DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

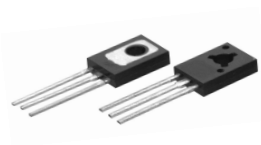
DCR106-3 THRU DCR106-8

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



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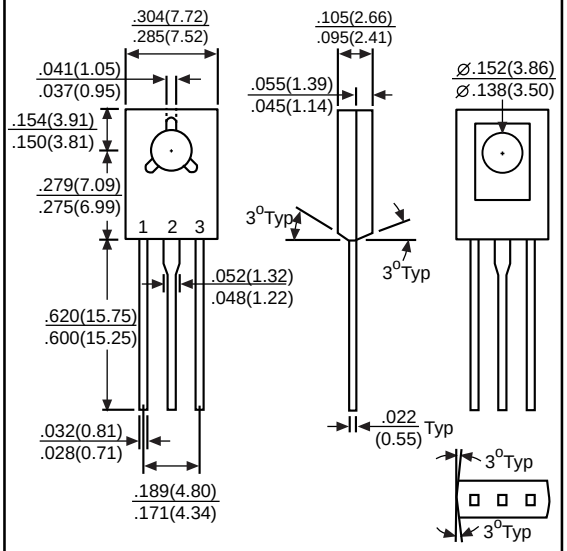

Dimensions in inches and (millimeters)

Pinning

1 = Cathode, 2 = Anode, 3 = Gate

Absolute Maximum Ratings(T_A=25°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}	100 200 400 600	V
On-State RMS Current (T_A=57°C, 180° 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	°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	T_J=25°C	I_{DRM}, I_{RRM}	-	-	10	μA	V_{AK}=Rated V_{DRM} or V_{RRM} R_{GK}=1KΩ
	T_J=110°C		-	-	200		
Peak Forward On-State Voltage		V_{TM}	-	-	2.0	V	I_{TM}=4A Peak
Continuous DC Gate Trigger Current		I_{GT}	-	-	200	μA	V_{AK}=7V DC, R_L=100Ω
Continuous DC Gate Trigger Voltage		V_{GT}	-	-	0.8	V	V_{AK}=7V DC, R_L=100Ω
DC Holding Current		I_H	-	-	5.0	mA	R_{GK}=1KΩ
Critical Rate-of-Rise of Off-State Voltage		dv/dt	-	8.0	-	V/μS	R_{GK}=1KΩ
Gate Controlled Turn-on Time(t_D+t_R)		T_{gt}	-	2.2	-	μsec	I_{GT}=10mA
Thermal Resistance, Junction to Case		$R_{\theta JC}$	-	3.0	-	°C/W	-