



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

DCR03B
THRU
DCR03F

TECHNICAL SPECIFICATIONS OF SENSITIVE GATE SILICON CONTROLLED RECTIFIERS VOLTAGE RANGE - 200 to 600 Volts

CURRENT - 0.3 Ampere

Description

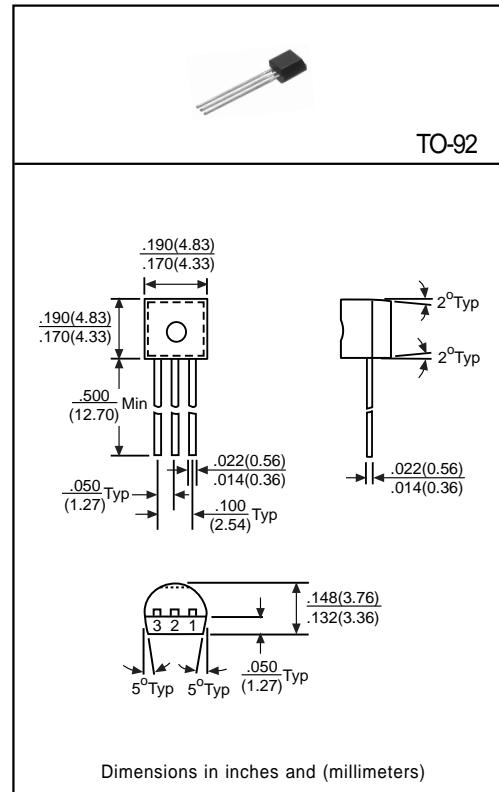
- * Driven directly with IC and MOS device
- * Feature proprietary, void-free glass passivated chips
- * Available in voltage ratings from 200 to 600 volts
- * Sensitive gate trigger current
- * Designed for high volume, line-powered control application in relay lamp drivers, small motor controls, gate drivers for large thyristors

Pinning

1 = Gate, 2 = Anode, 3 = Cathode

Absolute Maximum Ratings($T_A=25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Peak Repetitive Off-State Voltage and Reverse Voltage	V_{DRM} , V_{RRM}	200 400 600	V
On-State Average Current ($T_A=30^\circ\text{C}$, 180° Conduction Angles)	$I_{T(AV)}$	0.3	A
On-State RMS Current ($T_A=30^\circ\text{C}$, 180° Conduction Angles)	$I_{T(RMS)}$	0.47	A
Peak Non-repetitive Surge Current (1/2 Cycle, Sine Wave 60Hz)	I_{TSW}	8	A
Forward Peak Gate Current	I_{GM}	0.1	A
Forward Peak Gate Power Dissipation	P_{GM}	0.1	W
Forward Average Gate Power Dissipation	$P_{G(AV)}$	0.01	W
Operating Junction Temperature	T_J	-40 to +110	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 to +150	$^\circ\text{C}$



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	$V_{AK}=\text{Rated } V_{DRM} \text{ or } V_{RRM}$ $R_{GK}=1\text{ k}\Omega$
		-	-	100		
Peak Forward On-State Voltage	V_{TM}	-	-	1.7	V	$I_{TM}=0.3\text{ A}$ Peak
Continuous DC Gate Trigger Current	I_{GT}	-	-	200	μA	$V_{AK}=7\text{ V DC}$, $R_L=100\Omega$
Continuous DC Gate Trigger Voltage	V_{GT}	-	-	0.8	V	$V_{AK}=7\text{ V DC}$, $R_L=100\Omega$
DC Holding Current	I_H	-	-	5.0	mA	$R_{GK}=1\text{ k}\Omega$
Critical Rate-of-Rise of Off-State Voltage	dv/dt	-	5.0	-	$\text{V}/\mu\text{s}$	$R_{GK}=1\text{ k}\Omega$
Gate Controlled Turn-on Time($t_{on}+t_r$)	T_{gt}	-	2.2	-	μsec	$I_{GT}=10\text{ mA}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	-	75	-	$^\circ\text{C/W}$	-