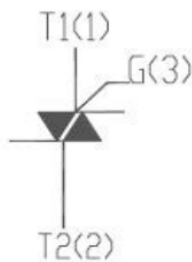




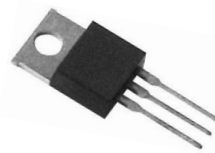
Features

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

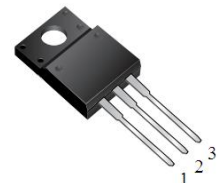


VOLTAGE RANGE 600/800 Volts

CURRENT 12 Ampere



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TO-252

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

ELECTRICAL CHARACTERISTICS (T_j = 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	T _c =105°C	12	A
IT(AV)	On-state average current	T _c =105°C	7.5	A
ITSM	Surge On-State Current	T _p =10ms/t _p =8.3ms	120/132	A
I ² t	I ² t for fusing	T _p =10ms	75	A ² s
PGM	Peak Gate Power Dissipation	T _j =125°C	2	W
PG(AV)	Average Gate Power Dissipation	T _j =125°C	0.5	W
T _j	Operating Junction Temperature		~40~125	°C
TSTG	Storage Temperature		~40~150	°C

BT151

Electrical Characteristics (T_J=25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	Value	Unit
IDRM	Repetitive Peak Off-State Current	T _c =25°C	≤10	uA
		T _c =125°C	≤1	mA
IRRM	Repetitive Peak Reverse Current	T _c =25°C	≤10	uA
		T _c =125°C	≤1	mA
V _{TM}	Forward "on" voltage	I _T =23A, t _p =380us	≤1.7	V
V _{GT}	Gate trigger voltage	V _D =12V, R _L =30Ω	≤1.0	V
di/dt	Critical rate of rise of on-state current	T _J =125°C, I _G =2xI _{GT} , t _r ≤100ns	≥50	A/us
I _{GT}	Gate trigger current	V _D =12V, I _T =0.1A	≤20	mA
I _L	Latching current	I _G =1.2I _{GT}	≤40	mA
I _H	Holding current	I _T =0.1A	≤30	mA
V _{GD}	Gate non-trigger voltage	V _D =V _{DRM} , T _J =125°C, R _L =3.3KΩ, R _{GK} =1KΩ	≥0.25	V
dv/dt	Critical-rate of rise of commutation voltage	T _J =125°C, V _D =2/3V _{DRM} , Gate open circuit	≥200	V/us
R _{th(j-c)}	Thermal resistance	Junction to case	1	°C/W
R _{th(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

