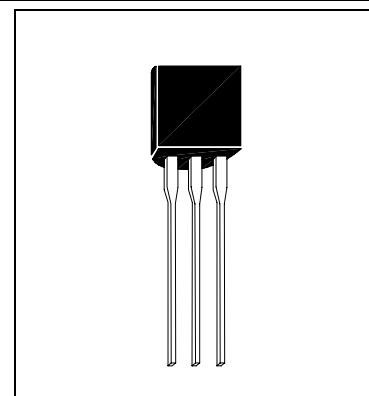


# HML1225/HXL1225

0.8A 300/380 VOLTAGE SCRS IGT<200uA

## Description

The HML1225/HXL1225 series silicon controlled rectifiers are high performance planar diffused PNP devices. These parts are intended for low cost high volume applications.



## Absolute Maximum Ratings (Ta=25°C)

| Parameter                         | Part No. | Symbol  | Min | Max | Unit | Test Conditions           |
|-----------------------------------|----------|---------|-----|-----|------|---------------------------|
| Repetitive Peak Off State Voltage | HXL1225  | VDRM    | 380 | -   | V    | Tj=40°C to 125°C (RGK=1K) |
|                                   | HML1225  | VDRM    | 300 | -   | V    |                           |
| On-State Current                  |          | IT(rms) | 0.8 | -   | A    | TC=40°C                   |
| Average On-State Current          |          | IT(AV)  | 0.5 | -   | A    | Half Cycle=180°, TC=40°C  |
| Peak Reverse Gate Voltage         |          | VGRM    | 8   | -   | V    | IGR=10uA                  |
| Peak Gate Current                 |          | IGM     | 1   | -   | A    | 10us max                  |
| Gate Dissipation                  |          | PG(AV)  | 0.1 | -   | W    | 20ms max                  |
| Operating Temperature             |          | Tj      | -40 | 125 | °C   |                           |
| Storage Temperature               |          | Tstg    | -40 | 125 | °C   |                           |
| Soldering Temperature             |          | Tsld    | -   | 250 | °C   | 1.6mm from case 10s max   |

