■ DESCRIPTION:

With high ability to withstand the shock loading oflarge current，TYN1225C SCR provides high dV/dtrate with strong resistance to electromagneticinterference，It is especially recommended for useon solid state relay，motorcycle，power charger，T-tools etc，Package TO-220C is RoHS compliant.

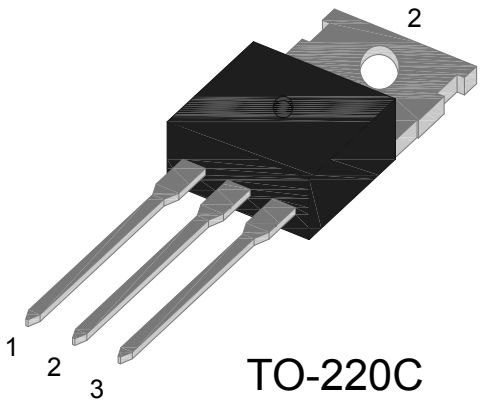
■ Product Model Reference & Naming

25A	产品型号列表、对应封装、型号对照电压值					I_{GT}
	封装标识	600V	800V	1000V	1200V	
TO-220C	C	TYN625C	TYN825C	TYN1025C	TYN1225C	≤40mA
Remarks		标准品种	高压品种	特制高压	特制高压	

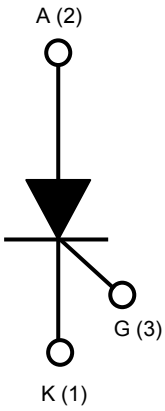
■ PINNING: Insulated Package

Pin in Symbol and Description			
1	K	Cathode	阴极
2	A	Anode	阳极
3	G	Gate	门-控制极
4		Tab	散热片

Pin Polarity Circuit Diagram 脚位与极性 电路符号表示



TO-220C



H	TYN	12	25	C
↓	↓	↓	↓	↓
厂商	品种表示	电压表示	电流表示	封闭表示
HAOHAI	SCR	1200V	25A	TO-220C

■ABSOLUTE RATINGs (Limiting Values)

SYMBOL	Paramenter & Test Conditions		Value	Unit
$I_{T(RMS)}$	RMS on-state current	T_C≤85℃	25	A
I_{TSM}	Non repetitive surge peak on-state current	tp=10mS，T_J=25℃	320	
		tp=8.3mS，T_J=25℃	352	
$I_{T(AV)}$	Average on-state current	T_C≤85℃	16	
I_{GM}	Peak gate current	tp=20μS，T_J=125℃	5	
I^2t	I^2t value for fusing	tp=10mS，T_J=25℃	512	A^2s
P_{GM}	Peak gate power	T_J=125℃	20	W
$P_{G(AV)}$	Average gate power dissipation	T_J=125℃	1	
V_{DRM}	Repetitive peak off-state voltage	T_J=25℃	1200	V
V_{RRM}	Repetitive peak reverse voltage	T_J=25℃		
dI/dt	Critical rate of rise of on-state current	I_G=2×I_{GT}，f=100Hz，T_J=125℃	200	A/μs
V_{PP}	Peak pulse voltage（T_J=25℃，non-repetitive，off-state，FIG.7）		1	kV
T_j	Operating Junction Temperature Range		-40~+125	℃
T_{stg}	Storage Temperature Range		-40~+150	

■ ELECTRICAL CHARACTERISTICs (Tj=25℃ Unless Otherwise Noted)

SYMBOL	Paramenter & Test Conditions	Min	Typ	Max	Unit
I_{GT}	V_D=12V, R_L=33Ω	--	--	40	mA
I_H	Holding Current（I_T=500mA）	--	--	80	
I_L	I_G=1.2 I_{GT}	--	--	90	
V_{GT}	V_D=12V, R_L=33Ω	--	--	1	V
V_{GD}	V_D=V_{DRM}, T_j=125℃, R_L=3.3KΩ	0.2	--	--	
dV/dt	V_D=800V, Gate Open T_J=125℃	1000	--	--	V/μs
t_{on}	I_G=50mA，I_A=500mA，I_R=50mA，T_J=25℃	--	5	--	μS
t_{off}		--	70	--	

■ STATIC CHARACTERISTICS

SYMBOL	Paramenter & Test Conditions		Max	Unit
V_{TM}	I_{TM}=50A, tp=380μs	T_J=25℃	1.55	V
V_{TO}	Threshold voltage	T_J=125℃	0.74	
R_D	Dynamic resistance	T_J=125℃	19	mΩ
I_{DRM}	V_D=V_{DRM}, V_R=V_{RRM}	T_J=25℃	7	μA
I_{RRM}	V_D=V_{DRM}, V_R=V_{RRM}	T_J=125℃	2	mA

