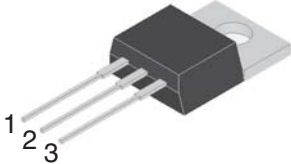
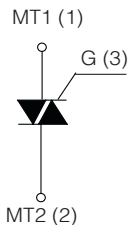




STANDARD TRIAC

| | | |
|--|--|--|
| <p>TO-220AB</p>   | <p>On-State Current 25 Amp</p> <p>Gate Trigger Current ≤ 100 mA</p> <p>Off-State Voltage 200 V ÷ 800 V</p> | |
| | <p>FEATURES</p> <ul style="list-style-type: none"> • Glass/passivated die junctions • High current Triac • Low thermal resistance • High surge current capability • Low forward voltage drop • Solder dip 260°C, 10s • Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC • Meets MSL level 3, per J-STD-020, LF maximum peak of 260° C |   RoHS COMPLIANT |
| | <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case: TO-220AB. Epoxy meets UL 94V-0 flammability rating. • Polarity: As marked on the body. • Terminals: Matte tin plated leads, solderable per MIL-STD-750 Method 2026, J-STD-002 and JESD22-B102. Consumer grade, meets JESD 201 class 1A whisker test. | |
| | <p>TYPICAL APPLICATIONS</p> <p>Suitable for general purpose AC switching. They can be used as an ON/OFF function in applications such as static relays, heating regulation, induction motor starting circuits... or for phase control operation in light dimmers, motor speed controllers,</p> | |

Maximun Ratings and Electrical Characteristics at 25°C

| SYMBOL | PARAMETER | CONDITIONS | Value | Unit |
|--------------|---|---|------------|------------------|
| $I_{T(RMS)}$ | RMS On-state Current (full sine wave) | All Conduction Angle, $T_c = 100\text{ }^\circ\text{C}$ | 25 | A |
| I_{TSM} | Non-repetitive On-State Current | Full Cycle, 60 Hz ($t = 16.7\text{ ms}$) | 215 | A |
| I_{TSM} | Non-repetitive On-State Current | Full Cycle, 50 Hz ($t = 20\text{ ms}$) | 200 | A |
| I^2t | Fusing Current | $t_p = 10\text{ ms}$, Half Cycle | 313 | A^2s |
| I_{GM} | Peak Gate Current | 20 μs max. $T_j = 125\text{ }^\circ\text{C}$ | 4 | A |
| $P_{G(AV)}$ | Average Gate Power Dissipation | $T_j = 125\text{ }^\circ\text{C}$ | 1 | W |
| di/dt | Critical rate of rise of on-state current | $I_G = 2 \times I_{GT}$, $t_r \leq 100\text{ ns}$ $f = 120\text{ Hz}$, $T_j = 125\text{ }^\circ\text{C}$ | 50 | $A/\mu\text{s}$ |
| T_j | Operating Temperature | | (-40 +125) | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | | (-40 +150) | $^\circ\text{C}$ |
| T_{sld} | Soldering Temperature | 10s max | 260 | $^\circ\text{C}$ |

| SYMBOL | PARAMETER | VOLTAGE | | | | | Unit |
|-------------------|-----------------------------------|---------|-----|-----|-----|-----|------|
| | | B | D | M | S | N | |
| V_{DRM}/V_{RRM} | Repetitive Peak Off State Voltage | 200 | 400 | 600 | 700 | 800 | V |

STANDARD TRIAC

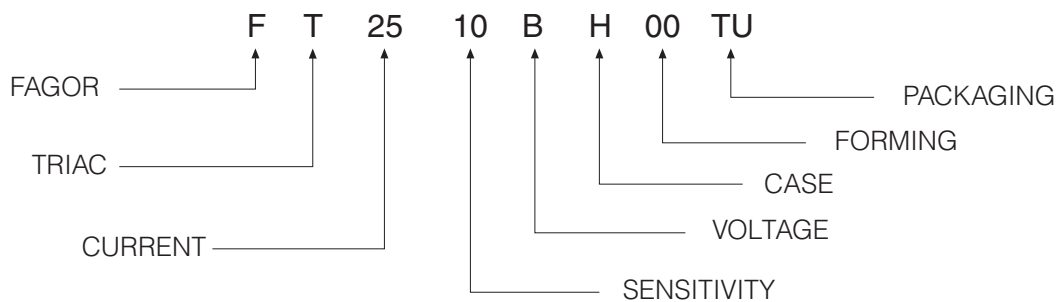
Electrical Characteristics at Tamb = 25 °C

