RFV	2
	~

1	/6

Symbol	Parameter			Value	Unit
I _{T(RMS)}	RMS on-state current (180° conduction angle)Tc = 110°C		6	А	
IT _(AV)	Average on-state current (180° conduct	ion angle)	T _c = 110°C	3.8	Α
L	Non repetitive surge peak on-state	t _p = 8.3 ms	T 05%0	73	۸
I _{TSM}	current	$T_j = 25^{\circ}C$	70	A	
l²t	I ² t Value for fusing			24.5	A ² s
dl/dt	dt Critical rate of rise of on-state current $I_G = 100 \text{ mA}$, $dI_G/dt = 0.1 \text{ A/}\mu\text{s}$ $T_j = 125^\circ$		T _j = 125°C	50	A/µs
I _{GM}	Peak gate current	eak gate current $t_p = 20 \ \mu s$		4	А
$P_{G(AV)}$	Average gate power dissipation		T _j = 125°C	1	W
P_{GM}	Maximum gate power	t _p = 20 μs	T _j = 125°C	10	W
V_{DRM}	Repetitive peak off-state voltage	TYN606	T _i = 125°C	600	V
V _{RRM}	Tepetitive peak on-state voltage	TYN1006	1, - 120 0	1000	v
T _{stg} T _j				- 40 to + 150 - 40 to + 125	°C
T	•				°C

DESCRIPTION

The TYN606 and TYN1006 family of Silicon passivated technology.

Value

6

600 and 1000

15

Unit

А

V

mΑ

Controlled Rectifiers are high performance glass

This general purpose Family of Silicon Controlled Rectifiers is designed for power supply up to 400Hz on resistive or inductive load.

V_{DRM}/V_{RRM} I_{GT}

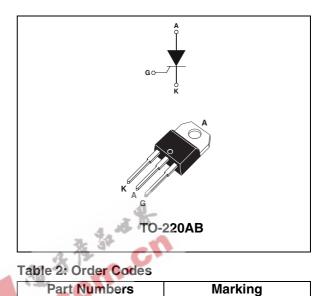
Table 1: Main Features

Symbol

I_{T(RMS)}

STANDARD





TYN606RG

TYN1006RG

6A SCRs

TYN606

TYN1006

TYN606

TYN1006

TYN606 / TYN1006

Symbol	Test Conditions			Value	Unit
I _{GT}	$V_{\rm D} = 12 \text{V} (\text{D.C.}) \text{R}_{\rm I} = 33 \Omega$		MAX.	15	mA
V _{GT}	$v_{\rm D} = 12 v (D.0.) n_{\rm L} = 33 32$		MAX.	1.5	V
V_{GD}	$V_D = V_{DRM}$ $R_L = 3.3 \text{ k}\Omega$	$V_D = V_{DRM}$ $R_L = 3.3 \text{ k}\Omega$ $T_j = 110^{\circ}\text{C}$		0.2	V
t _{gt}	$V_D = V_{DRM}$ $I_G = 40$ mA $dI_G/dt = 0.5$ A/µs	1	TYP.	2	μs
Ι _Η	I _T = 100 mA Gate open		MAX.	30	mA
١L	$I_{G} = 1.2 \times I_{GT}$		TYP.	50	mA
dV/dt	Linear slope up to: $V_D = 67 \% V_{DRM}$ Gate open	T _j = 110°C	MIN.	200	V/µs
V_{TM}	I _{TM} = 12 A tp = 380 μs	1	MAX.	1.6	V
I _{DRM}	Varia - Varia	$T_j = 25^{\circ}C$	MAX.	10	μA
I _{RRM}	$V_{DRM} = V_{RRM}$	T _j = 110°C		2	mA
t _q		T _j = 110°C	TYP.	70	μs
Гable 5: Т	hermal Resistance	233	Sa Stra		-

Tables 4: Electrical Characteristics ($T_i = 25^{\circ}C$, unless otherwise specified)

Table 5: Thermal Resistance

Symbol	Parameter	Value	Unit
R _{th(j-c)}	Junction to case (D.C.)	2.5	°C/W
R _{th(j-a)}	Junction to ambient	60	°C/W

Figure 1: Maximum average power dissipation versus average on-state current

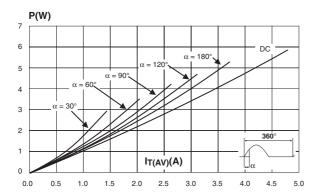
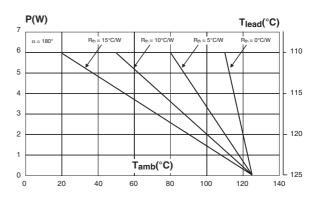


