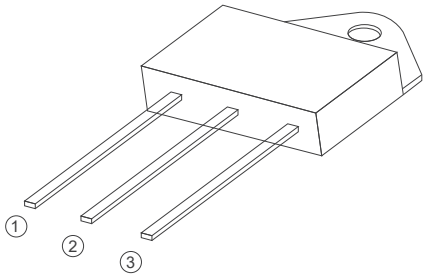
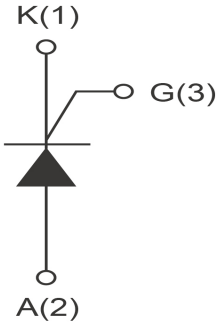
IT(RMS)		55A
VDRM/VRRM	BTW69-1200	1200V
	BTW69-1600	1600V
VTM		1.8V



TO-3P Insulated

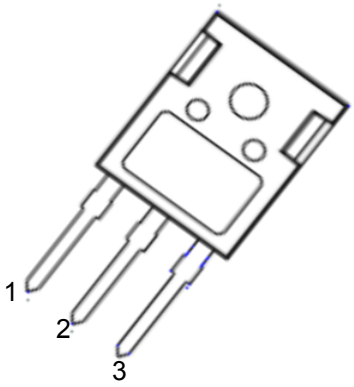
FEATURES

IT(RMS): 55A
VGT: 1.5V
VDRM VRRM:1200V~1600V



APPLICATIONS

Heater Control
Motor Speed Controller
Washing machine
Vacuums
Solid state relay



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

Symbol	Parameter	Conditions	Ratings	Unit
VDRM VRRM	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=50Hz,tp=10ms/8.3ms	550	A
I^2t	I^2t for fusing	Tp=10ms	1500	A^2s
PG(AV)	Average Gate Power Dissipation	Tj=125°C	1	W
PGM	Peak Gate Current	Tj=125°C	10	W
IGM	Peak Gate Current	tp=10us	5	A
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	≤10	uA
		Tc=125°C	≤8	mA
IRRM	Repetitive Peak Reverse Current	Tc=25°C	≤10	uA
		Tc=125°C	≤8	mA
VTM	Forward "on" voltage	IT=60A tp=380us	≤1.8	V
VGD	Gate nontrigger voltage	VD=VDRM,Tj=125°C, RL=3.3KΩ	≥0.2	V
IL	Latching current	IG=1.2IGT	≤250	mA
IH	Holding current	VD=12V ,IGT=0.1A	≤200	mA
VGT	Gate trigger voltage	VD=12V	≤1.5	V
IGT	Gate trigger current	VD=12V,IT=0.1A	≤70	mA
dv/dt	Critical-rate of rise of commutation voltage	VD=2/3VDRM,Tj=125°C,gate open circuit	≥100	V/us
di/dt	Critical-rate of rise of commutation current	IG=2XIG,tr100us, Tj=125°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

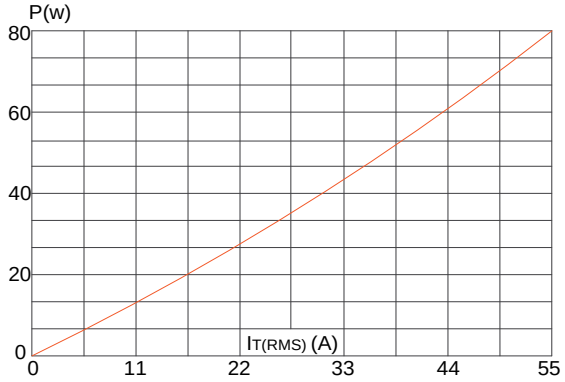


FIG2

RMS on-state current versus case temperature

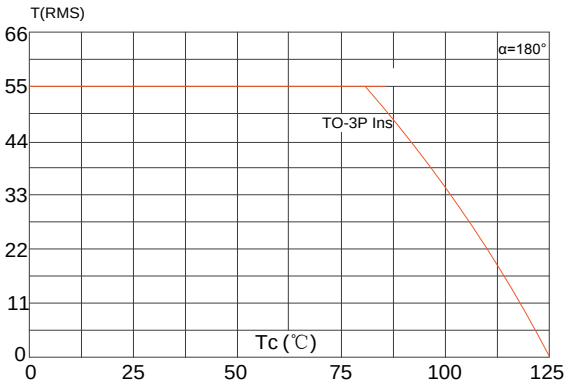


FIG3

Surge peak on-state current versus number of cycles

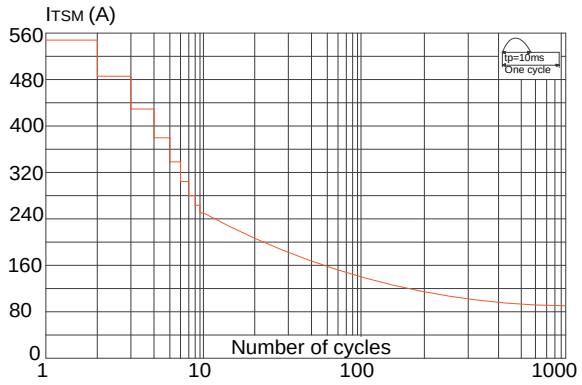


FIG4

On-state characteristics (maximum values)

