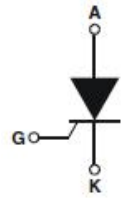
产品概述 GENERAL DESCRIPTION

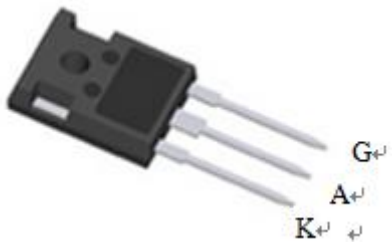
DCR50 单向可控硅采用穿通隔离台面结构，复合玻璃钝化PN结表面保护工艺技术，dv/dt高，可靠性高，适用于控温、调光、马达控制。

DCR50 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
$I_{T(RMS)}$	50	A
V_{DRM}/V_{RRM}	600/800/1000/1200/1600	V
I_{GT}	≤80	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℃	50	A
I_{TSM}	通态峰值浪涌电流 Non repetitive surge peak on-state current	F=50Hz ,t=10ms	525	A
I^2t	I^2t 耗散值 I^2t value for fusing	T_P=10ms	1250	A^2s
di/dt	通态电流上升值 Critical rate of rise of on-state current	F=60Hz,Tj=125℃	100	A/μs
I_{GM}	门极峰值电流 Peak gate current	TP=20μs,Tj=125℃	8	A
$P_{G(AV)}$	平均门极耗散功率 Average gate power dissipation	Tj=125℃	1	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}	≤80	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	≤150	mA	V_D=12V,I_T=0.1A
擎住电流 Latching current	I_L	≤90	mA	V_D=12V,I_T=0.1A
电压上升率 Rise of off- state voltage	dv/dt	≥400	V/μS	V_D=67%V_{DRM}
通态压降 Peak on-state voltage	V_{TM}	≤1.7	V	I_T=80A
断态漏电流 Peak repetitive forward blocking current	I_{DRM}	≤10	μA	V_{RRM}=V_{DRM},Tj = 25°C
	I_{RRM}	≤4	mA	V_{RRM}=V_{DRM},Tj =150°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)	0.6	℃/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

