



**DC COMPONENTS CO., LTD.**  
DISCRETE SEMICONDUCTORS

**DCR106-3  
THRU  
DCR106-8**

**TECHNICAL SPECIFICATIONS OF SENSITIVE GATE SILICON CONTROLLED RECTIFIERS**  
VOLTAGE RANGE - 100 to 600 Volts CURRENT - 4.0 Amperes

**Description**

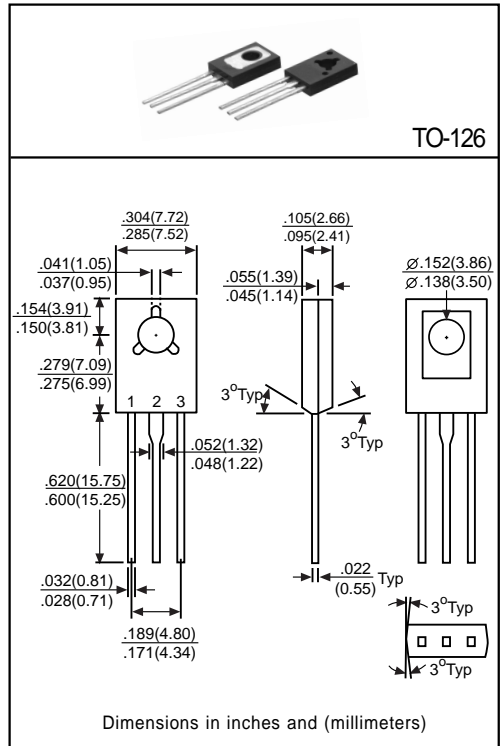
- \* Driven directly with IC and MOS device
- \* Feature proprietary, void-free glass passivated chips
- \* Available in voltage ratings from 100 to 600 volts
- \* Sensitive gate trigger current
- \* Designed for high volume, line-powered control application in relay lamp drivers, small motor controls,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

**Pinning**

1 = Cathode, 2 = Anode, 3 = Gate

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

Characteristic	Symbol	Rating	Unit
Peak Repetitive Off-State Voltage and Reverse Voltage	DCR106-3 DCR106-4 DCR106-6 DCR106-8	$V_{DRM}$ , $V_{RRM}$	V
On-State RMS Current ( $T_A=57^{\circ}C$ , $180^{\circ}$ Conduction Angles)	$I_{T(RMS)}$	4.0	A
Peak Non-repetitive Surge Current (1/2 Cycle, Sine Wave 60Hz)	$I_{TSM}$	25	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	$^{\circ}C$
Storage Temperature	$T_{STG}$	-40 to +150	$^{\circ}C$



**Electrical Characteristics**

(Ratings at  $25^{\circ}C$  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	$\mu A$	$V_{AK} = \text{Rated } V_{DRM} \text{ or } V_{RRM}$ $R_{GK} = 1K\Omega$
				200		
Peak Forward On-State Voltage	$V_{TM}$	-	-	2.0	V	$I_{TM} = 4A$ Peak
Continuous DC Gate Trigger Current	$I_{GT}$	-	-	200	$\mu A$	$V_{AK} = 7V$ DC, $R_L = 100\Omega$
Continuous DC Gate Trigger Voltage	$V_{GT}$	-	-	0.8	V	$V_{AK} = 7V$ DC, $R_L = 100\Omega$
DC Holding Current	$I_H$	-	-	5.0	mA	$R_{GK} = 1K\Omega$
Critical Rate-of-Rise of Off-State Voltage	$dv/dt$	-	8.0	-	$V/\mu S$	$R_{GK} = 1K\Omega$
Gate Controlled Turn-on Time( $t_{d+tr}$ )	$T_{gt}$	-	2.2	-	$\mu sec$	$I_{GT} = 10mA$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	-	3.0	-	$^{\circ}C/W$	-