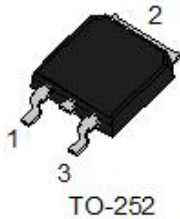




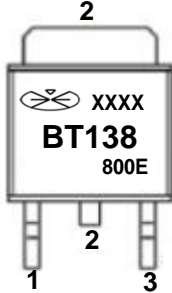
MAIN FEATURES

| Symbol | value | unit |
|-------------------|-----------|------|
| $I_{T(RMS)}$ | 10 | A |
| V_{DRM}/V_{RRM} | 600 800 | V |
| I_{TSM} | 60 | A |

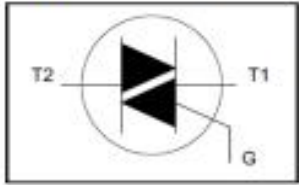
Package



TO-252



PIN1:T1
PIN2:T2
PIN3:G



Package Marking and Ordering Information

| Product ID | PACK | Qty (pcs) |
|------------|--------|-----------|
| BT138 | TO-252 | 2500 |

ABSOLUTE MAXIMUM RATINGS(Ta=25°C unless otherwise noted)

| Symbol | Parameter | Value | | Unit |
|-------------------|--|------------|------|------------------|
| | | 600E | 800E | |
| V_{DRM}/V_{RRM} | Repetitive peak off-state voltage | 600 | 800 | V |
| $I_{T(RMS)}$ | RMS on-state current(full sine wave) | 10 | | A |
| I_{TSM} | Non repetitive surge peak on-state current(full sine wave, Tj=25°C) t=20ms | 60 | | A |
| I_{GM} | Peak gate current | 4 | | A |
| I^2t | I^2t for fusing t=10ms | 18 | | A ² S |
| $P_{G(AV)}$ | Average gate Power Dissipation Tj=125°C | 0.5 | | W |
| V_{TM} | Peak on-state voltage drop I _{TM} =12A | 1.5 | | V |
| Di/dt | Repetitive rate of rise of on-state current after triggering | 100 | | A/μs |
| T_j | Junction Temperature | -40 to 125 | | °C |
| T_{stg} | Storage Temperature | -40 to 150 | | °C |
| V_{TO} | On state threshold voltage; Tj=125°C | 0.92 | | V |



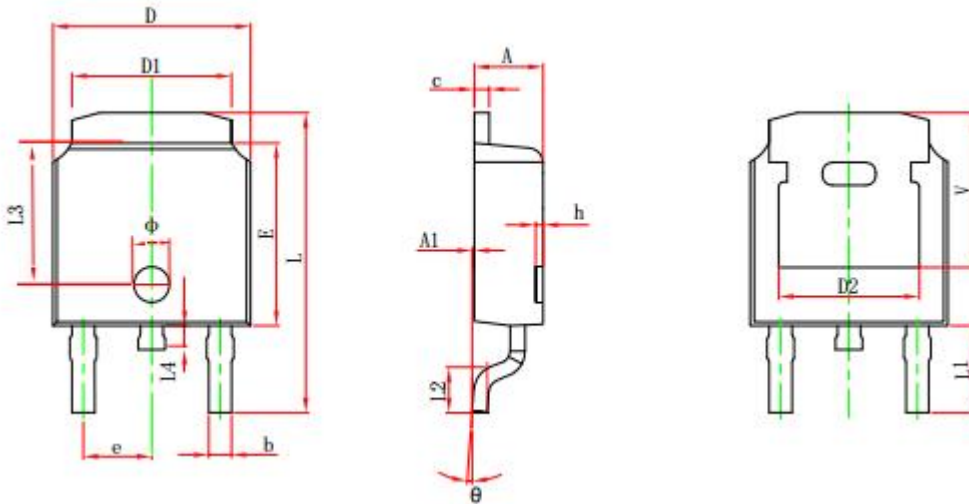
ELECTEICAL CHARACTERISTICS(Ta=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--|--------|--------------------------|----------|-----|-----|------|
| IV Quadrant | | | | | | |
| Gate trigger current | IGT | VD=12V;RL=100Ω | I II III | | 50 | mA |
| | | | IV | | 100 | |
| Gate trigger voltage | VGT | VD=12V;RL=100Ω | I II III | | 1.5 | V |
| | | | IV | | | |
| Non-triggering gate voltage | VGD | Tj=125°C | I II III | 0.2 | | V |
| | | | IV | | | |
| Holding current | IH | IT=0.5A | | | 60 | mA |
| Thyristor holds up current | IL | IG=1.2IGT | | | 60 | mA |
| | | | | | 100 | |
| Critical rise rate of off-state voltage | dV/dt | VD=67%VDRM(max);Tj=125°C | 500 | | | V/μs |

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|------------------------------------|--------|-----------------|----------|-----|-----|------|
| Static parameters | | | | | | |
| Gate trigger current | IGT | VD=12V;RL=100Ω | I II III | | 50 | mA |
| | | | IV | | 100 | |
| Gate trigger voltage | VGT | VD=12V;RL=100Ω | I II III | | 1.5 | V |
| | | | IV | | | |
| Non-triggering gate voltage | VGD | Tj=125°C | I II III | 0.2 | | V |
| | | | IV | | | |

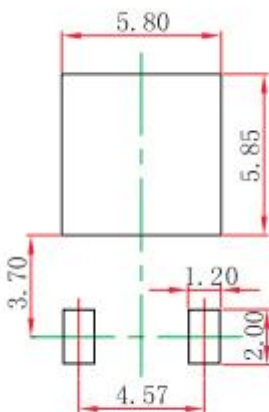


TO-252-2L Package Outline Dimensions



| Symbol | Dimensions in Millimeters | | Dimensions in Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.200 | 2.400 | 0.087 | 0.094 |
| A1 | 0.000 | 0.127 | 0.000 | 0.005 |
| b | 0.635 | 0.770 | 0.025 | 0.030 |
| c | 0.460 | 0.580 | 0.018 | 0.023 |
| D | 6.500 | 6.700 | 0.256 | 0.264 |
| D1 | 5.100 | 5.460 | 0.201 | 0.215 |
| D2 | 4.830 REF. | | 0.190 REF. | |
| E | 6.000 | 6.200 | 0.236 | 0.244 |
| e | 2.186 | 2.386 | 0.086 | 0.094 |
| L | 9.712 | 10.312 | 0.382 | 0.406 |
| L1 | 2.900 REF. | | 0.114 REF. | |
| L2 | 1.400 | 1.700 | 0.055 | 0.067 |
| L3 | 4.460 REF. | | 0.1756 REF. | |
| L4 | 0.600 | 1.000 | 0.024 | 0.039 |
| Phi | 1.100 | 1.300 | 0.043 | 0.051 |
| theta | 0° | 8° | 0° | 8° |
| h | 0.000 | 0.300 | 0.000 | 0.012 |
| V | 5.250 REF. | | 0.207 REF. | |

TO-252-2L Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.

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