

LSCR45 (Chip Size: 8.6×8.6 mm) 45A 1600V standard SCR Chip

Features

- Max. Repetitive Blocking Voltage = V_{DRM} , V_{RRM} = 1600 V
- I_{GT} maximum = 50 mA
- High static and dynamic commutation:
 - di/dt = 100A/ μ s
 - dV/dt = 2000V/ μ s

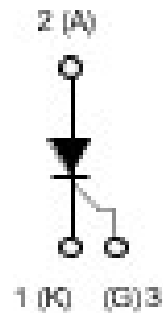
Applications

- Solar / Wind renewable energy inverters and rectifiers
- Solid state relay (SSR)
- Uninterruptible power supply (UPS)
- Industrial SMPS
- Bypass
- AC DC inrush current limiter (ICL)
- Battery charger
- AC DC voltage controlled rectifier
- Industrial welding systems
- Off board automotive battery charger
- Soft starter
- Heating systems

Description

The LSCR45 SCR chip is suitable in industrial applications where high immunity is required with a lower gate current and ceramic isolated tab,

Available in through-hole high power package TOP3 isolated tab.



Absolute maximum ratings (limiting values)

| Symbol | Parameter | | Value | Unit | |
|-------------|---|---------------------|--------------------------------|------------|---|
| $I_{T(AV)}$ | Average on-state current (180 ° conduction angle) | | $T_c = 82.5 \text{ ° C}$ 45 | A | |
| I_{TSM} | Non repetitive surge peak on-state current (T_j initial = 25 °C) | | $t_p = 8.3 \text{ ms}$ | 675 | A |
| | | | $t_p = 10 \text{ ms}$ | 400 | |
| di/dt | Critical rate of rise of on-state current $I_G = 100 \text{ mA}$, $di_g/dt = 1 \text{ A}/\mu\text{s}$ | $f = 60 \text{ Hz}$ | $T_j = 125 \text{ ° C}$ 100 | A/ μ s | |
| T_j | Operating junction temperature range | | -40 to +125 | ° C | |

| Symbol | Test conditions | | Value | Unit | | |
|--------------------------|--|-------------------------|-------------------------|------|----|---------|
| I_{GT} | $V_D = 12 \text{ V}$, $R_L = 33 \text{ }\Omega$ | | Min. | 20 | mA | |
| | | | Max. | 50 | | |
| V_{GT} | | | Max. | 1.4 | V | |
| V_{GD} | $V_D = V_{DRM}$, $R_L = 3.3 \text{ k}\Omega$ | $T_j = 125 \text{ ° C}$ | Min. | 0.2 | V | |
| I_H | $I_T = 500 \text{ mA}$, gate open | | Max. | 100 | mA | |
| I_L | $I_G = 1.2 \times I_{GT}$ | | Max. | 130 | mA | |
| I_{DRM} , I_{RRM} | $V_{DRM} = V_{RRM} = 1200 \text{ V}$ | | $T_j = 25 \text{ ° C}$ | Max | 10 | μ A |
| | | | $T_j = 125 \text{ ° C}$ | | 5 | mA |