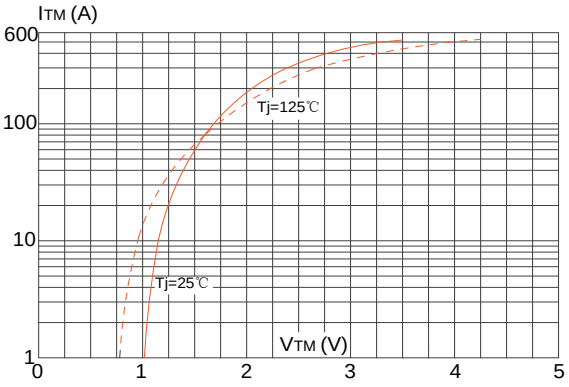


FIG5

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

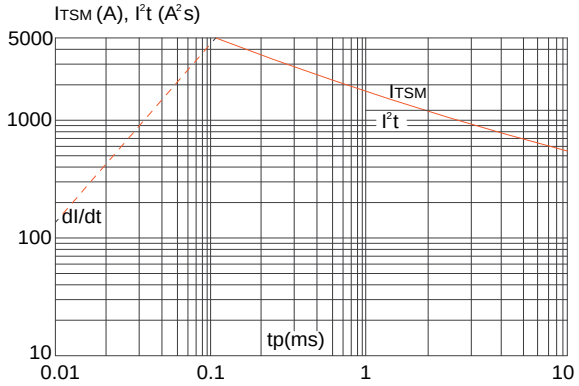
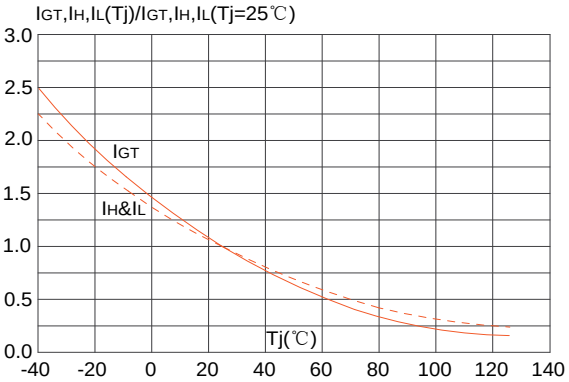
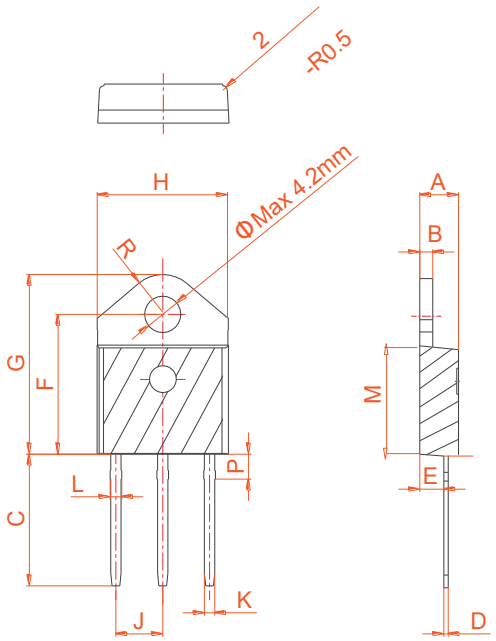


FIG6

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



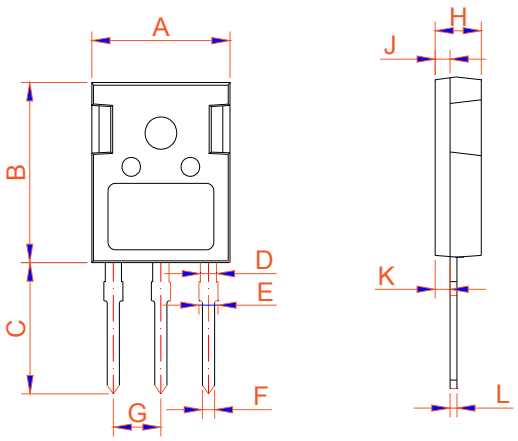
PACKAGE MECHANICAL DATA



TO-3P Ins

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	1.25		1.45	0.049		0.057
P	2.80		3.00	0.110		0.118
R		4.35			0.171	
M	12.37		12.77	0.487		0.503

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.50	15.80	16.10	0.610	0.622	0.634
B	20.80	21.00	22.20	0.819	0.828	0.874
C	19.70	20.00	20.30	0.776	0.787	0.799
D	1.80	2.00	2.20	0.071	0.079	0.087
E	1.90	2.10	2.30	0.075	0.083	0.091
F	1.00	1.20	1.40	0.039	0.047	0.055
G		5.44			0.214	
H	4.80	5.00	5.20	0.189	0.197	0.205
J	1.90	2.00	2.10	0.075	0.079	0.083
K	2.20	2.35	2.50	0.087	0.093	0.098
L	0.41	0.60	0.79	0.016	0.024	0.031



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