

## TYN640

单向可控硅  
THYRISTOR

版本号  
201603-A

### 产品概述 GENERAL DESCRIPTION

TYN640 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。

TYN640 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.

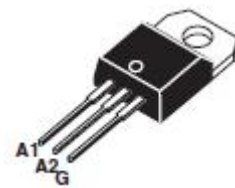
### 主要参数 MAIN CHARACTERISTICS

参数 Parameter	数值 Value	单位 Unit
$I_{T(RMS)}$	40	A
$V_{DRM}/V_{RRM}$	600	V
$I_{GT}$	40	mA



### 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



TO-220B

### 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, T<sub>j</sub>=25°C) ABSOLUTE RATINGS**

 (T<sub>j</sub>=25°C, unless otherwise specified)

符号 Symbol	参数 Parameter	数值 Value	单位 Unit
I <sub>T(RMS)</sub>	RMS 通态电流 RMS on-state current (full sine wave)	T <sub>C</sub> =100°C 40	A
I <sub>T(av)</sub>	额定通态电流 Average on-state current(180° conduction angle)	T <sub>C</sub> =100°C 25	A
I <sub>TSM</sub>	通态峰值浪涌电流 Non repetitive surge peak on-state current	F=50Hz, t=10ms 460	A
I <sup>2</sup> t	I <sup>2</sup> t 耗散值 I <sup>2</sup> t value for fusing	T <sub>P</sub> =10ms 960	A <sup>2</sup> s
di/dt	通态电流上升值 Critical rate of rise of on-state current	F=120Hz, T <sub>j</sub> =125°C 50	A/μs
I <sub>GM</sub>	门极峰值电流 Peak gate current	T <sub>P</sub> =20μs, T <sub>j</sub> =125°C 4	A
P <sub>G(AV)</sub>	平均门极耗散功率 Average gate power dissipation	T <sub>j</sub> =125°C 1	W
T <sub>stg</sub>	贮存结温范围 Storage junction temperature range	-40+150	°C
T <sub>j</sub>	工作结温范围 Operating junction temperature range	-40+150	°C

**电参数(除非另有规定, T<sub>j</sub>=25°C) ELECTRICAL CHARACTERISTICS**

 (T<sub>j</sub>=25°C, unless otherwise specified)

参数 Parameter	符号 Symbol	规范值 Value			单位 Unit	测试条件 Test Conditions
		Min	Typ	Max		
触发电流 Gate trigger current	I <sub>GT</sub>	2	-	40	mA	V <sub>D</sub> =12V, I <sub>T</sub> =0.1A
触发电压 Gate trigger voltage	V <sub>GT</sub>	-	-	1.5	V	V <sub>D</sub> =12V, I <sub>T</sub> =0.1A
维持电流 Holding current	I <sub>H</sub>	-	-	75	mA	V <sub>D</sub> =12V, I <sub>T</sub> =0.1A
电压上升率 Rise of off- state voltage	dv/dt	500	-	-	V/μS	V <sub>D</sub> =67%V <sub>DRM</sub>
通态压降 Peak on-state voltage	V <sub>TM</sub>	-	-	1.7	V	I <sub>T</sub> =50A
断态漏电流 Peak repetitive forward blocking current	I <sub>DRM</sub>	-	-	10	μA	V <sub>RRM</sub> =V <sub>DRM</sub> , T <sub>j</sub> = 25°C
	I <sub>RRM</sub>	-	-	4	mA	V <sub>RRM</sub> =V <sub>DRM</sub> , T <sub>j</sub> = 150°C

**热特性 THERMAL RESISTANCES**

符号 Symbol	参数 Parameter	数值 Value	单位 Unit
R <sub>th(j-c)</sub>	Junction to case(AC)	1.0	°C/W
R <sub>th(j-a)</sub>	Junction to ambient	60	°C/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