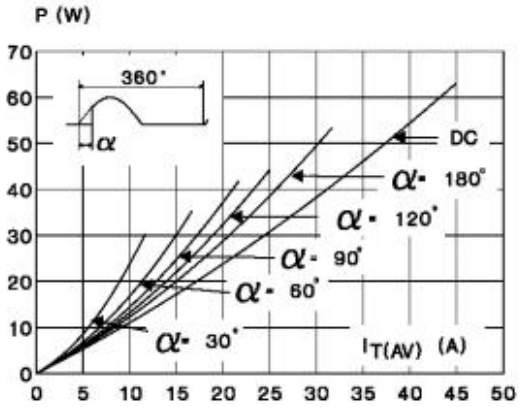


图2 RMS通态电流与Tc温度关系

Fig.2. $I_{T(RMS)}$ On-state Current Versus TL

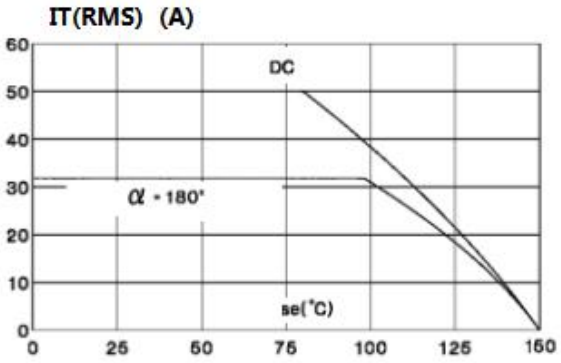


图3 通态特性

Fig.3.On-State Characteristics

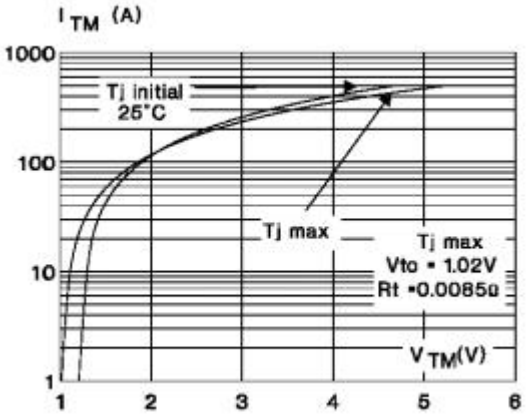


图4 通态浪涌峰值电流与周期数关系

Fig.4.Surge Peak On-state Current Versus Number Cycles

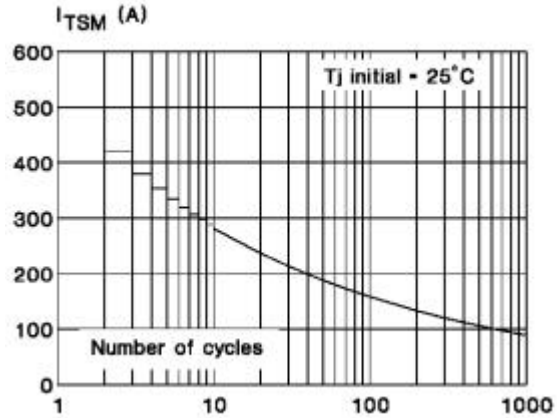
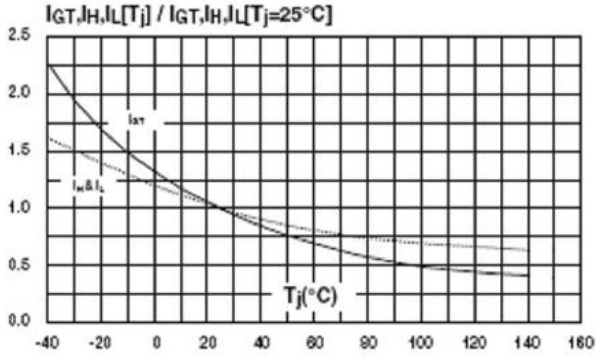


图5 I_{GT}、I_H、I_L相对值（相对于25℃）与结温关系

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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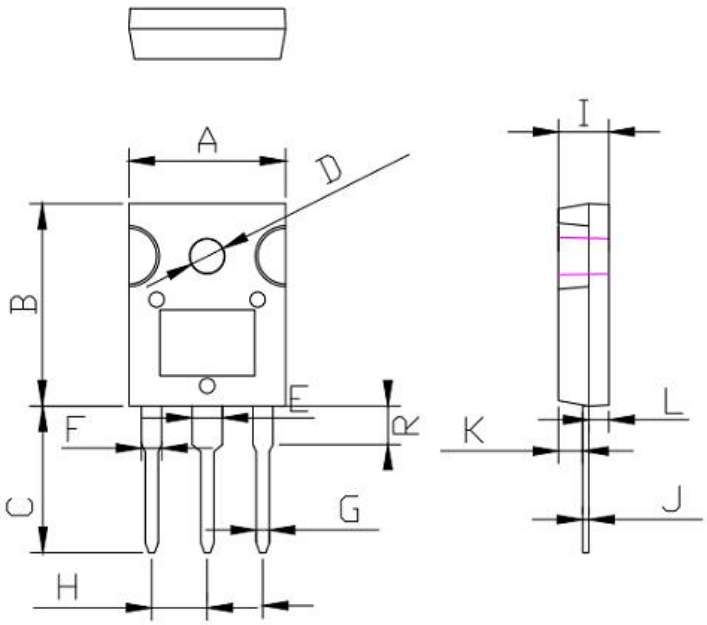

项目	mm		
	标准值	Min	Max
A	15.5	15.45	15.55
B	20	19.9	20.1
C	14.5	14.4	14.6
D	3.5	3.3	3.6
E	3	2.95	3.05
F	2	1.95	2.05
G	1.3	1.2	1.4
H	5.5	5.4	5.6
I	5	4.95	5.05
J	0.6	0.58	0.62
K	2.4	2.3	2.5
L	2	1.9	2.1
R	3.8	3.6	4