Figure 2: Correlation between maximum average power dissipation and maximum allowable temperature (T_{amb} and T_{lead})



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Figure 3: Average on-state current versus case temperature

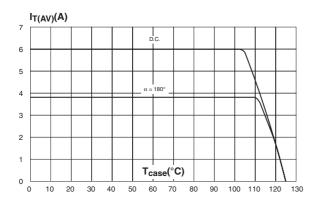


Figure 5: Relative variation of gate trigger current versus junction temperature

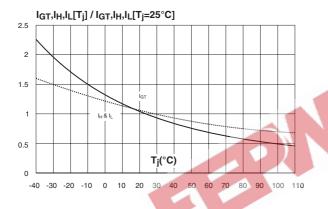


Figure 7: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10 ms, and corresponding values of l²t

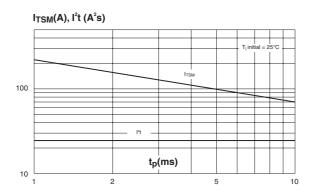


Figure 4: Relative variation of thermal impedance versus pulse duration

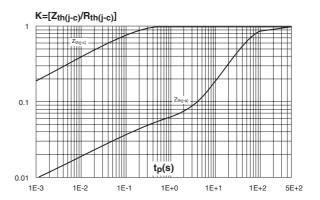
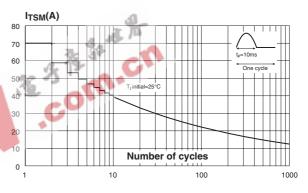
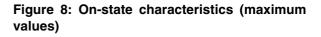
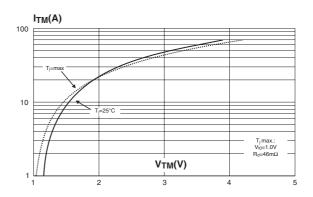


Figure 6: Surge peak on-state current versus number of cycles







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TYN606 / TYN1006

Figure 9: Ordering Information Scheme

	TYN 6 06 RG
S	tandard SCR series
-	toltage 6 = 600V 0 = 100V
	6 = 6A
	acking mode IG = Tube

Table 6: Product Selector

Part Numbers	Voltag	je (xx)	Sensitivity	Package
Fait Numbers	600 V	1000 V	Sensitivity	rackaye
TYN606RG	Х		15 mA	TO-220AB
TYN1006RG		Х	15 mA	TO-220AB

Figure 10: TO-220AB Package Mechanical Data

				6	0			
				10 ALCON	1	SIONS		
		REF.	Mi	illimete	rs		Inches	
в	с		Min.	Тур.	Max.	Min.	Тур.	Max.
←	<u>←</u> .	A	15.20		15.90	0.598		0.625
ØI	b2	a1	~0	3.75			0.147	
	F	a2	13.00		14.00	0.511		0.551
		В	10.00		10.40	0.393		0.409
A		b1	0.61		0.88	0.024		0.034
14		b2	1.23		1.32	0.048		0.051
3_ .⊕-		С	4.40		4.60	0.173		0.181
	c2	c1	0.49		0.70	0.019		0.027
		c2	2.40		2.72	0.094		0.107
		е	2.40		2.70	0.094		0.106
		F	6.20		6.60	0.244		0.259
	M	ØI	3.75		3.85	0.147		0.151
→ ^{→+} ← b1	•→ <u>c1</u>	14	15.80	16.40	16.80	0.622	0.646	0.661
e		L	2.65		2.95	0.104		0.116
		12	1.14		1.70	0.044		0.066
		13	1.14		1.70	0.044		0.066
		М		2.60			0.102	

In order to meet environmental requirements, ST offers these devices in ECOPACK® packages. These packages have a Lead-free second level interconnect. The category of second level interconnect is marked on the package and on the inner box label, in compliance with JEDEC Standard JESD97. The maximum ratings related to soldering conditions are also marked on the inner box label. ECOPACK is an ST trademark. ECOPACK specifications are available at: <u>www.st.com</u>.

Table 7: Ordering Information

Ordering type	Marking	Package	Weight	Base qty	Delivery mode
TYN606RG	TYN606	TO-220AB	2.3 g	50	Tube
TYN1006RG	TYN1006	10 22000	2.0 g	50	1 abe

Table 8: Revision History

Date	Revision	Description of Changes
Sep-2001	1A	First issue.
13-Feb-2006	2	TO-220AB delivery mode changed from bulk to tube. ECOPACK statement added.







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