



|                                                                      |          |   |    |
|----------------------------------------------------------------------|----------|---|----|
| Peak pulse voltage<br>( $T_j=25$ ; non-repetitive, off-state; FIG.8) | $V_{pp}$ | 3 | kV |
|----------------------------------------------------------------------|----------|---|----|

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

| Symbol      | Test Condition                                | Quadrant | Value |      | Unit       |
|-------------|-----------------------------------------------|----------|-------|------|------------|
| $I_{GT}$    | $V_D=12V$ $R_L=33\Omega$                      | - -      | MAX.  | 35   | mA         |
| $V_{GT}$    |                                               | - -      | MAX.  | 1    | V          |
| $V_{GD}$    | $V_D=V_{DRM}$ $T_j=150$<br>$R_L=3.3k\Omega$   | - -      | MIN.  | 0.2  | V          |
| $I_L$       | $I_G=1.2I_{GT}$                               | -        | MAX.  | 50   | mA         |
|             |                                               |          |       | 70   |            |
| $I_H$       | $I_T=100mA$                                   |          | MAX.  | 45   | mA         |
| $dV/dt$     | $V_D=540V$ Gate Open $T_j=150$                |          | MIN.  | 1000 | V/ $\mu s$ |
| $(dI/dt)_c$ | $(dV/dt)_c=20V/\mu s$ , $T_j=150$             |          | MIN.  | 5    | A/ms       |
| $t_{on}$    | $I_G=40mA$ $I_A=200mA$ $I_R=20mA$<br>$T_j=25$ |          | TYP.  | 3    | $\mu s$    |
| $t_{off}$   |                                               |          |       | 30   |            |

**STATIC CHARACTERISTICS**

| Symbol   | Parameter                   |           | Value(MAX.) | Unit      |
|----------|-----------------------------|-----------|-------------|-----------|
| $V_{TM}$ | $I_{TM}=11A$ $t_p=380\mu s$ | $T_j=25$  | 1.4         | V         |
| $V_{TO}$ | Threshold voltage           | $T_j=150$ | 0.79        | V         |
| $R_D$    | Dynamic resistance          | $T_j=150$ | 51          | $m\Omega$ |

