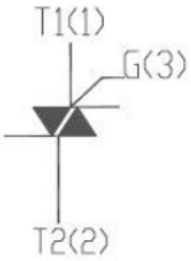
GOODWORK

BT151

12 A standard and Snubberless™ triacs

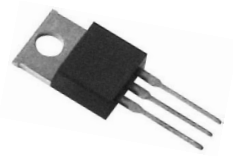
Features

- High current triac
- Low thermal resistance with clip bonding
- High commutation (4 quadrant) or very high commutation (3 quadrant) capability



VOLTAGE RANGE 600/800 Volts

CURRENT 12 Ampere



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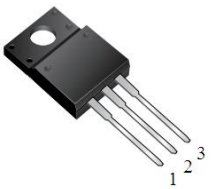

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TO-252

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

ELECTRICAL CHARACTERISTICS (Tj = 25°C, unless otherwise specified)

Symbol	Parameter	Conditions	Ratings	Unit
VDRM VRRM	Repetitive Peak Off-State Voltage	BT151-600	600	V
		BT151-800	800	
IT(RMS)	R.M.S On-State Current	Tc=105°C	12	A
IT(AV)	On-state average current	TC=105°C	7.5	A
ITSM	Surge On-State Current	Tp=10ms/tp=8.3ms	120/132	A
I^2t	I^2t for fusing	Tp=10ms	75	A^2s
PGM	Peak Gate Power Dissipation	Tj=125°C	2	W
PG(AV)	Average Gate Power Dissipation	Tj=125°C	0.5	W
Tj	Operating Junction Temperature		~40~125	°C
TSTG	Storage Temperature		~40~150	°C

BT151

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	≤1	mA
IRRM	Repetitive Peak Reverse Current	Tc=25°C	≤10	uA
		Tc=125°C	≤1	mA
VTM	Forward "on" voltage	IT=23A, tp=380us	≤1.7	V
VGT	Gate trigger voltage	VD=12V ,RL=30Ω	≤1.0	V
di/dt	Critical rate of rise of on-state current	Tj=125°C, IG=2xIGT, tr≤100ns	≥50	A/us
IGT	Gate trigger current	VD=12V, IT=0.1A	≤20	mA
IL	Latching current	IG=1.2IGT	≤40	mA
IH	Holding current	IT=0.1A	≤30	mA
VGD	Gate non-trigger voltage	VD=VDRM, TJ=125°C,RL=3.3KΩ,RGK=1KΩ	≥0.25	V
dv/dt	Critical-rate of rise of commutation voltage	TJ=125°C, VD=2/3VDRM, Gate open circuit	≥200	V/us
Rth(j-c)	Thermal resistance	Junction to case	1	°C/W
Rth(j-a)	Thermal resistance	Junction to ambient	50	°C/W

RATING AND CHARACTERISTIC CURVES (BT151)

