Z01

双向可控硅
TRIAC

版本号
201603-A

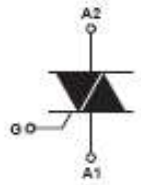
产品概述 GENERAL DESCRIPTION

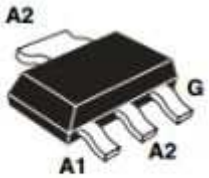
Z01 双向可控硅采用穿通隔离台面结构，复合玻璃钝化PN结表面保护工艺技术，dv/dt高，可靠性高，适用于控温、调光、马达控制。

Z01 Triacs 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
$I_{T(RMS)}$	1	A
V_{DRM}/V_{RRM}	600	V
$I_{GT(IV)}$	≤7	mA





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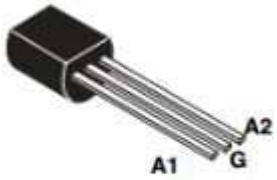
Z01xxN



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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=90℃	1	A
I_{TSM}	通态峰值浪涌电流 Non repetitive surge peak on-state current	F=50Hz ,t=20ms	12.5	A
I^2t	I^2t 耗散值 I^2t value for fusing	T_P=10ms	0.78	A^2s
di/dt	通态电流上升值 Critical rate of rise of on-state current	F=120Hz,Tj=125℃	50	A/μs
I_{GM}	门极峰值电流 Peak gate current	TP=20μs,Tj=125℃	2	A
$P_{G(AV)}$	平均门极耗散功率 Average gate power dissipation	Tj=125℃	0.1	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-+125	℃

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

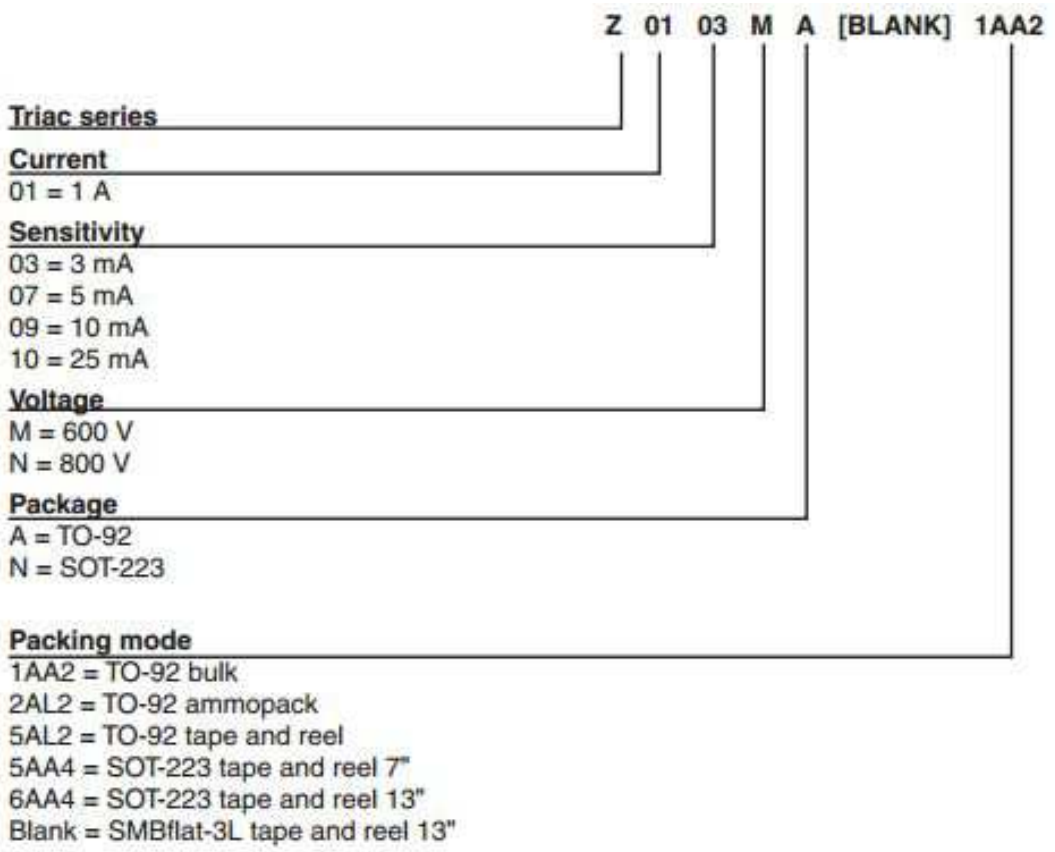
(Tj=25℃,unless otherwise specified)