■ THERMAL RESISTANCES

SYMBOL	Paramenter	Value	Unit
$R_{th(j-c)}$	Junction to case（DC）	0.9	℃/W
$R_{th(j-a)}$	Junction to ambient（DC）	45	

Voltage Current Characteristic of SCR

FIG-1: Maximum power dissipation versus RMS on-state current

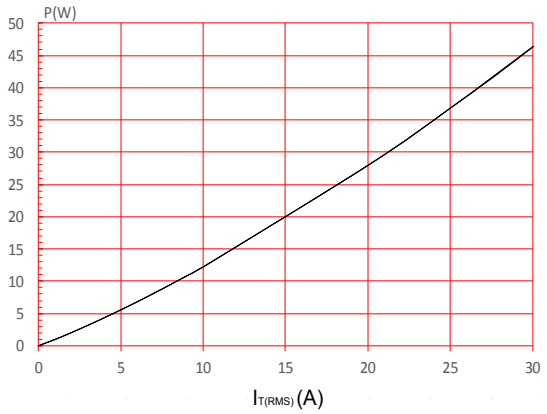


FIG-2: RMS on-state current versus case temperature

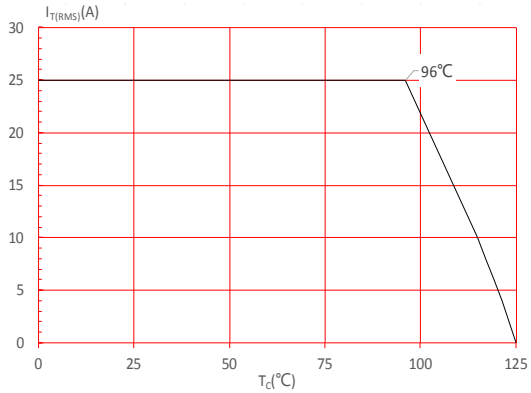


FIG-3: Surge peak on-state current versus number of cycles

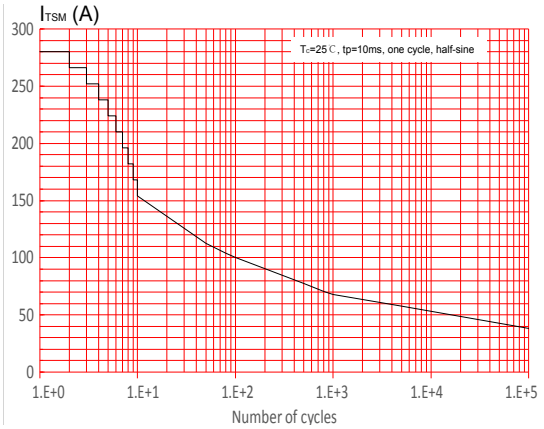


FIG-4: On-state characteristics

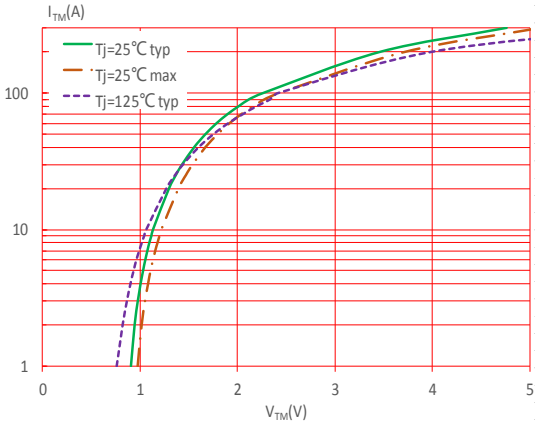


FIG-5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms, and corresponding value of I^2t(dI/dt<200A/μs)