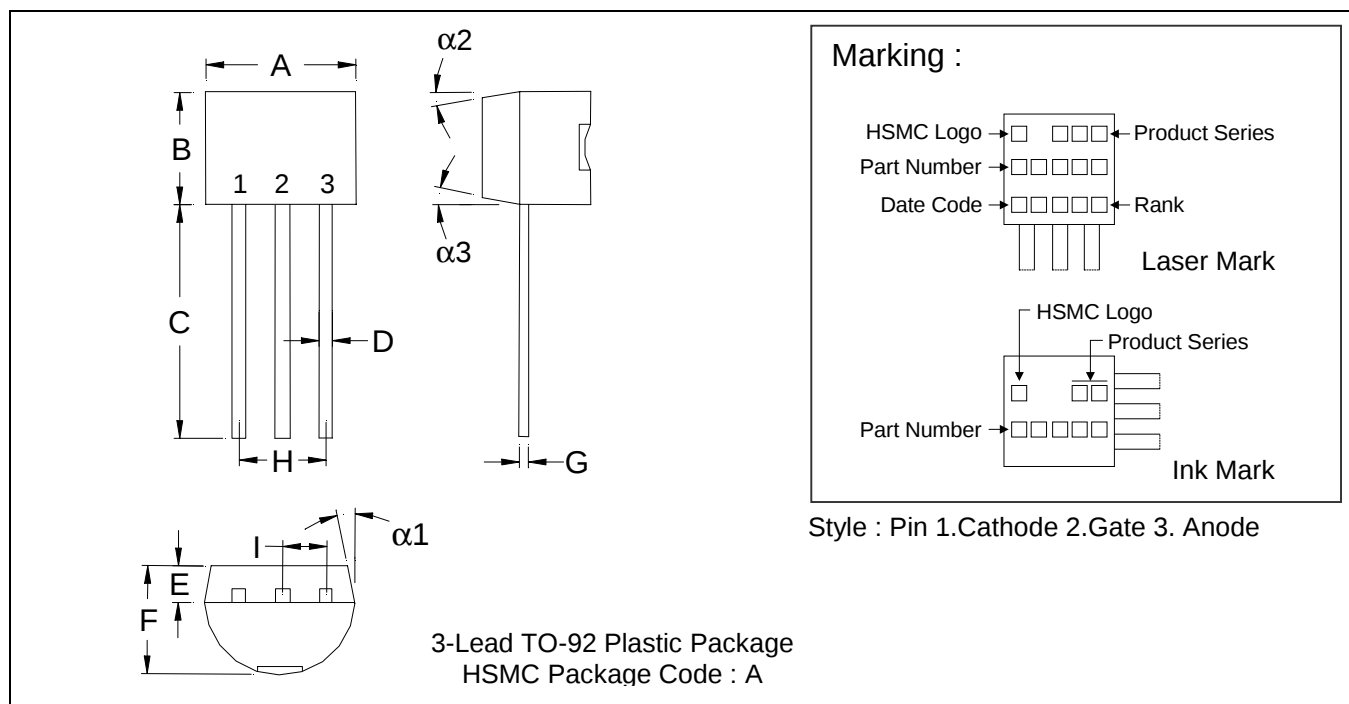
## Classification Of IGT

| Rank    | AA       | AB       | AC       | AD       | B         | C         |
|---------|----------|----------|----------|----------|-----------|-----------|
| HML1225 | 10-18 uA | 12-23 uA | 17-28 uA | 22-55 uA | 45-105 uA | -         |
| HXL1225 | 10-18 uA | 12-23 uA | 17-28 uA | 22-55 uA | 45-105 uA | 95-155 uA |

## Electrical Characteristics (Ta=25°C)

| Parameter                       | Symbol | Min | Max  | Unit | Test Conditions                            |
|---------------------------------|--------|-----|------|------|--------------------------------------------|
| Off-State Leakage Current       | IDRM   | -   | 0.1  | mA   | @VDRM (RGK=1K), Tj=125°C                   |
| Off-State Leakage Current       | IDRM   | -   | 5    | uA   | @VDRM (RGK=1K), Tj=25°C                    |
| On-State Voltage                | VT     | -   | 1.4  | V    | at IT=0.4A, Tj=25°C                        |
|                                 |        | -   | 2.2  | V    | at IT=0.8A, Tj=25°C                        |
| On-State Threshold Voltage      | VT(TO) | -   | 0.95 | V    | Tj=125°C                                   |
| On-State Slops Resistance       | rT     | -   | 600  | Ohm  | Tj=125°C                                   |
| Gate Trigger Current            | IGT    | -   | 200  | uA   | VD=7V                                      |
| Gate Trigger Voltage            | VGT    | -   | 0.8  | V    | VD=7V                                      |
| Holding Current                 | IH     | -   | 5    | mA   | RGK=1K(ohm)                                |
| Latching Current                | IL     | -   | 6    | mA   | RGK=1K(ohm)                                |
| Critical Rate of Voltage Rise   | dv/dt  | 25  | -    | V/us | VD=0.67*VDRM(RGK=1K), Tj=125°C             |
| Critical Rate of Current Rise   | di/dt  | 30  | -    | A/us | IG=10mA, diG/dt=0.1A/us, Tj=125°C          |
| Gate Controlled Delay Time      | tgd    | -   | 500  | ns   | IG=10mA, diG/dt=0.1A/us                    |
| Commutated Turn-off Time        | tg     | -   | 200  | us   | Tc=85°C, VD=0.67*VDRM<br>VR=35V, IT=IT(AV) |
| Thermal Resistance junc.to case | Rθjc   | 100 | -    | K/W  |                                            |
| Thermal Resistance junc. to amb | Rθja   | 200 | -    | K/W  |                                            |

## TO-92 Dimension



\*:Typical

| DIM | Inches |         | Millimeters |       | DIM        | Inches |         | Millimeters |       |
|-----|--------|---------|-------------|-------|------------|--------|---------|-------------|-------|
|     | Min.   | Max.    | Min.        | Max.  |            | Min.   | Max.    | Min.        | Max.  |
| A   | 0.1704 | 0.1902  | 4.33        | 4.83  | G          | 0.0142 | 0.0220  | 0.36        | 0.56  |
| B   | 0.1704 | 0.1902  | 4.33        | 4.83  | H          | -      | *0.1000 | -           | *2.54 |
| C   | 0.5000 | -       | 12.70       | -     | I          | -      | *0.0500 | -           | *1.27 |
| D   | 0.0142 | 0.0220  | 0.36        | 0.56  | $\alpha 1$ | -      | *5°     | -           | *5°   |
| E   | -      | *0.0500 | -           | *1.27 | $\alpha 2$ | -      | *2°     | -           | *2°   |
| F   | 0.1323 | 0.1480  | 3.36        | 3.76  | $\alpha 3$ | -      | *2°     | -           | *2°   |

Notes : 1.Dimension and tolerance based on our Spec. dated Apr. 25,1996.

2.Controlling dimension : millimeters.

3.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.

4.If there is any question with packing specification or packing method, please contact your local HSMC sales office.

### Material :

- Lead : 42 Alloy ; solder plating
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0