参数 Parameter	符号 Symbol		规范值 Value Z01				单位 Unit	测试条件 Test Conditions
			03	07	09	10		
触发电流 Gate trigger current	I_{GT}	Ⅰ～Ⅲ	3	5	10	25	mA	V_D=12V,I_T=0.1A
		Ⅳ	5	7	10	25		
触发电压 Gate trigger voltage	V_{GT}	Ⅰ～Ⅳ	≤1.5				V	V_D=12V, I_T=0.1A
维持电流 Holding current	I_H		7	10	10	25	mA	V_D=12V,I_T=0.1A
擎住电流 Latching current	I_L	Ⅰ、Ⅲ	7	10	10	25	mA	V_D=12V,I_T=0.1A
		Ⅱ、Ⅳ	15	20	25	50		
电压上升率 Rise of off- state voltage	dv/dt		10	20	50	100	V/μS	V_D=67%V_{DRM}
通态压降 Peak on-state voltage	V_{TM}		≤1.5				V	I_T=2.0A
断态漏电流 Peak repetitive forward blocking current	I_{DRM}		≤5				μA	V_{RRM}=V_{DRM},Tj = 25°C
	I_{RRM}		≤0.5				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)	TO-92	60	K/W
		SOT-223	25	
Rth(j-a)	Junction to ambient	TO-92	150	K/W
		SOT-223	60	

ORDERING INFORMATION



特征曲线　ELECTRICAL CHARACTERISTICS (CURVES)

