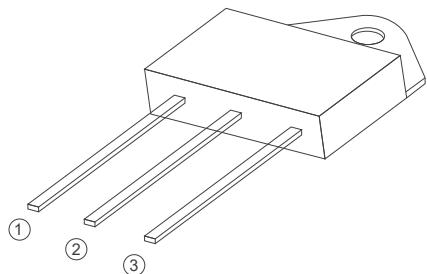


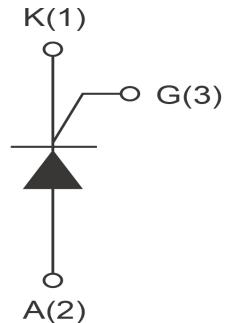
BTW69 Series
55A SCRs
Standard SCRs



ShenZhenHanKingyuan
Electronic CO.,Ltd



TO-3P Insulated



FEATURES

- > IT(RMS):55A
- > VGT: 1.5V
- > VDRM VRMM:1000Vand1200V

APPLICATIONS

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

Absolute Maximum Ratings ($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Conditions	Ratings	Unit
VDRM VRMM	Repetitive Peak Off-State Voltage	BTW69-1200B	1200	V
		BTW69-1600B	1600	V
IT(RMS)	R.M.S On-State Current		55	A
IT(AV)	average On-State Current		35	A
ITSM	Surge On-State Current	$f=50\text{Hz}, t_p=10\text{ms}/8.3\text{ms}$	550	A
I^2t	I^2t for fusing	$t_p=10\text{ms}$	1500	A^2s
PG(AV)	Average Gate Power Dissipation	$T_j=125^\circ\text{C}$	1	W
PGM	Peak Gate Current	$T_j=125^\circ\text{C}$	10	W
IGM	Peak Gate Current	$t_p=10\mu\text{s}$	5	A
T_j	Operating Junction Temperature		$\sim 40 \sim 125$	$^\circ\text{C}$
TSTG	Storage Temperature		$\sim 40 \sim 150$	$^\circ\text{C}$

Electrical Characteristics ($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Value	Unit
IDRM	Repetitive Peak Off-State Current	$T_c=25^\circ\text{C}$	≤ 10	uA
		$T_c=125^\circ\text{C}$	≤ 8	mA
IRRM	Repetitive Peak Reverse Current	$T_c=25^\circ\text{C}$	≤ 10	uA
		$T_c=125^\circ\text{C}$	≤ 8	mA
VTM	Forward "on" voltage	$I_T=60\text{A}$ $t_p=380\text{us}$	≤ 1.8	V
VGD	Gate nontrigger voltage	$VD=VDRM, T_j=125^\circ\text{C}$, $RL=3.3\text{K}\Omega$	≥ 0.2	V
IL	Latching current	$IG=1.2\text{IGT}$	≤ 250	mA
IH	Holding current	$VD=12\text{V}$, $IGT=0.1\text{A}$	≤ 200	mA
VGT	Gate trigger voltage	$VD=12\text{V}$	≤ 1.5	V
IGT	Gate trigger current	$VD=12\text{V}, IT=0.1\text{A}$	≤ 70	mA
dv/dt	Critical-rate of rise of commutation voltage	$VD=2/3VDRM, T_j=125^\circ\text{C}$, gate open circuit	≥ 100	V/us
di/dt	Critical-rate of rise of commutation current	$IG=2XIG, tr=100\text{us}, T_j=125^\circ\text{C}$	≥ 150	A/us
Rth(j-c)	Thermal resistance	Junction to case	0.65	°C/W