| SYMBOL | PARAMETER | CONDITIONS | Quadrant | | SENSITIVITY | | | | Unit |
|-------------------------------------|---|---|----------|-----|-------------|-----|-----|-----|------|
| | | | | | 10 | 13 | 18 | 17 | |
| I _{GT} ⁽¹⁾ | Gate Trigger Current | V _D = 12 V _{DC} , R _L = 33Ω, T _j = 25 °C | Q1÷Q3 | MAX | 25 | 50 | 25 | 50 | mA |
| | | | Q4 | MAX | 25 | 75 | 50 | 100 | mA |
| V _{GT} | Gate Trigger Voltage | V _D = 12 V _{DC} , R _L = 33Ω, T _j = 25 °C | Q1÷Q4 | MAX | 1.3 | | | | V |
| V _{GD} | Gate Non Trigger Voltage | V _D = V _{DRM} , R _L = 3.3 KΩ, T _j = 125 °C | Q1÷Q4 | MIN | 0.2 | | | | V |
| I _H ⁽²⁾ | Holding Current | I _T = 100 mA, Gate open, T _j = 25 °C | | MAX | 25 | 50 | 25 | 50 | mA |
| I _L | Latching Current | I _G = 1.2 I _{GT} , T _j = 25 °C | Q1,Q3,Q4 | MAX | 40 | 70 | 40 | 70 | mA |
| | | | Q2 | MAX | 60 | 80 | 80 | 100 | mA |
| dV/dt ⁽²⁾ | Critical Rate of Voltage Rise | V _D = 0.67 x V _{DRM} , Gate open T _j = 125 °C | | MIN | 500 | 650 | 650 | 500 | V/μs |
| (dV/dt) _c ⁽²⁾ | Critical Rise Rate of Commutating off-state voltage | (dI/dt) _c = 13.3 A/ms T _j = 125 °C | | MIN | 3 | 8 | 5 | 10 | V/μs |
| V _{TM} ⁽²⁾ | On-state Voltage | I _T = 35 Amp, tp = 380 μs, T _j = 25 °C | | MAX | 1.55 | | | | V |
| V _{t(o)} ⁽²⁾ | Threshold Voltage | T _j = 125 °C | | MAX | 0.85 | | | | V |
| r _d ⁽²⁾ | Dynamic resistance | T _j = 125 °C | | MAX | 16 | | | | mΩ |
| I _{DRM} /I _{RRM} | Off-State Leakage Current | V _D = V _{DRM} , T _j = 125 °C V _R = V _{RRM} , T _j = 25 °C | | MAX | 2 | | | | mA |
| | | | | MAX | 5 | | | | μA |
| R _{th(j-c)} | Thermal Resistance Junction-Case | for AC 360° conduction angle | | | 1.0 | | | | °C/W |
| R _{th(j-a)} | Thermal Resistance Junction-Ambient | | | | 60 | | | | °C/W |

(1) Minimum I_{GT} is guaranteed at 5% of I_{GT} max.

(2) For either polarity of electrode MT2 voltage with reference to electrode MT1.

Part Number Information

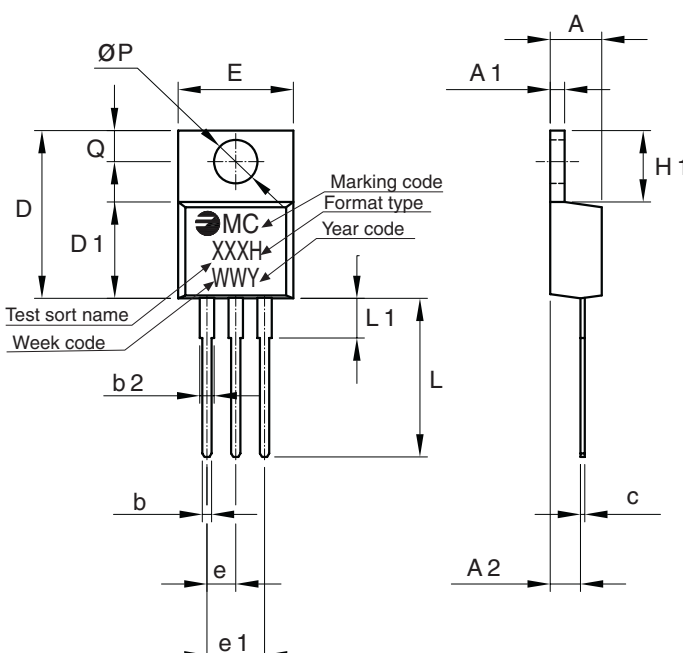


STANDARD TRIAC

Ordering information

| PREFERRED P/N | PACKAGE CODE | DELIVERY MODE | BASE QUANTITY | UNIT WEIGHT (g) |
|---------------|--------------|---------------|---------------|-----------------|
| FT2518MH 00TU | TU | TUBE | 1000 | 2.30 |

