



# 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

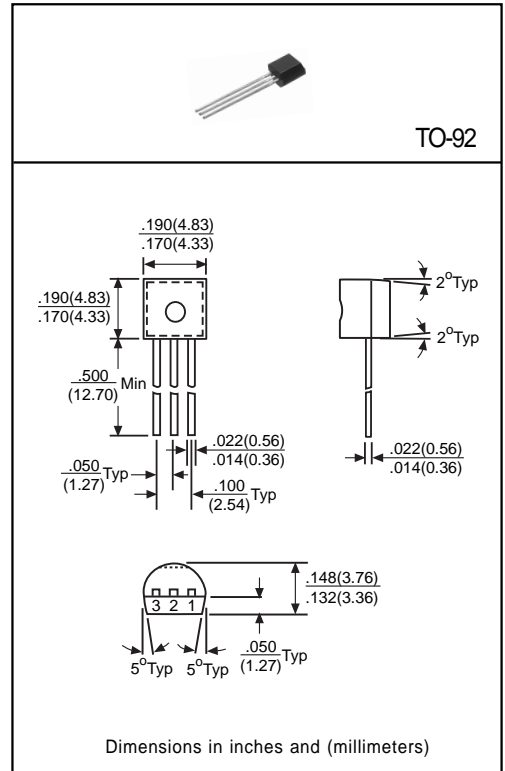
- \* Driven directly with IC and MOS device
- \* Feature proprietary, void-free glass passivated chips
- \* Available in voltage ratings from 100 to 600 volts
- \* Sensitive gate trigger current
- \* Designed for high volume, line-powered control application in relay lamp drivers, small motor controls,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

#### Pinning

1 = Cathode, 2 = Gate, 3 = Anode

#### Absolute Maximum Ratings (T<sub>A</sub>=25°C)

Characteristic	Symbol	Rating	Unit
Peak Repetitive Off-State Voltage and Reverse Voltage	DCR100-3 DCR100-4 DCR100-6 DCR100-8 V <sub>DRM</sub> , V <sub>RRM</sub>	100 200 400 600	V
On-State RMS Current (T <sub>A</sub> =57°C, 180° Conduction Angles)	I <sub>T(RMS)</sub>	0.8	A
Peak Non-repetitive Surge Current (1/2 Cycle, Sine Wave 60Hz)	I <sub>TSM</sub>	8	A
Forward Peak Gate Current (For 3μ sec.)	I <sub>GM</sub>	0.8	A
Forward Peak Gate Power Dissipation	P <sub>GM</sub>	0.1	W
Forward Average Gate Power Dissipation	P <sub>G(AV)</sub>	0.01	W
Reverse Peak Gate Voltage	V <sub>GRM</sub>	6.0	V
Operating Junction Temperature	T <sub>J</sub>	-40 to +110	°C
Storage Temperature	T <sub>STG</sub>	-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 <sub>DRM</sub> , I <sub>RRM</sub>	-	-	10	μA	V <sub>AK</sub> =Rated V <sub>DRM</sub> or V <sub>RRM</sub> R <sub>GK</sub> =1KΩ
				200		
Peak Forward On-State Voltage	V <sub>TM</sub>	-	-	1.7	V	I <sub>TM</sub> =0.8A Peak, T <sub>C</sub> =25°C
Continuous DC Gate Trigger Current	I <sub>GT</sub>	-	-	200	μA	V <sub>AK</sub> =7V DC, R <sub>L</sub> =100Ω
Continuous DC Gate Trigger Voltage	V <sub>GT</sub>	-	-	0.8	V	V <sub>AK</sub> =7V DC, R <sub>L</sub> =100Ω
DC Holding Current	I <sub>H</sub>	-	-	10	mA	R <sub>GK</sub> =1KΩ, Gate Open
Critical Rate-of-Rise of Off-State Voltage	dv/dt	-	5	-	V/μS	R <sub>GK</sub> =1KΩ, Gate Open
Gate Controlled Turn-on Time (t <sub>b</sub> +t <sub>r</sub> )	T <sub>gt</sub>	-	2.2	-	μsec	I <sub>GT</sub> =10mA
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	-	75	-	°C/W	-