DCR55

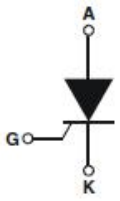
单向可控硅
THYRISTOR

版本号
201603-A

产品概述 GENERAL DESCRIPTION

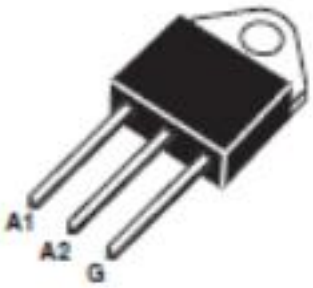
DCR55 单向可控硅采用穿通隔离台面结构，复合玻璃钝化PN结表面保护工艺技术，dv/dt高，可靠性高，适用于控温、调光、马达控制。

DCR55 Thyristor is fabricated using separation diffusion processes ,the junction termination areas are passivated with glass. Thanks to highly dv/dt and reliability,the Triacs series is suitable for domestic lighting ,heating and motor speed controllers.



主要参数 MAIN CHARACTERISTICS

参数 Parameter	数值 Value	单位 Unit
$I_{T(RMS)}$	55	A
V_{DRM}/V_{RRM}	800	V
I_{GT}	≤40	mA



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产品特性 FEATURES

- dv/dt高
- 通态压降低
- Rohs环保产品

- Highly dv/dt
- Low on-state voltage
- Rohs Products

应用领域 APPLICATIONS

主要应用于调光、控温、马达控制。

domestic lighting ,heating and motor speed controllers.

极限值(除非另有规定，Tj=25℃) ABSOLUTE RATINGS

(Tj=25℃,unless otherwise specified)

符号 Symbol	参数 Parameter		数值 Value	单位 Unit
$I_{T(RMS)}$	RMS 通态电流 RMS on-state current (full sine wave)	T_c=100℃	55	A
I_{TSM}	通态峰值浪涌电流 Non repetitive surge peak on-state current	F=50Hz ,t=10ms	550	A
I^2t	I^2t 耗散值 I^2t value for fusing	T_P=10ms	1750	A^2s
di/dt	通态电流上升值 Critical rate of rise of on-state current	F=60Hz,Tj=125℃	175	A/μs
I_{GM}	门极峰值电流 Peak gate current	TP=20μs,Tj=125℃	4	A
$P_{G(AV)}$	平均门极耗散功率 Average gate power dissipation	Tj=125℃	0.8	W
Tstg	贮存结温范围 Storage junction temperature range		-40-+150	℃
Tj	工作结温范围 Operating junction temperature range		-40-+150	℃

电参数(除非另有规定，Tj=25℃) ELECTRICAL CHARACTERISTICS

(Tj=25℃,unless otherwise specified)

参数 Parameter	符号 Symbol	规范值 Value	单位 Unit	测试条件 Test Conditions
触发电流 Gate trigger current	I_{GT}	≤40	mA	V_D=12V,I_T=0.1A
触发电压 Gate trigger voltage	V_{GT}	≤1.5	V	V_D=12V, I_T=0.1A
维持电流 Holding current	I_H	≤60	mA	V_D=12V,I_T=0.1A
擎住电流 Latching current	I_L	≤80	mA	V_D=12V,I_T=0.1A
电压上升率 Rise of off- state voltage	dv/dt	≥500	V/μS	V_D=67%V_{DRM}
通态压降 Peak on-state voltage	V_{TM}	≤1.8	V	I_T=110A
断态漏电流 Peak repetitive forward blocking current	I_{DRM}	≤10	μA	V_{RRM}=V_{DRM},Tj = 25°C
	I_{RRM}	≤3	mA	V_{RRM}=V_{DRM},Tj =125°C

热特性 THERMAL RESISTANCES

符号 Symbol	参数 Parameter	数值 Value	单位 Unit
Rth(j-c)	Junction to case(AC)	0.9	℃/W
Rth(j-a)	Junction to ambient	50	℃/W

特征曲线　ELECTRICAL CHARACTERISTICS (CURVES)

图1 最大耗散功率与平均通态电流关系
Fig.1.Maximum Power Dissipation Versus Average on-state current