Package Outline Dimensions: (mm) TO-220AB



| REF. | DIMENSIONS | |
|------|------------|-------|
| | Milimeters | |
| | Min. | Max. |
| A | 4.47 | 4.67 |
| A1 | 1.17 | 1.37 |
| A2 | 2.52 | 2.82 |
| b | 0.71 | 0.91 |
| b2 | 1.17 | 1.37 |
| c | 0.31 | 0.53 |
| D | 14.65 | 15.35 |
| D1 | 8.50 | 8.90 |
| E | 10.01 | 10.36 |
| e | 2.51 | 2.57 |
| e1 | 4.98 | 5.18 |
| H1 | 6.15 | 6.45 |
| L | 13.40 | 13.96 |
| L1 | 3.56 | 3.96 |
| P | 3.735 | 3.935 |
| Q | 2.59 | 2.89 |

Mounting Torque

0.5 N.m

STANDARD TRIAC

Ratings and Characteristics (Ta 25 °C unless otherwise noted)

Fig. 1: Maximum power dissipation versus RMS on-state current (full cycle)

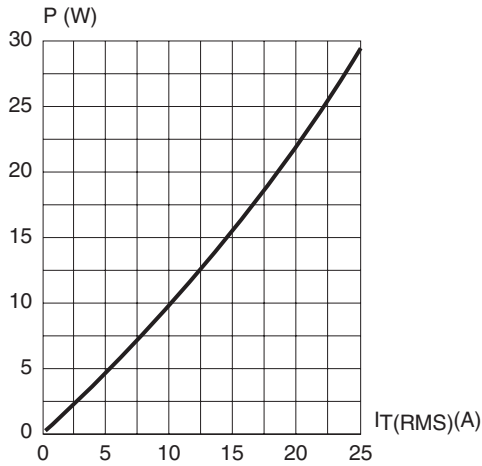


Fig. 2: RMS on-state current versus case temperature (full cycle).

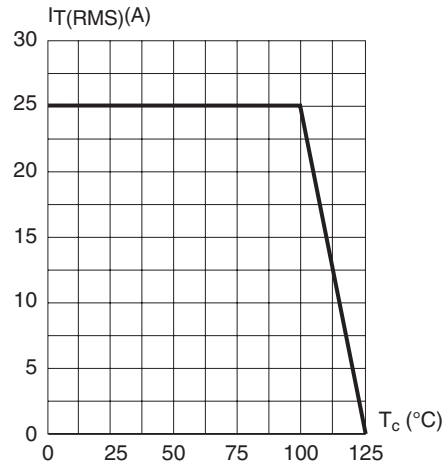


Fig. 3: Relative variation of thermal impedance versus pulse duration.

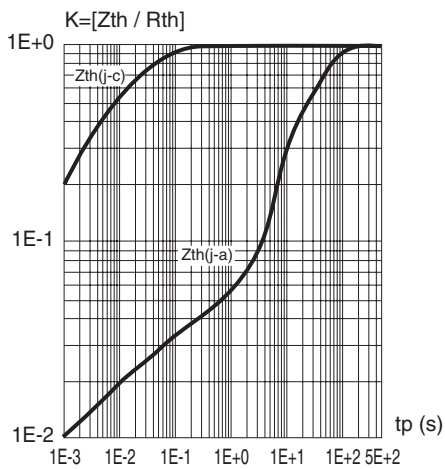


Fig. 4: On-state characteristics (maximum values)