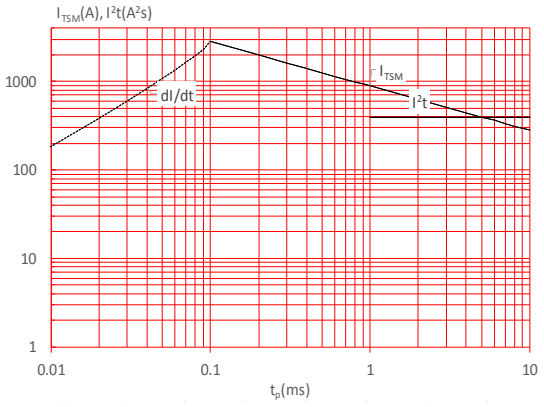


FIG-6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

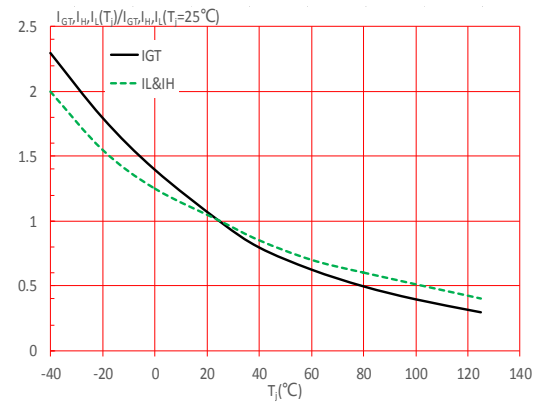
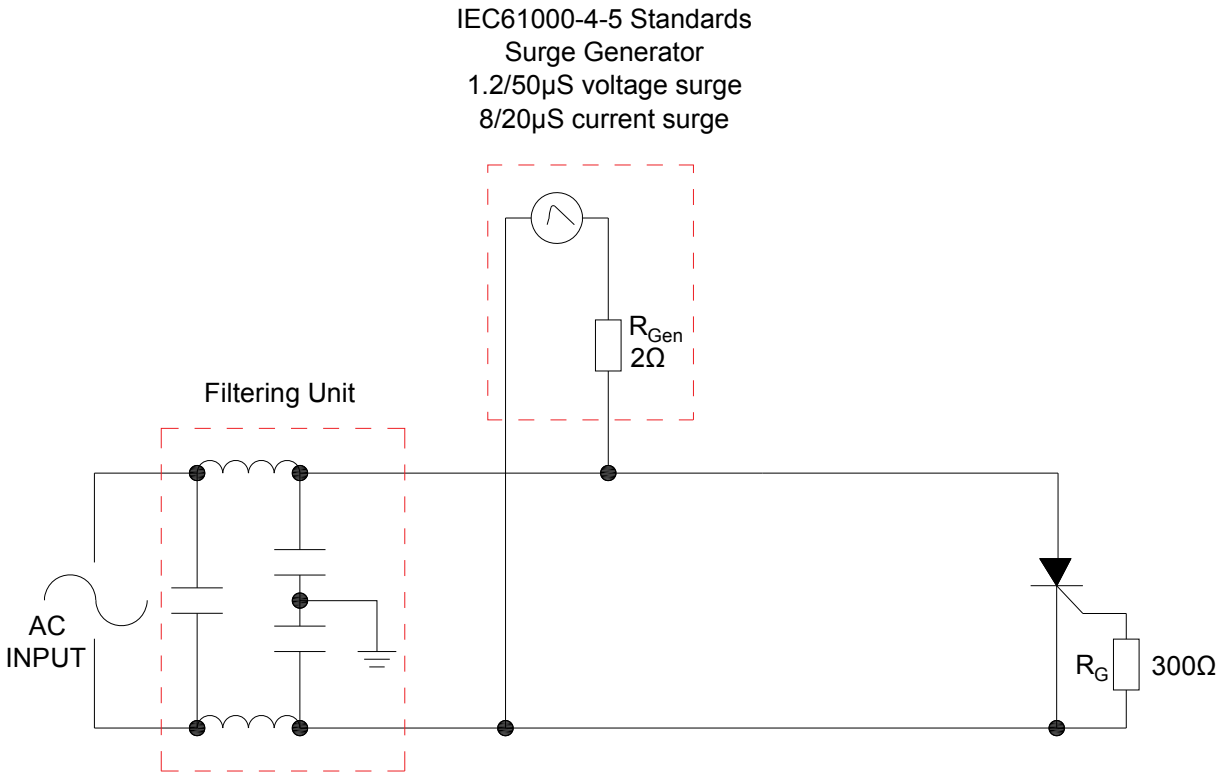
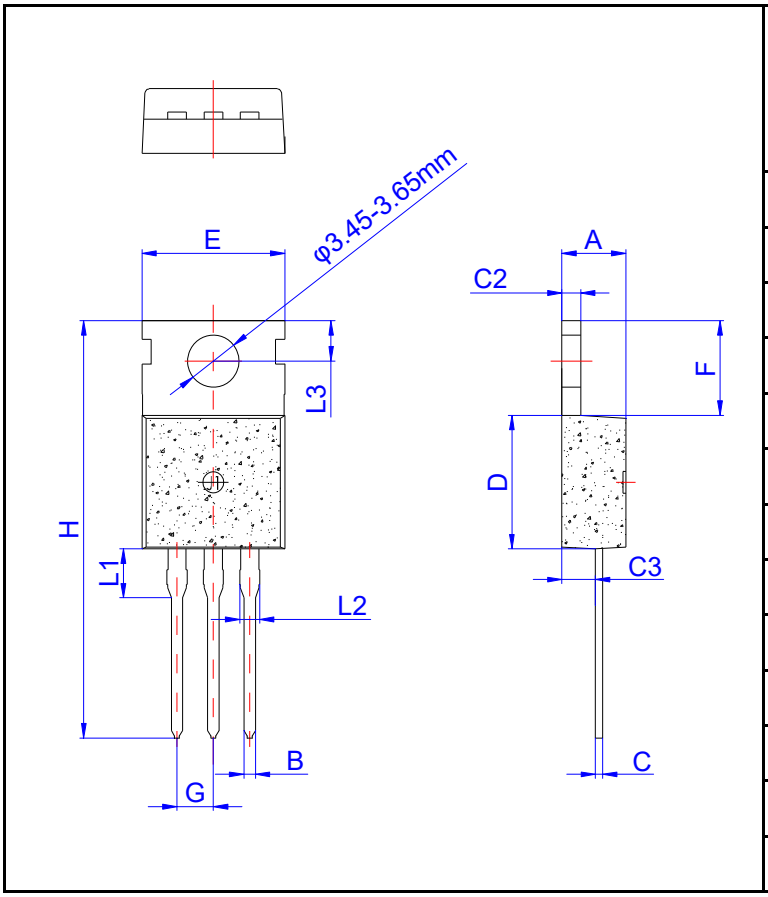