FIG1

Maximum power dissipation versus RMS on-state current

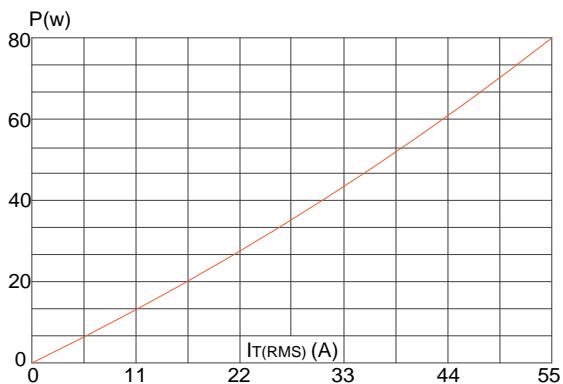


FIG2

RMS on-state current versus case temperature

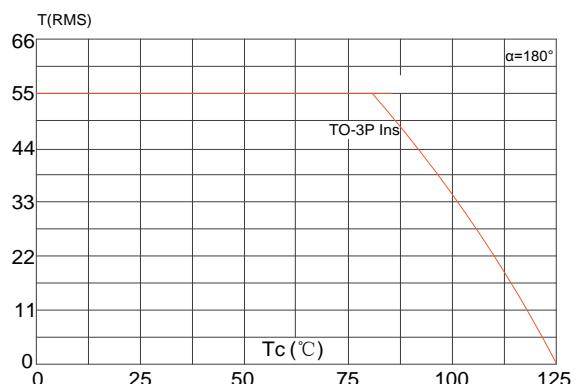


FIG3

Surge peak on-state current versus number of cycles

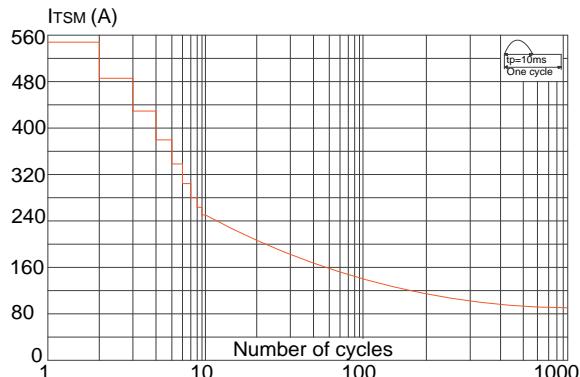


FIG4

On-state characteristics (maximum values)

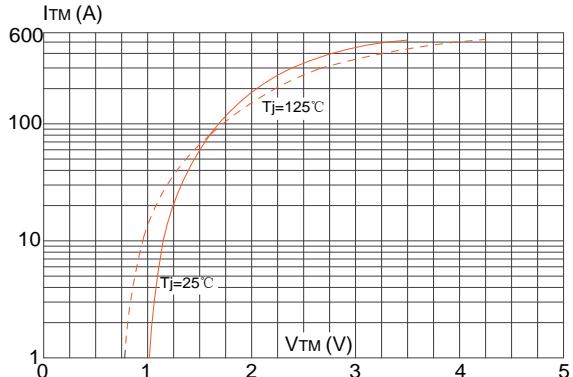


FIG5

Non-repetitive surge peak on-state current for a sinusoidal pulse with width $tp < 20ms$, and corresponding value of I^2t ($dl/dt < 100A/\mu s$)

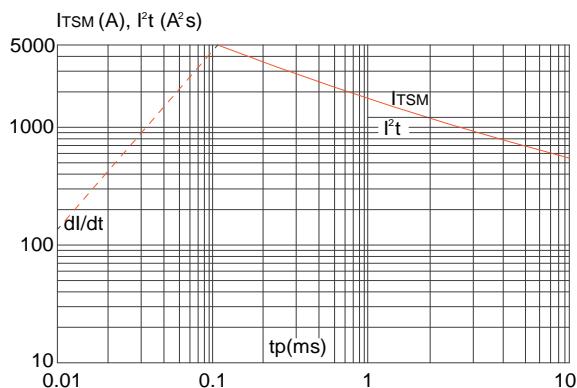
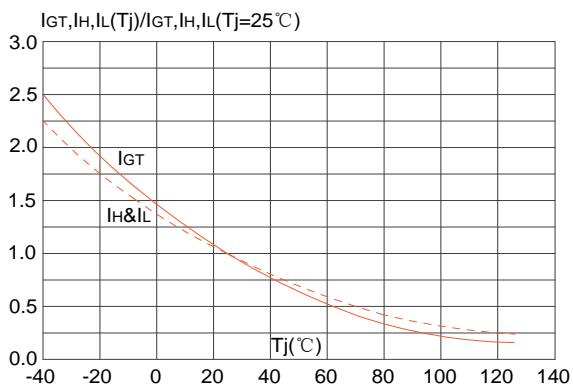
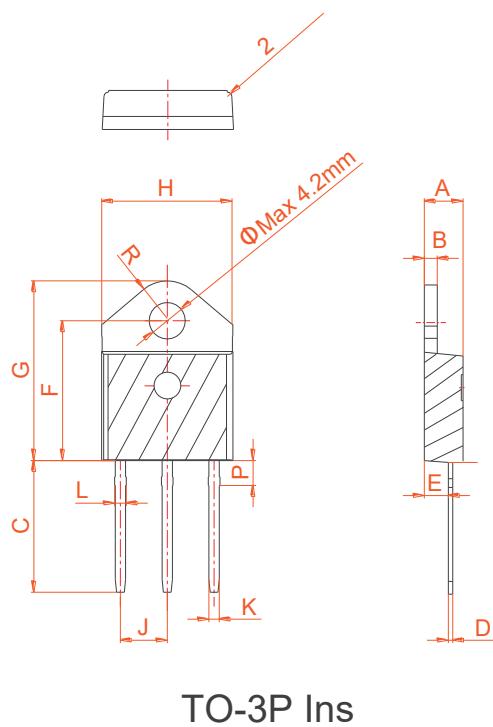


FIG6

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



PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	1.45		1.55	0.057		0.061
C	14.35		15.60	0.565		0.614
D	0.50		0.70	0.020		0.028
E	2.70		2.90	0.106		0.114
F	15.80		16.50	0.622		0.650
G	20.40		21.10	0.803		0.831
H	15.10		15.50	0.594		0.610
J	5.40		5.65	0.213		0.222
K	1.10		1.40	0.043		0.055
L	1.35		1.50	0.053		0.059
P	2.80		3.00	0.110		0.118
R		4.35			0.171	

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