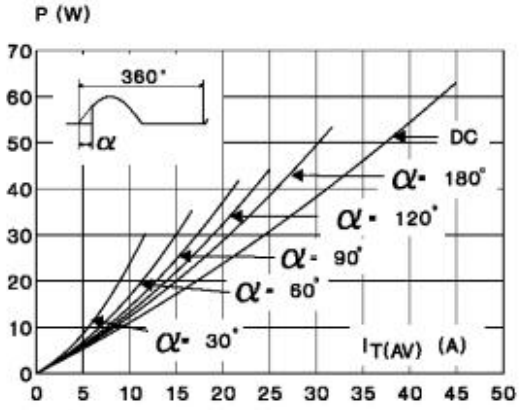


图2 平均通态电流与Tc温度关系
Fig.2. $I_{T(AV)}$ On-state Current Versus TL

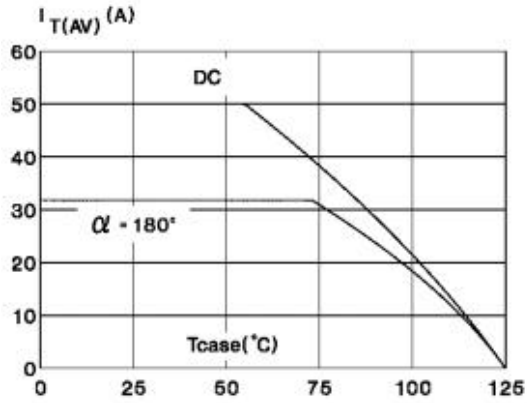


图3 通态特性
Fig.3.On-State Characteristics

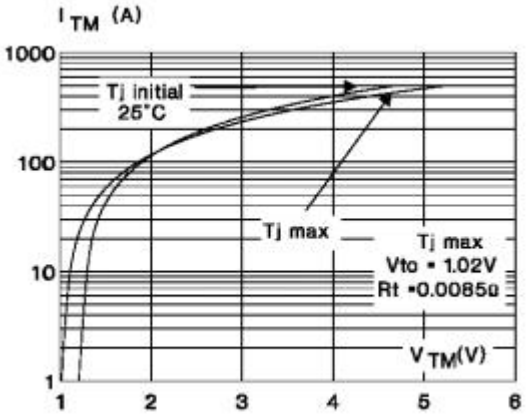


图4 通态浪涌峰值电流与周期数关系
Fig.4.Surge Peak On-state Current Versus Number Cycles

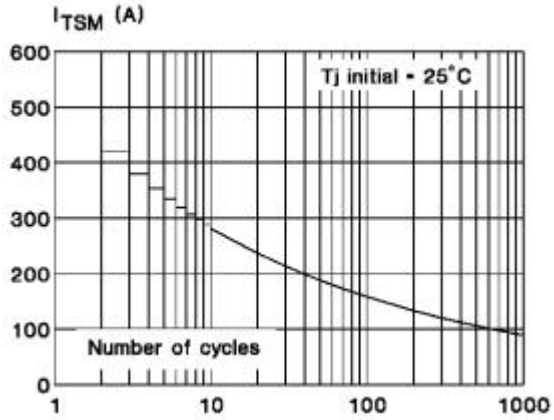
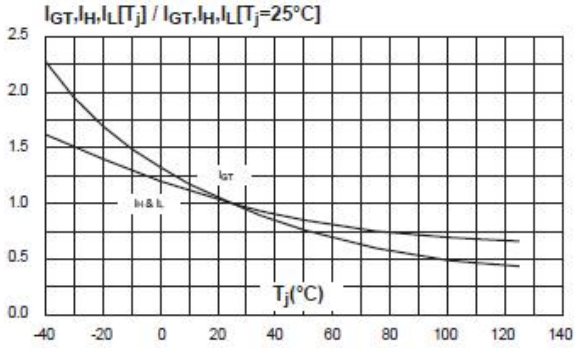


图5 I_{GT}、I_H、I_L相对值（相对于25℃）与结温关系
Fig.5.Relative Variation Of Gate Trigger Current , Holding Current And Latching Current Versus Junction Temperature (Typical Value)



封装尺寸　PACKAGE MECHANICAL DATA

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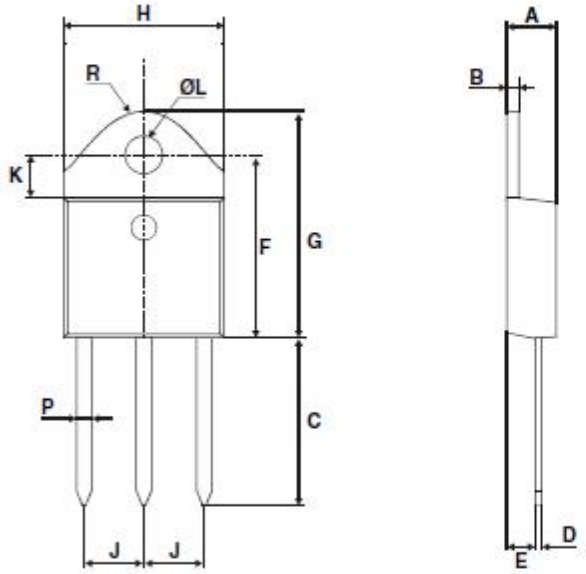

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.4	4.6	0.173	0.181
B	1.45	1.55	0.057	0.061
C	14.35	15.60	0.565	0.614
D	0.5	0.7	0.020	0.028
E	2.7	2.9	0.106	0.114
F	15.8	16.5	0.622	0.650
G	20.4	21.1	0.815	0.831
H	15.1	15.5	0.594	0.610
J	5.4	5.65	0.213	0.222
K	3.4	3.65	0.134	0.144
ØL	4.08	4.17	0.161	0.164
P	1.20	1.40	0.047	0.055
R	4.60 typ.		0.181 typ.	

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