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

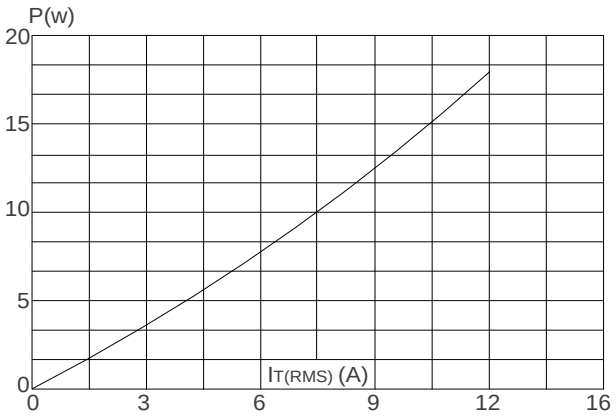


FIG.2: RMS on-state current versus case temperature

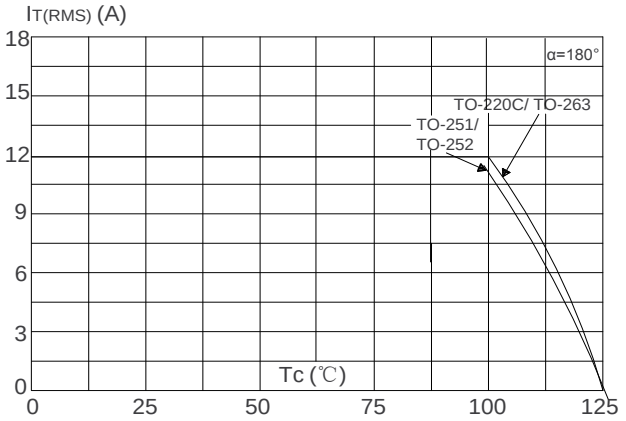


FIG.3: Surge peak on-state current versus number of cycles

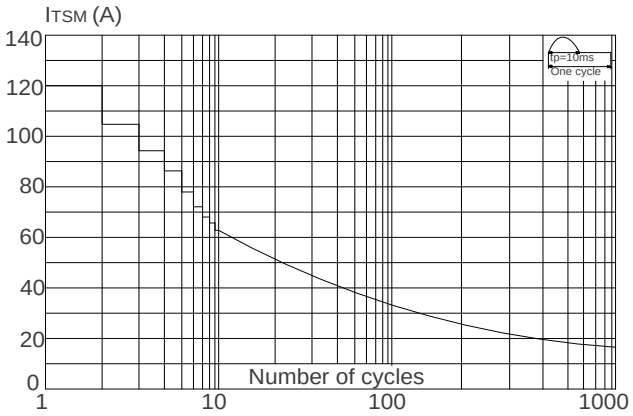


FIG.4: On-state characteristics (maximum values)

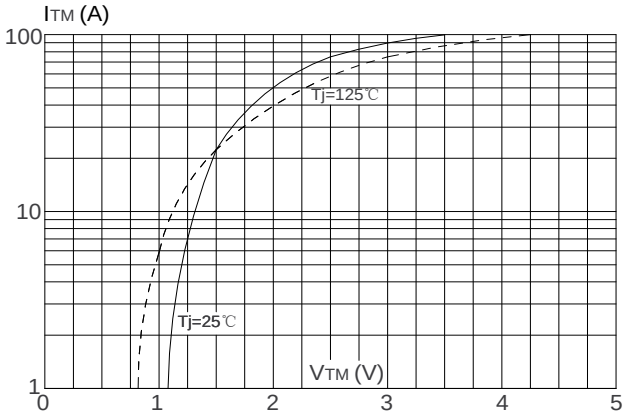


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 100A/μs)

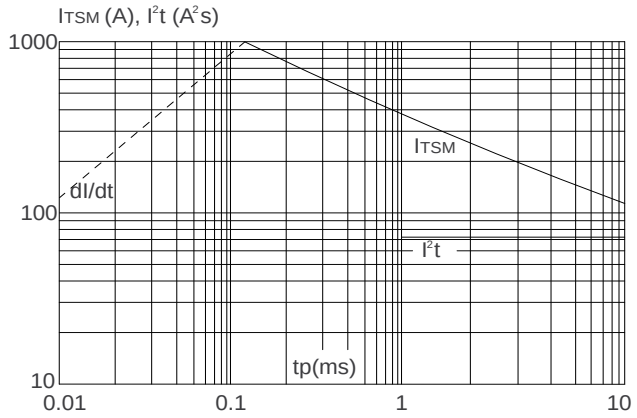
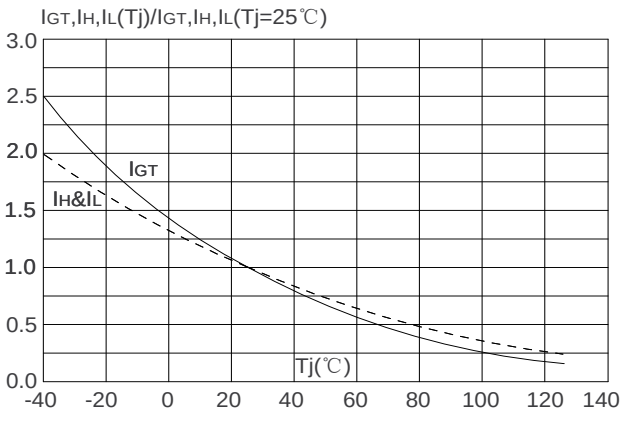


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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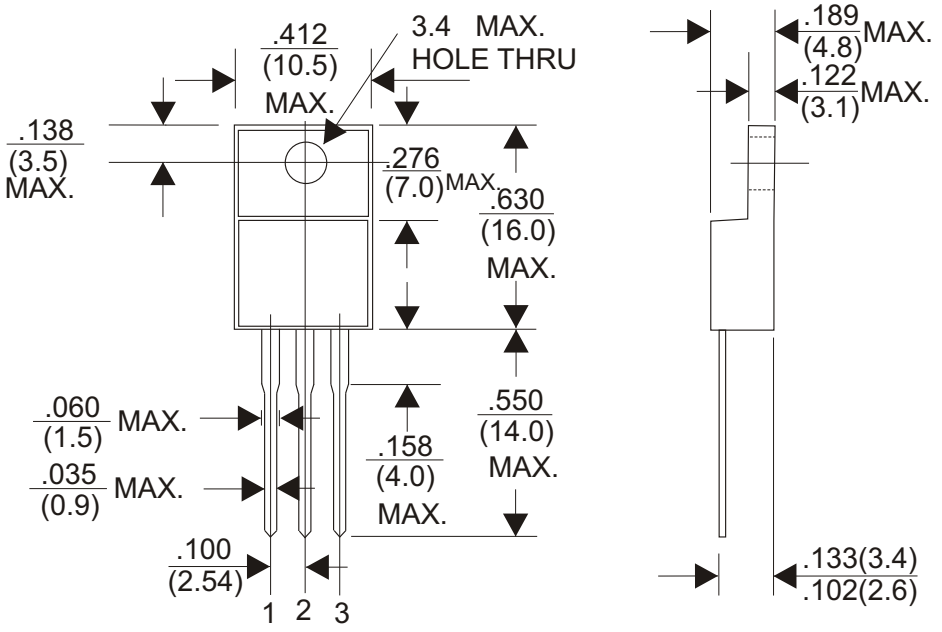

