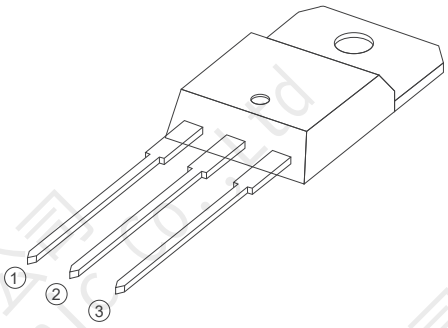
TYN640 Series

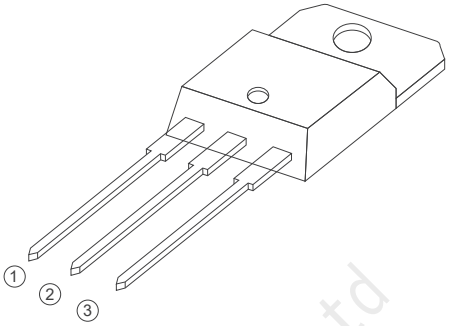
40A SCRs

Standard SCRs

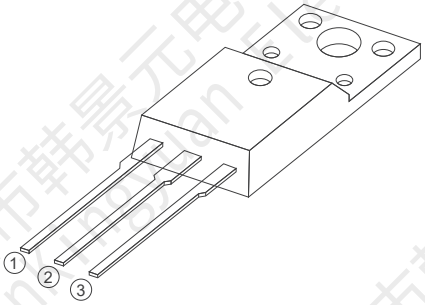
ShenZhenHanKingyuan
Electronic CO.,Ltd



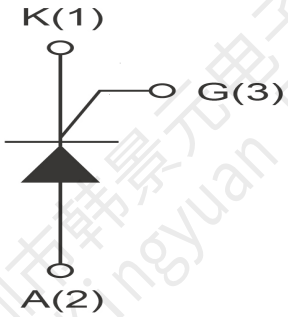
TO-220A Insulated



TO-220B Non-Insulated



TO-220F Insulated



FEATURES

› IT(RMS):40A › VGT: 1.5V › VDRM VRRM:600Vand800V

APPLICATIONS

Washing machine,vacuums, massager,solid state relay， AC Motor speed regulation and so on.

Absolute Maximum Ratings (Tj=25°C unless otherwise specifed)

Symbol	Parameter	Conditions	Ratings	Unit
VDRM VRRM	Repetitive Peak Off-State Voltage	TYN640	1000	V
		TYN840	1200	V
IT(RMS)	R.M.S On-State Current		40	A
IT(AV)	average On-State Current		25	A
ITSM	Surge On-State Current	F=50Hz,tp=10ms/8.3ms	460/480	A
I²t	I²t for fusing	Tp=10ms	1060	A²s
PG(AV)	Average Gate Power Dissipation	Tj=125°C	1	W
IGM	Peak Gate Current	tp=10us	4	A
PGM	Peak Gate Current	Tj=125°C	5	W
Tj	Operating Junction Temperature		~40~125	°C
TSTG	Storage Temperature		~40~150	°C

Electrical Characteristics (Tj=25°C unless otherwise specifed)

Symbol	Parameter	Test Conditions	Value	Unit
IDRM	Repetitive Peak Off-State Current	Tc=25°C	≤5	uA
		Tc=125°C	≤4	mA
IRRM	Repetitive Peak Reverse Current	Tc=25°C	≤5	uA
		Tc=125°C	≤4	mA
VTM	Forward "on" voltage	IT=60A tp=380us	≤1.6	V
VGD	Gate nontrigger voltage	VD=VDRM,Tj=125°C, RL=3.3KΩ	≥0.2	V
IL	Latching current	IG=1.2IGT	≤60	mA
IH	Holding current	VD=12V ,IGT=0.1A	≤50	mA
VGT	Gate trigger voltage	VD=12V	≤1.3	V
IGT	Gate trigger current	VD=12V,IT=0.1A	≤30	mA
dv/dt	Critical-rate of rise of commutation voltage	VD=2/3VDRM,Tj=125°C,gate open circuit	≥800	V/us
di/dt	Critical-rate of rise of commutation current	IG=2XIG,tr100us, Tj=125°C	≥50	A/us