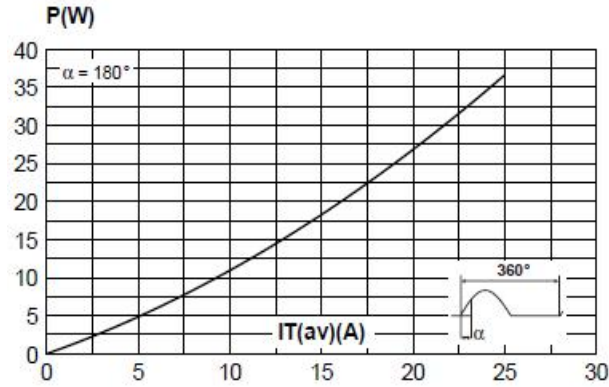


图3 通态特性

Fig.3.On-State Characteristics

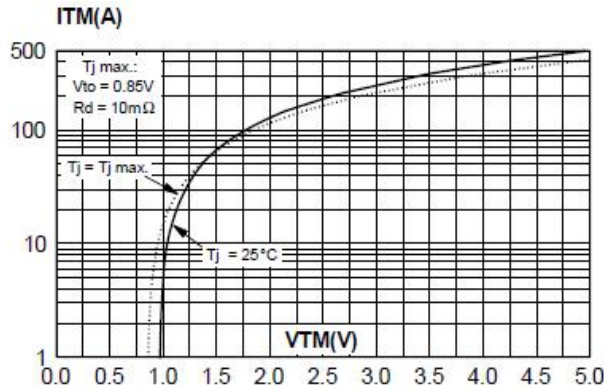


图2 额定通态电流与Tc温度关系

Fig.2. IT(RMS) On-state Current Versus TL

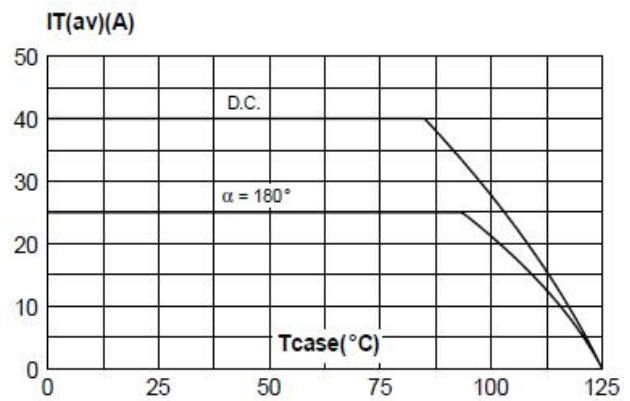


图4 通态浪涌峰值电流与周期数关系

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

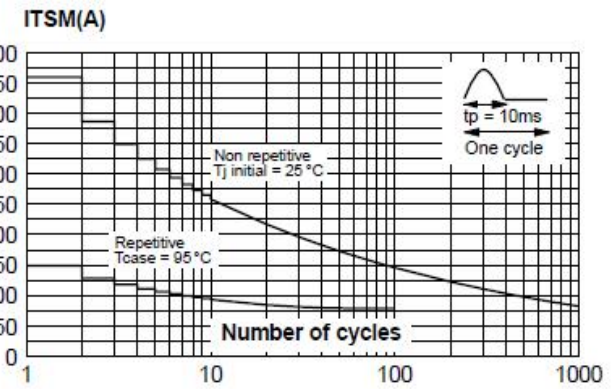
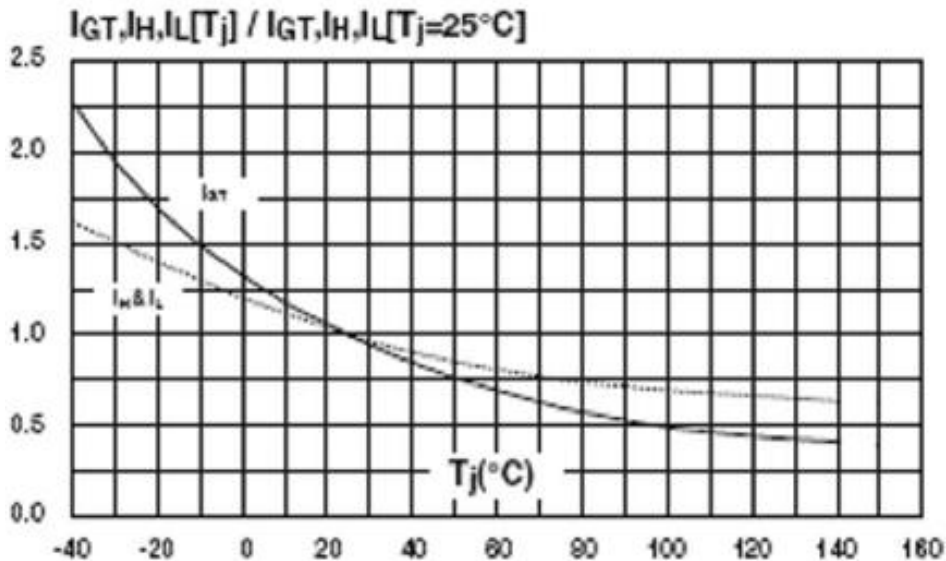


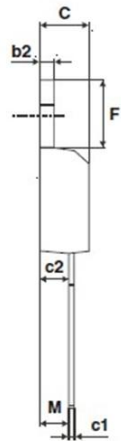
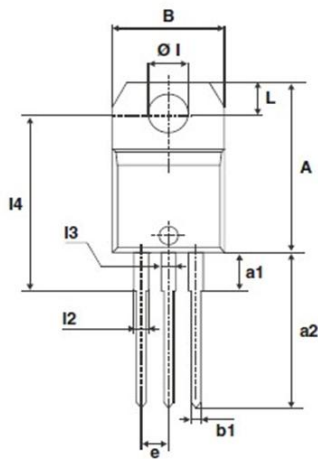
图5 IGT、IH、IL相对值（相对于25°C）与结温关系

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

TO-220B



	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.20		15.90	0.598		0.625
a1		3.75			0.147	
a2	13.00		14.00	0.511		0.551
B	10.00		10.40	0.393		0.409
b1	0.61		0.88	0.024		0.034
b2	1.23		1.32	0.048		0.051
C	4.40		4.60	0.173		0.181
c1	0.49		0.70	0.019		0.027
c2	2.40		2.72	0.094		0.107
e	2.40		2.70	0.094		0.106
F	6.20		6.60	0.244		0.259
ØI	3.75		3.85	0.147		0.151
I4	15.80	16.40	16.80	0.622	0.646	0.661
L	2.65		2.95	0.104		0.116
I2	1.14		1.70	0.044		0.066
I3	1.14		1.70	0.044		0.066
M		2.60			0.102	

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