 $I_{DRM}$ 
 $V_D=V_{DRM}$   $V_R=V_{RRM}$  V



**FIG.1:** Maximum power dissipation versus axim (TE)-0 T10.199.4668 0.4onM

**FIG.7:** Relative variations of gate trigger current, holding current and latching current versus junction temperature

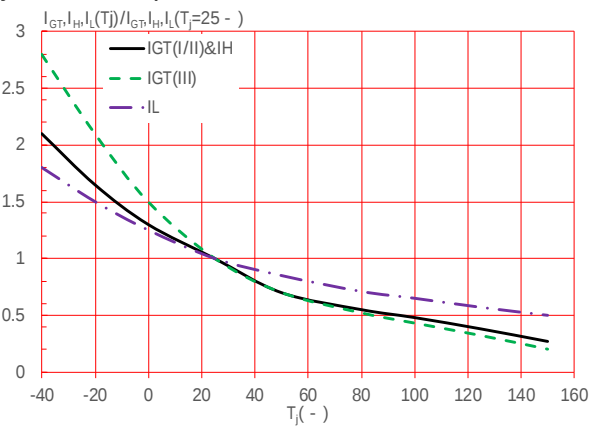
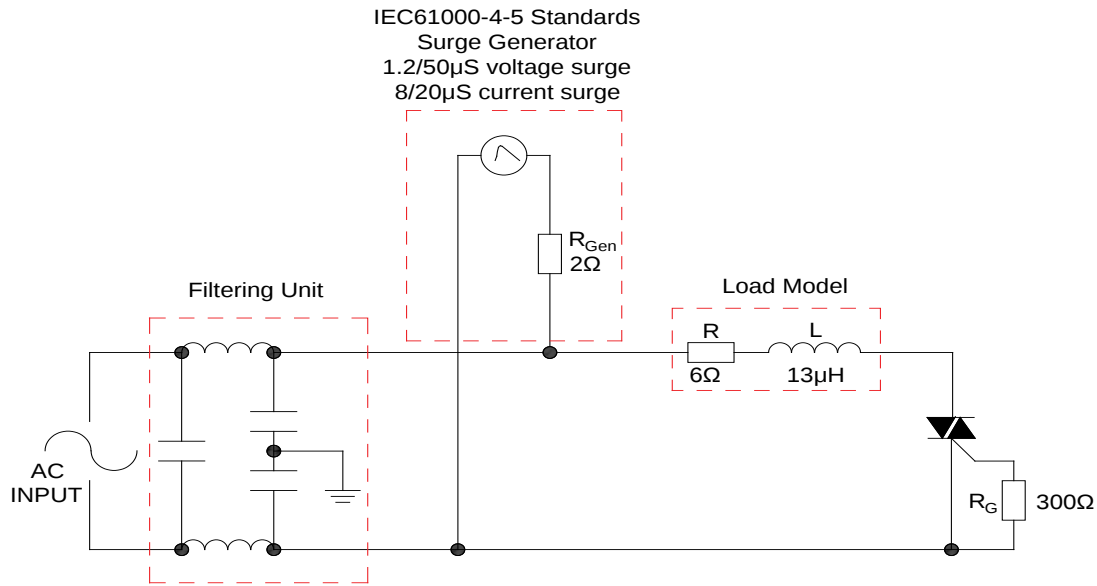
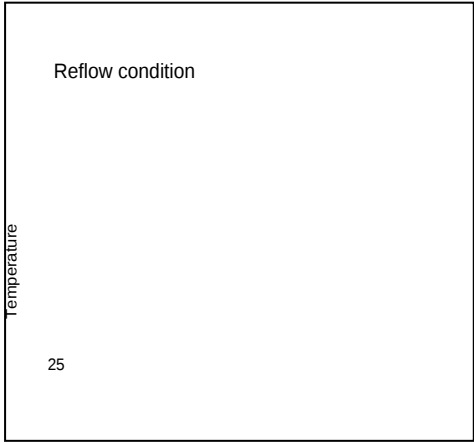


FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



SOLDERING PARAMETERS

| Reflow Condition                                          |                                   | Pb-Free assembly<br>(see figure at right) |
|-----------------------------------------------------------|-----------------------------------|-------------------------------------------|
| Pre Heat                                                  | -Temperature Min ( $T_{s(min)}$ ) | +150                                      |
|                                                           | -Temperature Max( $T_{s(max)}$ )  | +200                                      |
|                                                           | -Time (Min to Max) (ts)           | 60-180 secs.                              |
| Average ramp up rate<br>(Liquidus Temp ( $T_L$ ) to peak) |                                   | 3 /sec. Max                               |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                      |                                   | 3 /sec. Max                               |
| Reflow                                                    | -Temperature( $T_L$ )(Liquidus)   | +217                                      |
|                                                           | -Temperature( $t_L$ )             | 60-150 secs.                              |
| Peak Temp ( $T_p$ )                                       |                                   | +260(+0/-5)                               |
| Time within 5 of actual<br>Peak Temp ( $t_p$ )            |                                   | 20-40secs.                                |
| Ramp-down Rate                                            |                                   | 6 /sec. Max                               |
| Time 25 to Peak Temp ( $T_p$ )                            |                                   | 8 min. Max                                |
| Do not exceed                                             |                                   | +260                                      |



**ORDERING INFORMATION**



PACKAGE MECHANICAL DATA

| Ref. | Dimensions  |      |       |             |               |       |
|------|-------------|------|-------|-------------|---------------|-------|
|      | Millimeters |      |       | Inches      |               |       |
|      | Min.        | Typ. | Max.  | Min.        | Typ.          | Max.  |
| A    | 9.90        |      | 10.20 | 0.390       |               | 0.402 |
| B    | 14.70       |      | 15.80 | 0.579       |               | 0.622 |
| C    | 9.40        |      | 9.60  | 0.370       |               | 0.378 |
| D    | 2.40        |      |       | 0.094       |               |       |
| E    | 1.20        |      | 1.50  | 0.047(0)]TJ | 0 Tc 0 Tw 31G |       |
| F    |             |      |       |             |               |       |



**T835H-8E**