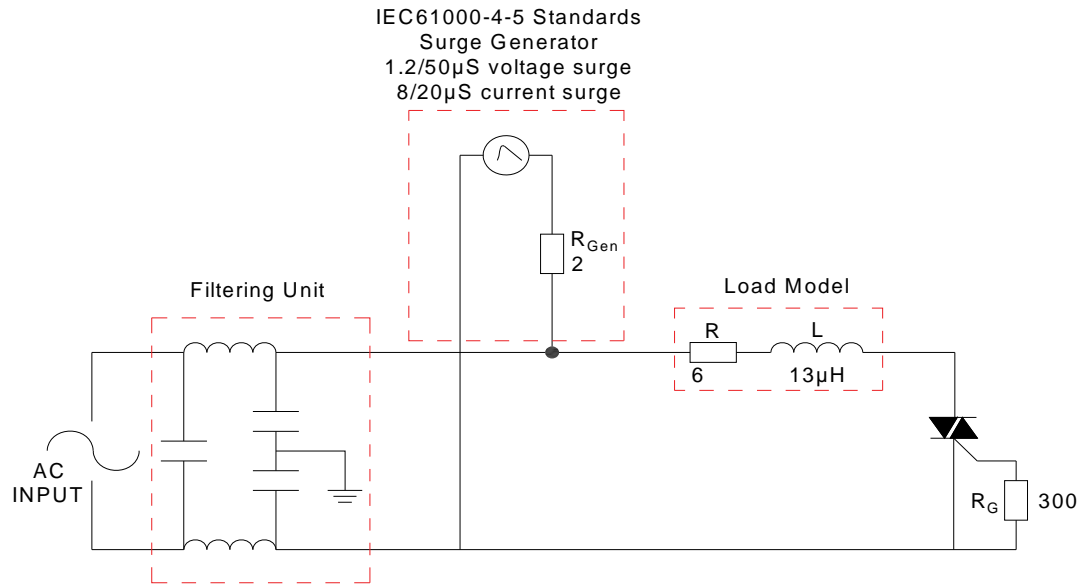


FIG.4: On-state characteristics

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



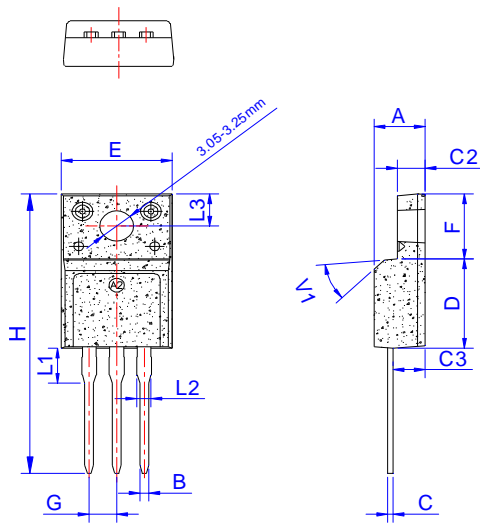
ORDERING INFORMATION

| Order code | Voltage V_{DRM}/V_{RRM} (V) | IGT(mA) | Package | Base qty. (pcs) | Delivery mode |
|------------|----------------------------------|---------|--------------|--------------------|------------------|
| | | H- I- J | | | |
| T0850H-8F | 800 | 50 | TO-220F(Ins) | 50 | Tube |

Document Revision History

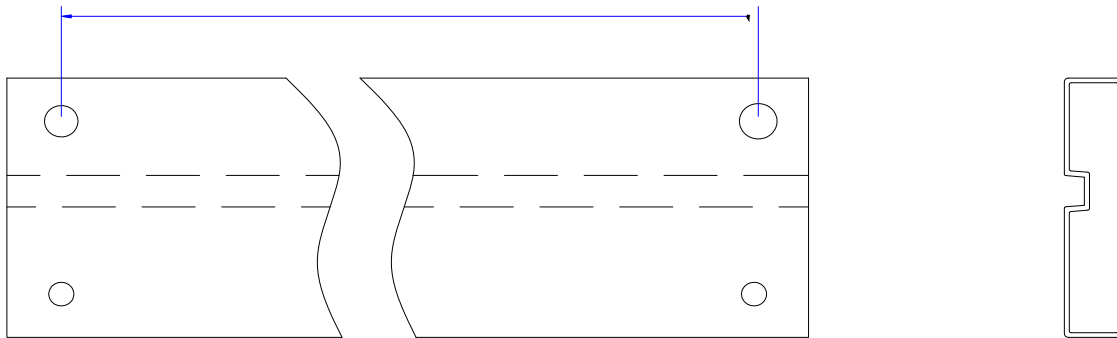
| Date | Revision | Changes |
|------|----------|---------|
|------|----------|---------|

PACKAGE MECHANICAL DATA




| Ref. | Dimensions | | | | | |
|------|-------------|------|------|--------|-------|-------|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 4.50 | | 4.90 | 0.177 | | 0.193 |
| B | 0.74 | 0.80 | 0.83 | 0.029 | 0.031 | 0.033 |
| C | 0.47 | | 0.65 | 0.019 | | 0.026 |
| C2 | 2.45 | | 2.75 | 0.096 | | 0.108 |
| C3 | 2.60 | | 3.00 | 0.102 | | 0.118 |
| D | 8.80 | | 9.30 | 0.346 | | 0.366 |
| E | 9.80 | | 10.4 | 0.386 | | 0.410 |
| F | 6.40 | | 6.80 | 0.252 | | 0.268 |
| G | 2.40 | | 2.70 | 0.094 | | 0.106 |
| H | 28.0 | | 29.8 | 1.102 | | 1.173 |
| L1 | 3.20 | | 3.80 | 0.126 | | 0.150 |
| L2 | 1.14 | | 1.70 | 0.045 | | 0.067 |
| L3 | 3.20 | | 3.60 | 0.126 | | 0.142 |
| V1 | | 45° | | | 45° | |

DELIVERY MODE



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