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

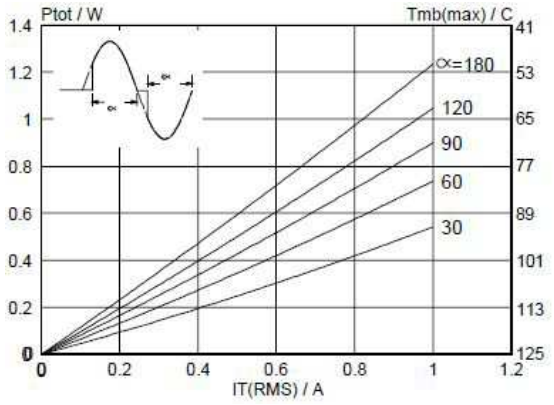


图2 RMS通态电流与Tc温度关系
Fig.2. RMS On-state Current Versus TL

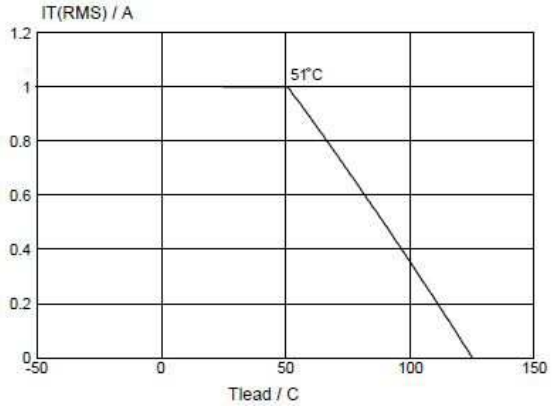


图3 通态特性
Fig.3.On-State Characteristics

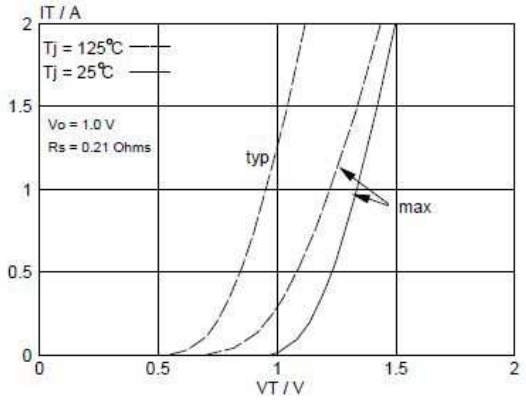


图4 通态浪涌峰值电流与周期数关系
Fig.4.Surge Peak On-state Current Versus Number Cycles

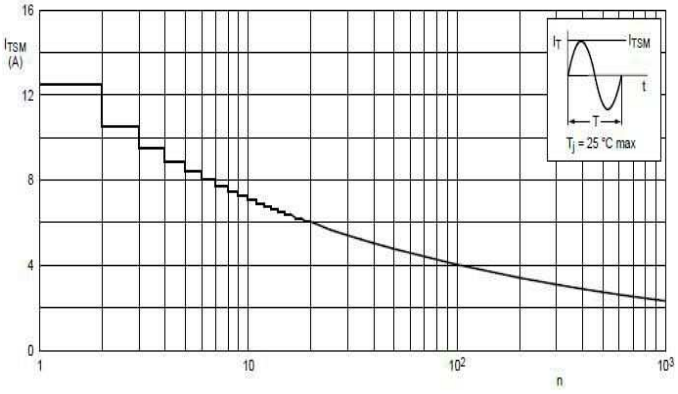
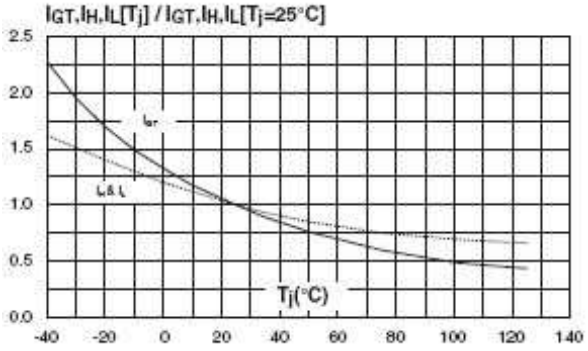


图5 IGT、IH、IL相对值（相对于25℃）与结温关系
Fig.5.Relative Variation Of Gate Trigger Current , Holding Current And Latching Current Versus Junction Temperature (Typical Value)



封装尺寸　PACKAGE MECHANICAL DATA

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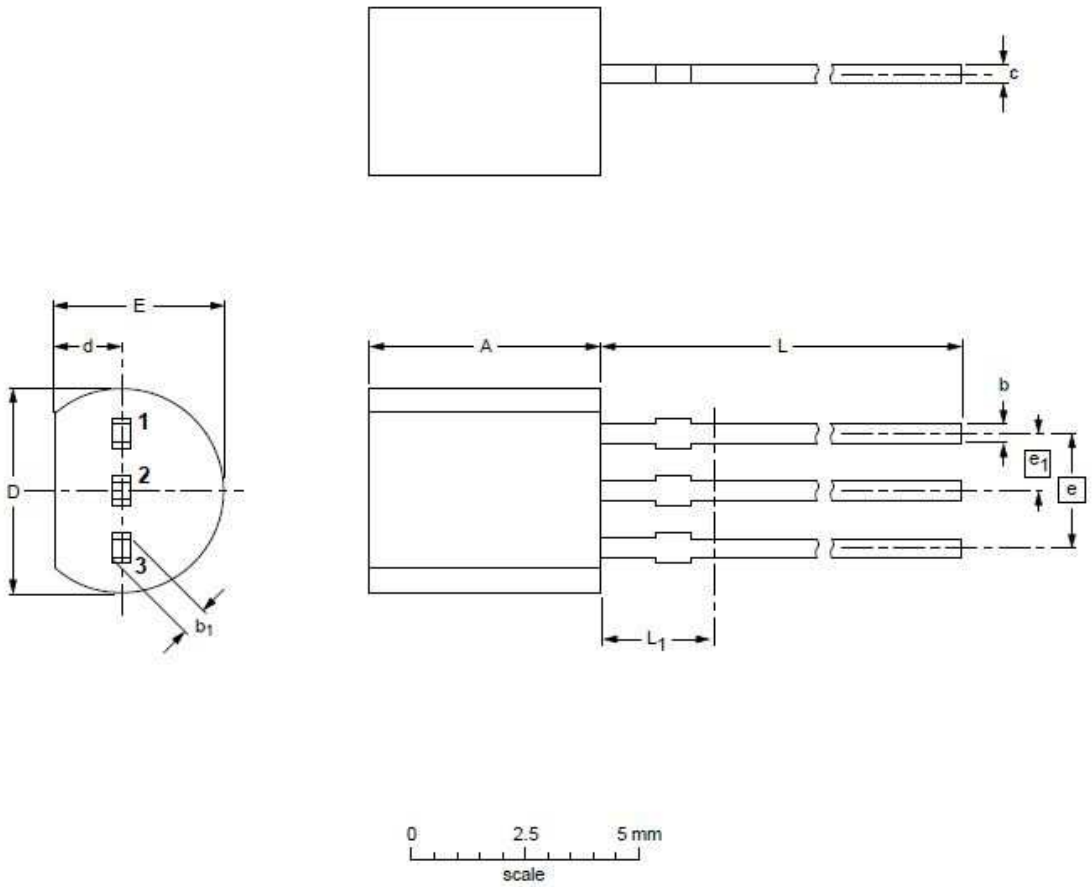

DIMENSIONS (mm are the original dimensions)

UNIT	A	b	b_1	c	D	d	E	e	e_1	L	L_1(1) max.
mm	5.2 5.0	0.48 0.40	0.66 0.55	0.45 0.38	4.8 4.4	1.7 1.4	4.2 3.6	2.54	1.27	14.5 12.7	2.5

