



DC COMPONENTS CO., LTD.
DISCRETE SEMICONDUCTORS

DCR100-3
THRU
DCR100-8

TECHNICAL SPECIFICATIONS OF SENSITIVE GATE SILICON CONTROLLED RECTIFIERS
VOLTAGE RANGE - 100 to 600 Volts CURRENT - 0.8 Ampere

Description

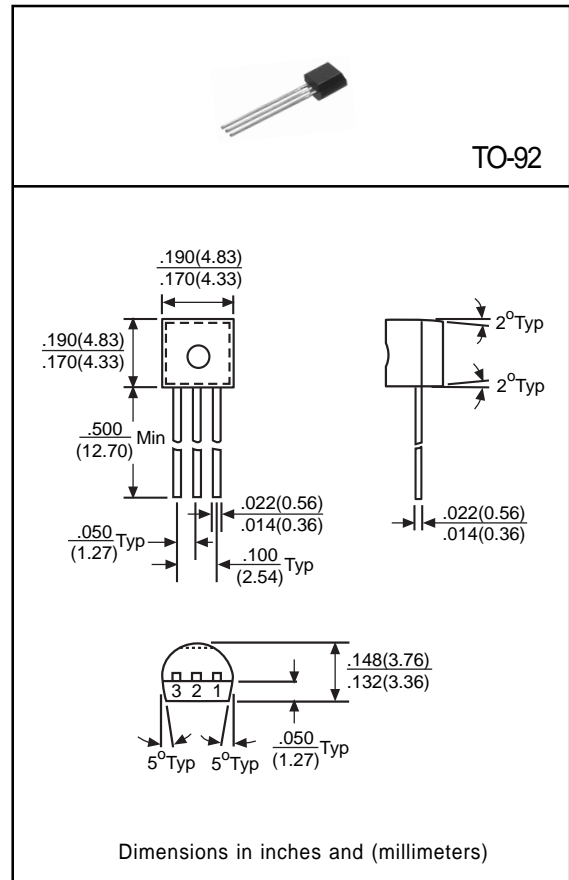
- * Driven directly with IC and MOS device
- * Feature proprietary, void-free glass passivated chips
- * Available in voltage ratings from 100 to 600 volts
- * Sensitive gate trigger current
- * Designed for high volume, line-powered control application in relay lamp drivers, small motor controls, gate drivers for large thyristors

Pinning

1 = Cathode, 2 = Gate, 3 = Anode

Absolute Maximum Ratings (TA=25°C)

| Characteristic | Symbol | Rating | Unit |
|---|--|--------------------------|------|
| Peak Repetitive Off-State Voltage and Reverse Voltage | DCR100-3 DCR100-4 DCR100-6 DCR100-8 V _{DRM} , V _{RRM} | 100 200 400 600 | V |
| On-State RMS Current (TA=57°C, 180° Conduction Angles) | I _{T(RMS)} | 0.8 | A |
| Peak Non-repetitive Surge Current (1/2 Cycle, Sine Wave 60Hz) | I _{TSM} | 8 | A |
| Forward Peak Gate Current (For 3μ sec.) | I _{GM} | 0.8 | A |
| Forward Peak Gate Power Dissipation | P _{GM} | 0.1 | W |
| Forward Average Gate Power Dissipation | P _{G(AV)} | 0.01 | W |
| Reverse Peak Gate Voltage | V _{GRM} | 6.0 | V |
| Operating Junction Temperature | T _J | -40 to +110 | °C |
| Storage Temperature | T _{STG} | -40 to +150 | °C |



Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified)

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Conditions |
|---|-------------------------------------|-----|-----|-----|------|--|
| Peak Repetitive Forward or Reverse Off-State Blocking Current | I _{DRM} , I _{RRM} | - | - | 10 | μA | TA=25°C VAK=Rated V _{DRM} or V _{RRM} RGK=1KΩ |
| Peak Forward On-State Voltage | V _{TM} | - | - | 1.7 | V | ITM=0.8A Peak, TC=25°C |
| Continuous DC Gate Trigger Current | I _{GT} | - | - | 200 | μA | VAK=7V DC, RL=100Ω |
| Continuous DC Gate Trigger Voltage | V _{GT} | - | - | 0.8 | V | VAK=7V DC, RL=100Ω |
| DC Holding Current | I _H | - | - | 10 | mA | RGK=1KΩ, Gate Open |
| Critical Rate-of-Rise of Off-State Voltage | dv/dt | - | 5 | - | V/μS | RGK=1KΩ, Gate Open |
| Gate Controlled Turn-on Time (td+tr) | T _{gt} | - | 2.2 | - | μsec | I _{GT} =10mA |
| Thermal Resistance, Junction to Case | RθJC | - | 75 | - | °C/W | - |