

10A 800V TO-262

# THYRISTOR Type : TSN10A80

Construction : Planar Structure Reverse Conducting

Futures : High  $V_{DRM}$  & Permissible  $di/dt$

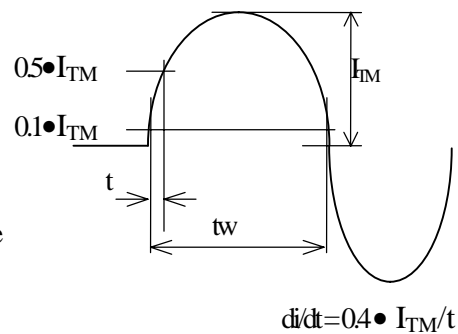
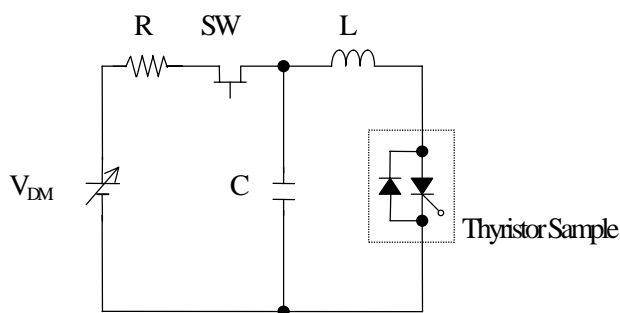
Application : Stator for HID Lamp Ballast Circuit

weight : 1.45g

## Absolute Maximum Ratings

| Rating   | Symbol    | Conditions   | Max. Rated Value | Unit        |
|--|-----------|--|------------------|-------------|
| Repetitive Peak off-state Voltage  | $V_{DRM}$ | $T_J=25^{\circ}C$  | 800              | V           |
| Repetitive Peak On-State Current *   | $I_{TRM}$ | $T_c \leq 100^{\circ}C, V_{DM} \leq 400V$<br>$I_G \geq 80mA, di/dt \geq 0.5A/\mu s$<br>$tw \leq 1.0\mu s, di/dt \leq 1500A/\mu s$<br>$duty \leq 0.005\%$       | 500              | A           |
| Repetitive Peak Forward Current *  | $I_{FRM}$ | $T_c \leq 100^{\circ}C, tw \leq 1.0\mu s$<br>$duty \leq 0.005\%$   | 500              | A           |
| Critical Rate of Rise of Off-State Voltage<br>Permissible Rate of Down of On-State Current * | $di/dt$   | $T_c \leq 100^{\circ}C, V_{DM} \leq 400V$<br>$I_G \geq 80mA, di/dt \geq 0.5A/\mu s$<br>$I_{TM} \leq 500A, tw \leq 1.0\mu s$<br>50Hz, 1min, without Cooling Fin | 1500             | A/ $\mu s$  |
| Peak Gate Power  | $P_{GM}$  | $f \geq 50Hz, duty \leq 10\%$  | 5                | W           |
| Average Gate Power   | $P_{GAV}$ |  | 0.5              | W           |
| Peak Forward Gate Current  | $I_{GM}$  | $f \geq 50Hz, duty \leq 10\%$  | 2                | A           |
| Peak Forward Gate Voltage  | $V_{GM}$  |  | 10               | V           |
| Peak Reverse Gate Voltage  | $V_{RGM}$ |  | 5                | V           |
| Operating Junction Temperature Range   | $T_{jw}$  |  | -40 to +125      | $^{\circ}C$ |
| Storage Temperature Range  | $T_{stg}$ |  | -40 to +150      | $^{\circ}C$ |