FIG.7：Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.

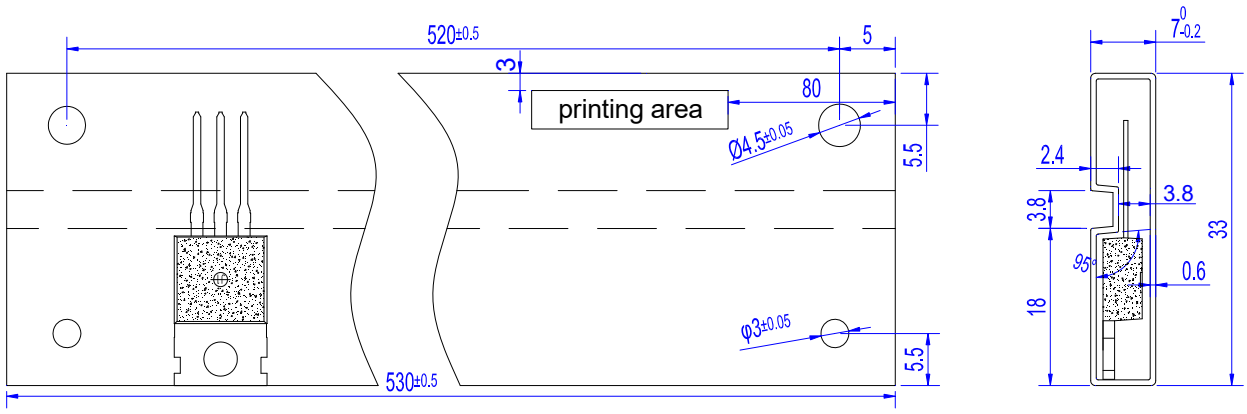


TO-220C PACKAGE MECHANICAL DATA （mm & inch）



REF	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.40	4.60	0.173	0.181
B	0.70	0.90	0.028	0.035
C	0.45	0.60	0.018	0.024
C2	1.25	1.35	0.049	0.053
C3	2.20	2.60	0.087	0.102
D	8.90	9.90	0.350	0.390
E	9.90	10.3	0.390	0.406
F	6.30	6.90	0.248	0.272
G	2.40	2.70	0.094	0.106
H	28.0	29.8	1.102	1.173
L1	2.70	3.30	0.106	0.130
L2	1.14	1.70	0.045	0.067
L3	2.65	2.95	0.104	0.116

DELIVERY MODE



■ Packaging Specifications

PACKAGE	OUTLINE	REF.	Tube.	BOX	Carton
TO-220C	TUBE	QTY	50 Pcs	1,000 Pcs	5,000 Pcs

Manufacturers version information
2006-07-01， KKG ™ Product Data-1.0
2010-04-01， KKG ™ Product Data-1.1
2014-12-01， KKG ™ Product Data-1.2
2020-09-16， KKG ™ Product Data-1.3
2023-12-29， KKG ™ Product Data-1.4

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