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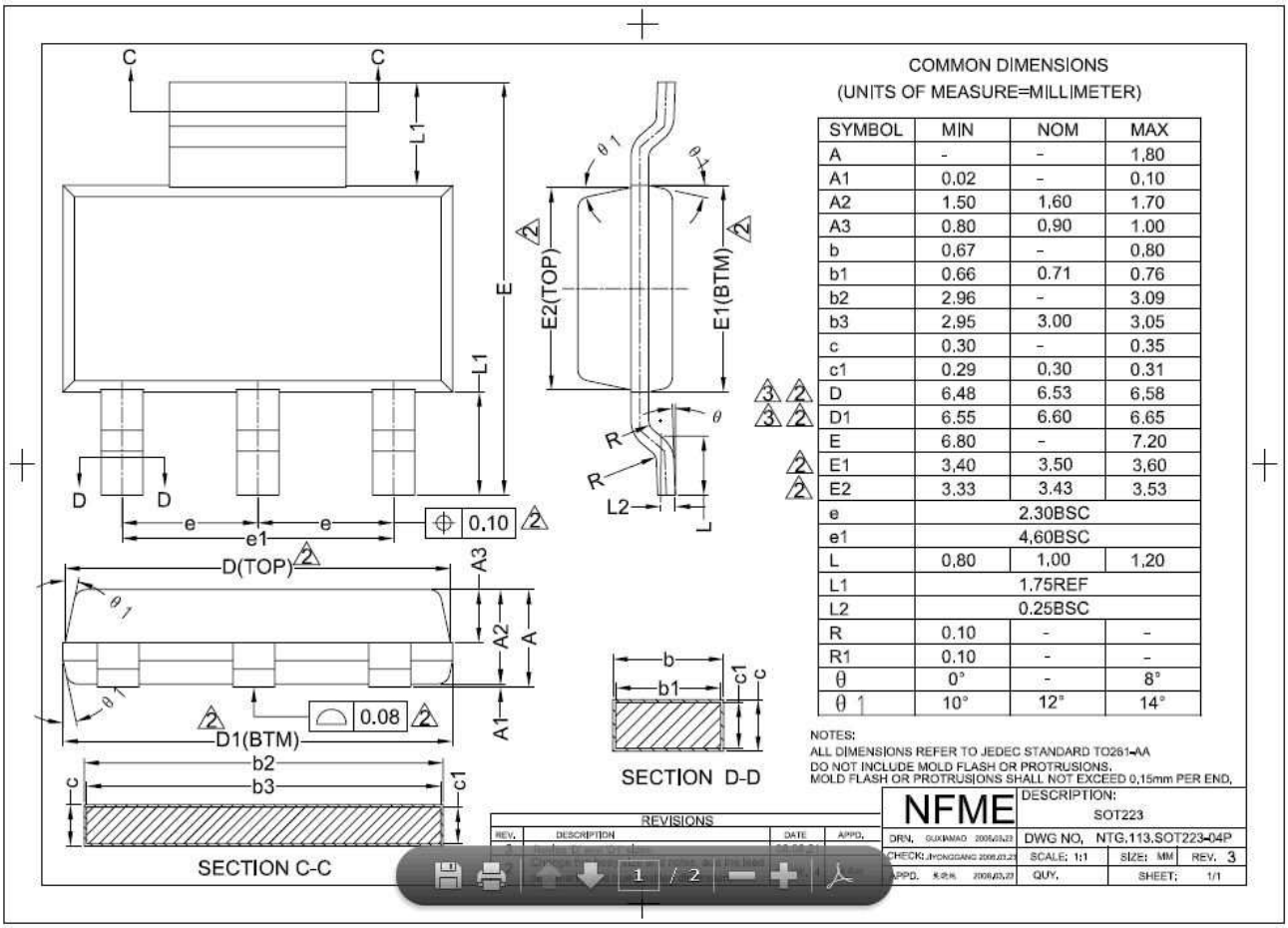

SYMBOL	MIN	NOM	MAX
A	-	-	1,80
A1	0,02	-	0,10
A2	1.50	1,60	1.70
A3	0.80	0,90	1.00
b	0,67	-	0,80
b1	0,66	0.71	0,76
b2	2,96	-	3.09
b3	2,95	3.00	3,05
c	0,30	-	0,35
c1	0.29	0,30	0.31
D	6,48	6,53	6,58
D1	6.55	6.60	6.65
E	6.80	-	7.20
E1	3,40	3.50	3,60
E2	3,33	3.43	3,53
e	2.30BSC		
e1	4,60BSC		
L	0,80	1,00	1,20
L1	1.75REF		
L2	0.25BSC		
R	0.10	-	-
R1	0.10	-	-
θ	0°	-	8°
θ 1	10°	12°	14°