FIG1

Maximum power dissipation versus RMS on-state current

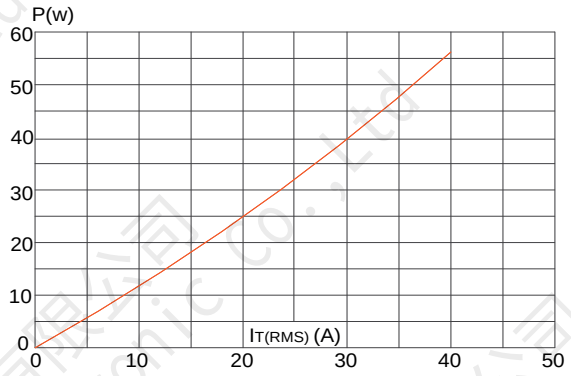


FIG2

RMS on-state current versus case temperature

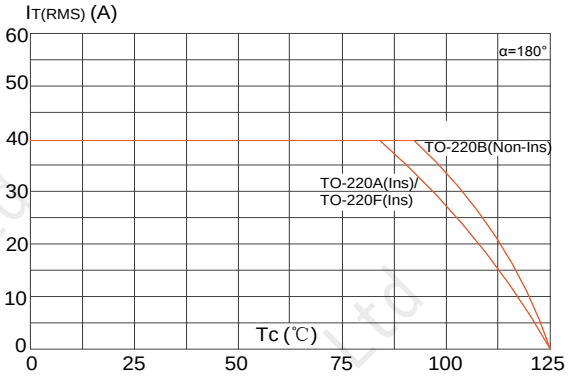


FIG3

Surge peak on-state current versus number of cycles

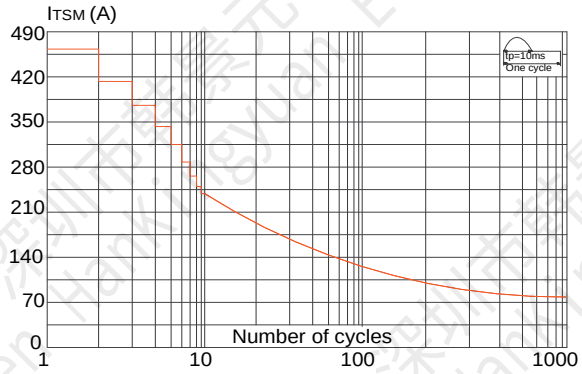


FIG4

On-state characteristics (maximum values)

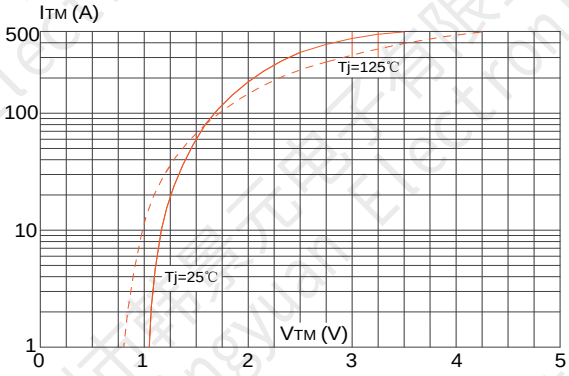


FIG5

Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 100A/μs)

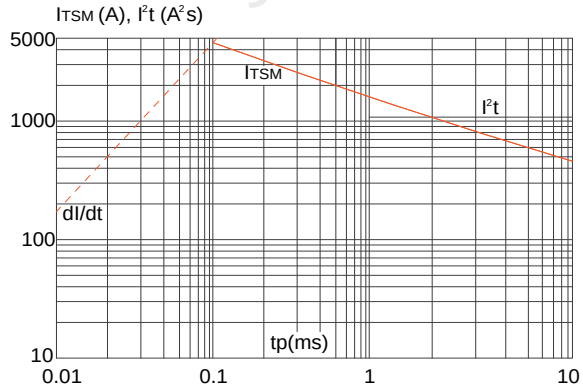
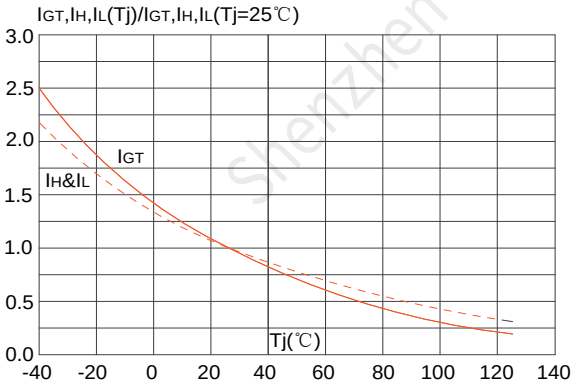
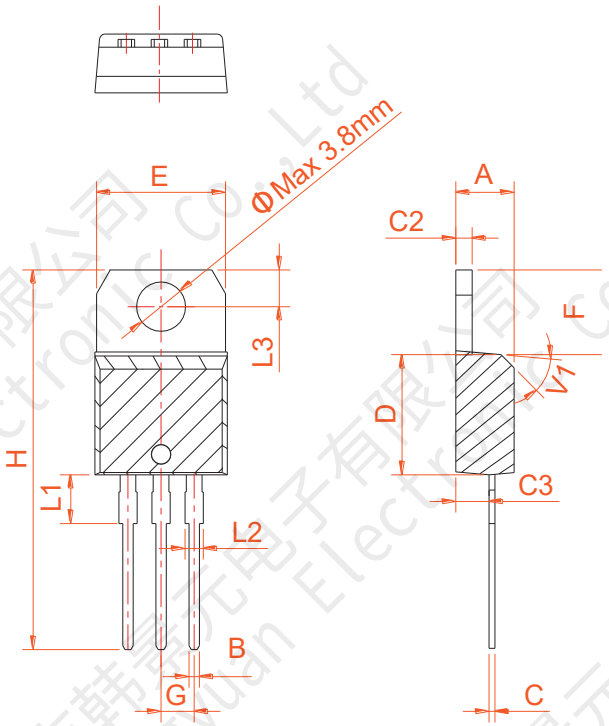


