



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

DCR72-3
THRU
DCR72-8

TECHNICAL SPECIFICATIONS OF SENSITIVE GATE SILICON CONTROLLED RECTIFIERS

VOLTAGE RANGE - 100 to 600 Volts

CURRENT - 8.0 Amperes

Description

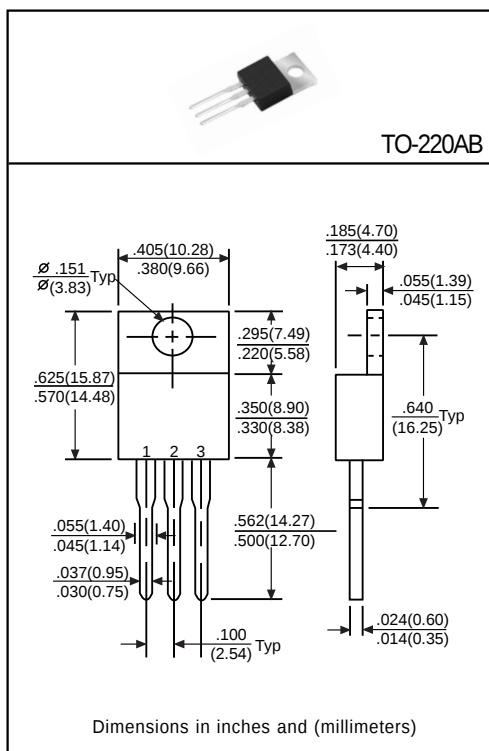
- * Driven directly with IC and MOS device
- * Feature proprietary, void-free glass passivated chips
- * Available in voltage ratings from 100 to 600 volts
- * Sensitive gate trigger current
- * Designed for high volume, line-powered control application in relay lamp drivers, small motor controls, gate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

Pinning

1 = Cathode, 2 = Anode, 3 = Gate

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

Characteristic	Symbol	Rating	Unit
Peak Repetitive Off-State Voltage and Reverse Voltage	DCR72-3 DCR72-4 DCR72-6 DCR72-8 V_{DRM} , V_{RRM}	100 200 400 600	V
On-State RMS Current ($T_A=57^{\circ}\text{C}$, 180° Conduction Angles)	$I_{T(RMS)}$	8.0	A
Peak Non-repetitive Surge Current (1/2 Cycle, Sine Wave 60Hz)	I_{TSM}	80	A
Forward Peak Gate Current	I_{GM}	1.0	A
Forward Peak Gate Power Dissipation	P_{GM}	0.5	W
Forward Average Gate Power Dissipation	$P_{G(AV)}$	0.1	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	$T_J=25^{\circ}\text{C}$ $T_J=110^{\circ}\text{C}$ I_{DRM} , I_{RRM}	-	-	10	μA	$V_{AK}=\text{Rated } V_{DRM} \text{ or } V_{RRM}$ $R_{GK}=1\text{K}\Omega$
Peak Forward On-State Voltage	V_{TM}	-	-	2.0	V	$I_{TM}=8\text{A Peak}$
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}	-	-	1.5	V	$V_{AK}=7\text{V DC}$, $R_L=100\Omega$
DC Holding Current	I_H	-	-	6.0	mA	$R_{GK}=1\text{K}\Omega$
Critical Rate-of-Rise of Off-State Voltage	dv/dt	-	8.0	-	V/ μS	$R_{GK}=1\text{K}\Omega$
Gate Controlled Turn-on Time(t_D+t_r)	T_{gt}	-	2.2	-	μsec	$I_{GT}=10\text{mA}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	-	2.2	-	$^{\circ}\text{C/W}$	-