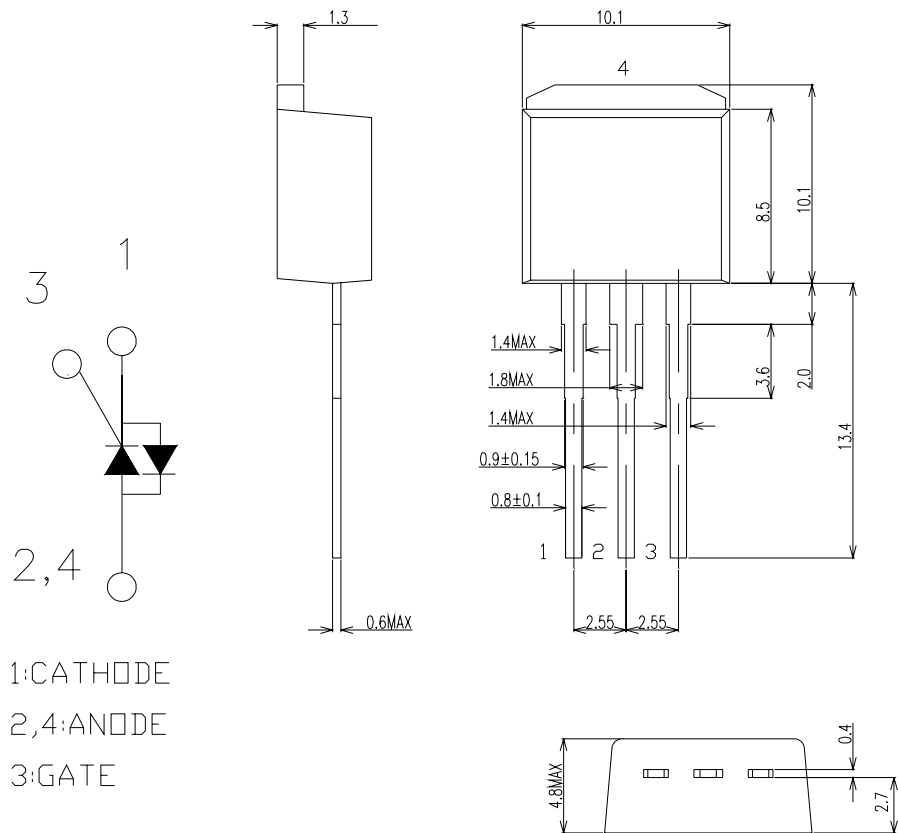
\* notes : Test Circuit & Current Wave Form



Electrical Characteristics (T<sub>j</sub>=25°C)

| Characteristics        | Symbol          | Conditions                                 | Min. | Typ. | Max. | Unit |
|------------------------|-----------------|--|------|------|------|------|
| Peak Off-State Current | I <sub>DM</sub> | V <sub>DM</sub> =V <sub>DRM</sub>          |      |      | 100  | μA   |
| Peak On-State Voltage  | V <sub>TM</sub> | I <sub>TM</sub> =20A                       |      |      | 1.50 | A    |
| Peak Forward Voltage   | V <sub>FM</sub> | I <sub>FM</sub> =10A                       |      |      | 1.50 | A    |
| Gate Trigger Current   | I <sub>GT</sub> | V <sub>DM</sub> =6V, R <sub>L</sub> =10ohm |      |      | 20   | mA   |
| Gate Trigger Voltage   | V <sub>GT</sub> |  |      |      | 1.0  | V    |
| Holding Current        | I <sub>H</sub>  | I <sub>G</sub> =50mA, I <sub>TM</sub> =1A  |      | 7    |      | mA   |
| Latching Current       | I <sub>L</sub>  | I <sub>G</sub> =50mA                       |      | 13   |      | mA   |
| Thermal Resistance     | Rth(j-c)        | Junction to Case                           |      |      | 5    | °C/w |
| Thermal Resistance     | Rth(j-a)        | Junction to Ambient                        |      |      | 80   | °C/w |

## TSN10A08 OUTLINE DRAWING (Dimension:mm)



1:CATHODE  
 2,4:ANODE  
 3:GATE