FIG6

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

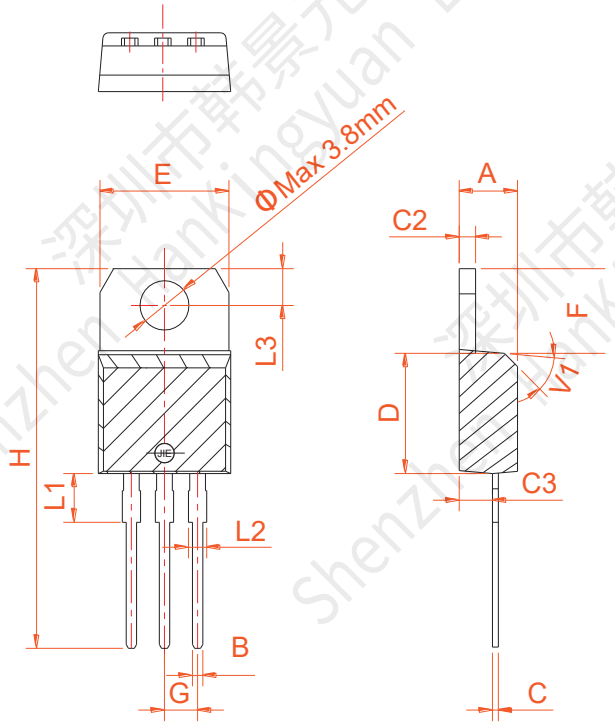


PACKAGE MECHANICAL DATA



TO-220A Ins

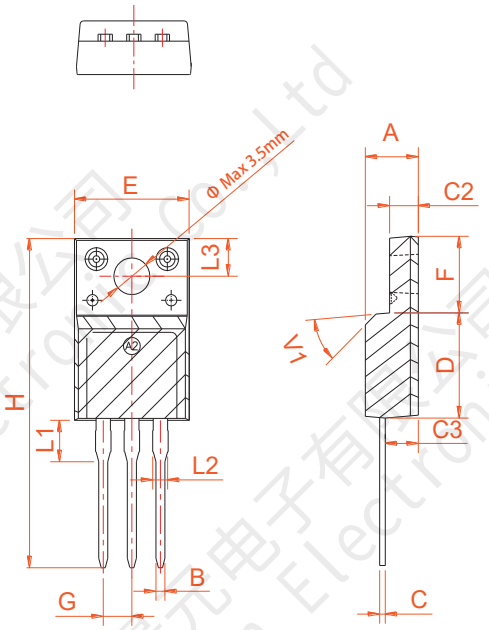
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	



TO-220B Non-Ins

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.60		10.4	0.378		0.409
F	6.20		6.60	0.244		0.260
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

PACKAGE MECHANICAL DATA



TO-220F Ins

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.45		2.75	0.096		0.108
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.40		6.80	0.252		0.268
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.63			0.143	
L2	1.14		1.70	0.045		0.067
L3		3.30			0.130	
V1		45°			45°	

ShenZhenHanKingyuan
Electronic CO.,Ltd