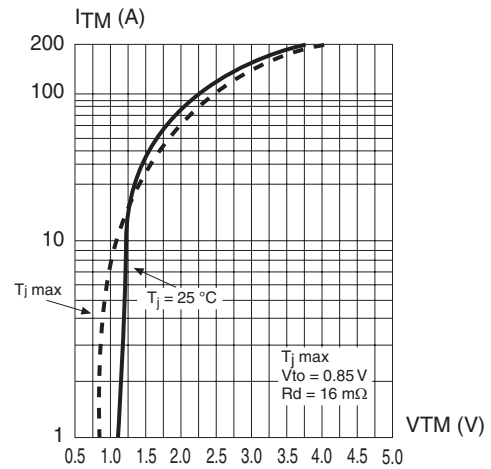


Fig. 5: Surge peak on-state current versus number of cycles

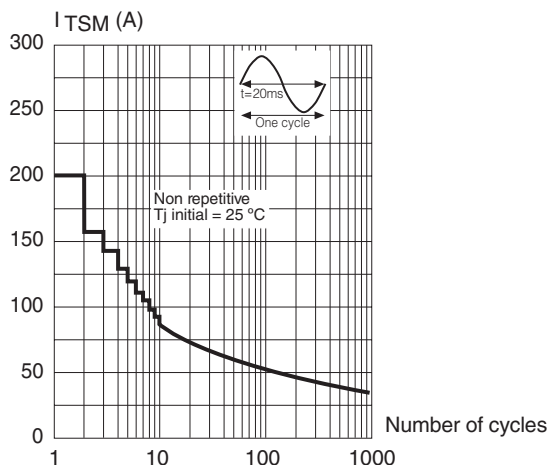
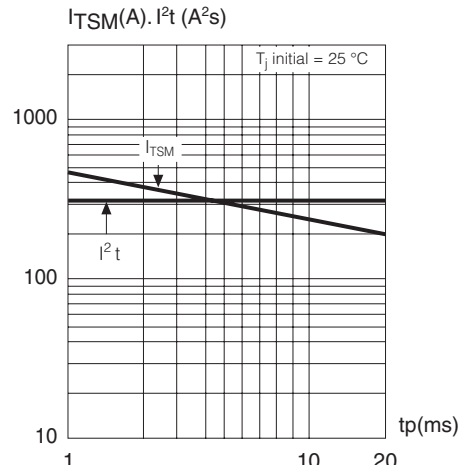


Fig. 6: Non repetitive surge peak on-state current for a sinusoidal pulse with width: tp < 20 ms, and corresponding value of I²t.



STANDARD TRIAC

Ratings and Characteristics (Ta 25 °C unless otherwise noted)

Fig. 7: Relative variation of gate trigger current, holding current and latching versus junction temperature (typical values)

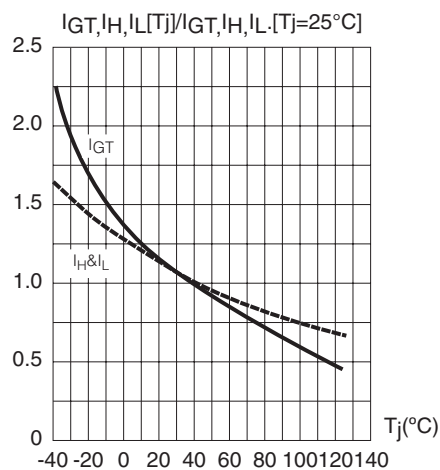


Fig. 8: Relative variation of critical rate of decrease of main current versus junction temperature

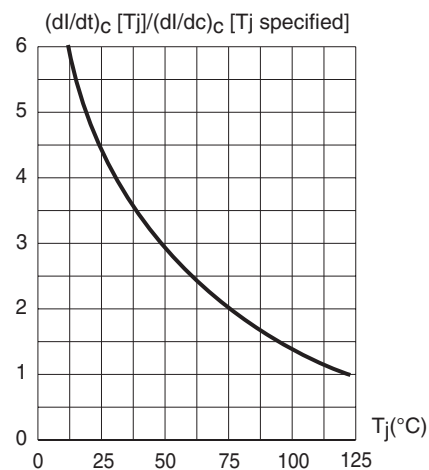
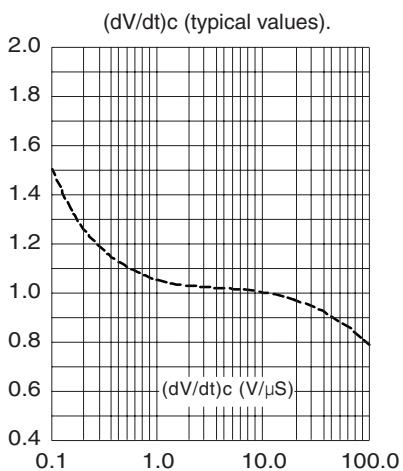


Fig. 9: Relative variation of critical rate of decrease of main current versus $(dV/dt)_c$ (typical values).



STANDARD TRIAC

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