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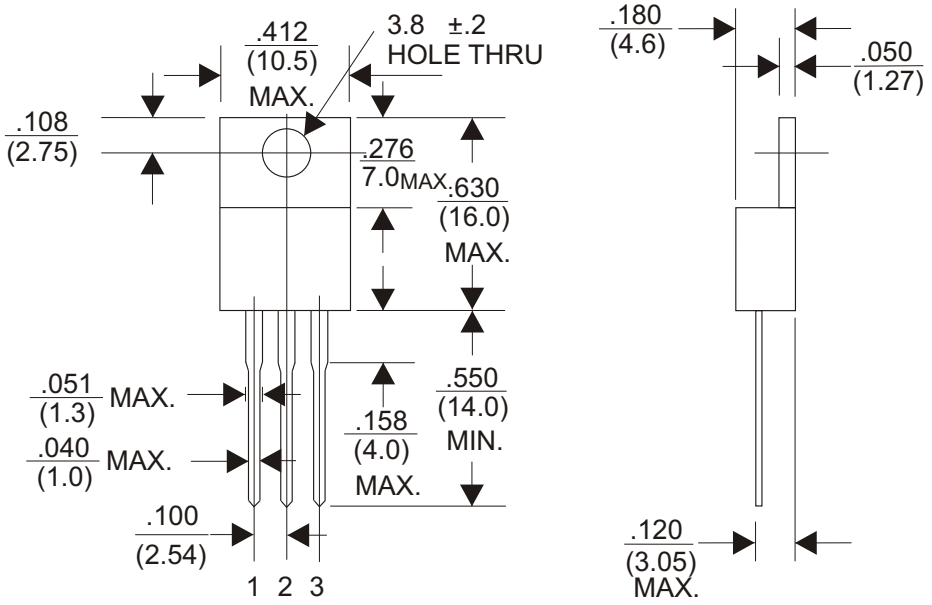

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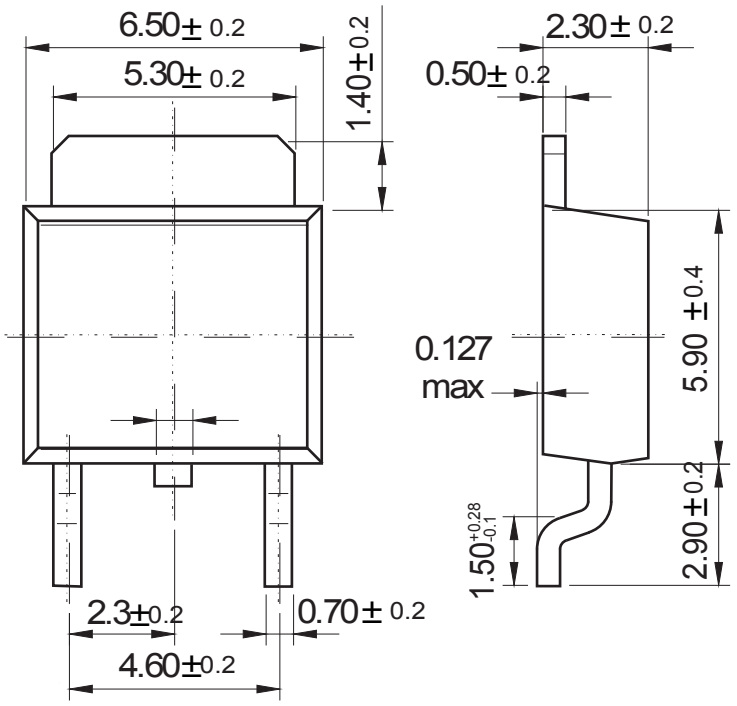
Unit: mm



Dimensions in inches and (millimeters)

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