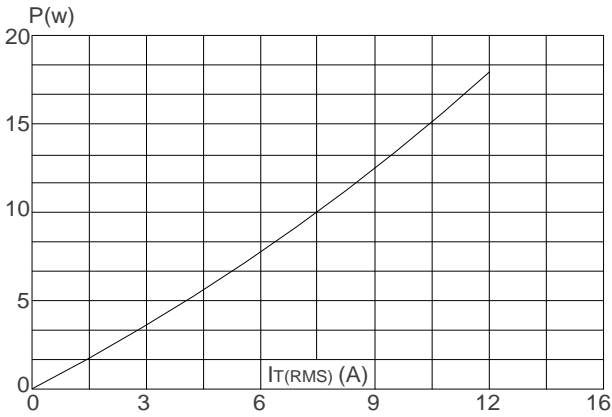


FIG.2: RMS on-state current versus case temperature

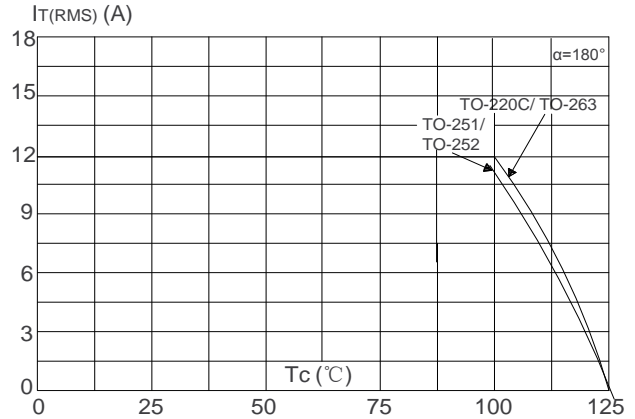


FIG.3: Surge peak on-state current versus number of cycles

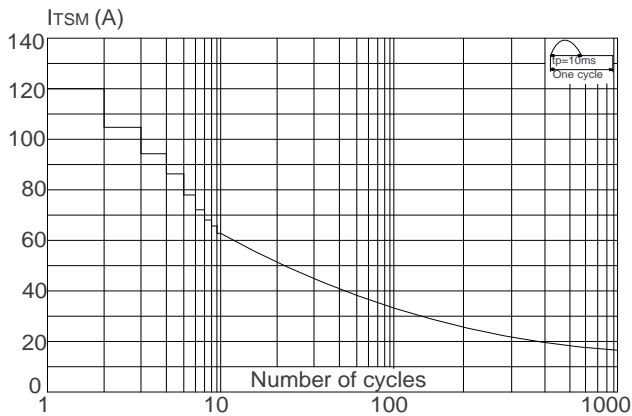


FIG.4: On-state characteristics (maximum values)

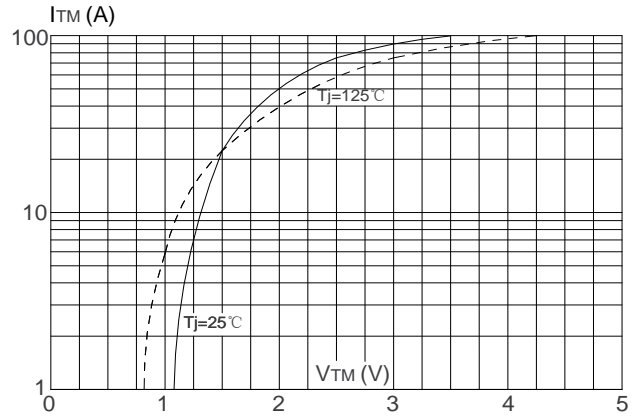


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 100\text{A}/\mu\text{s}$)

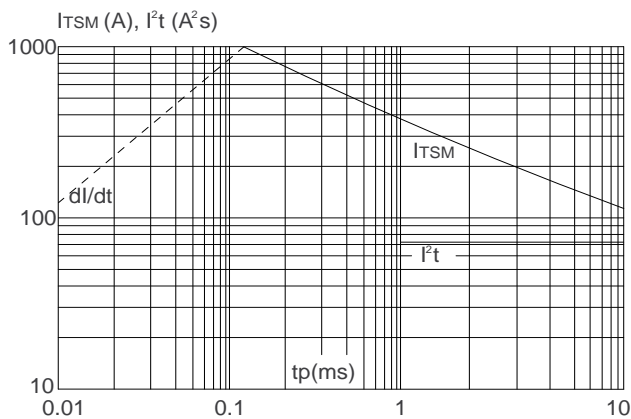
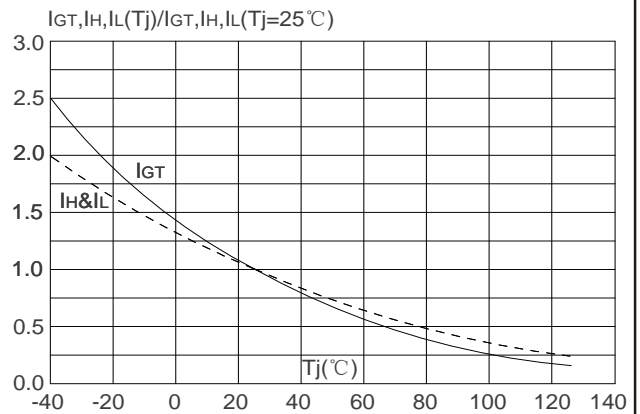
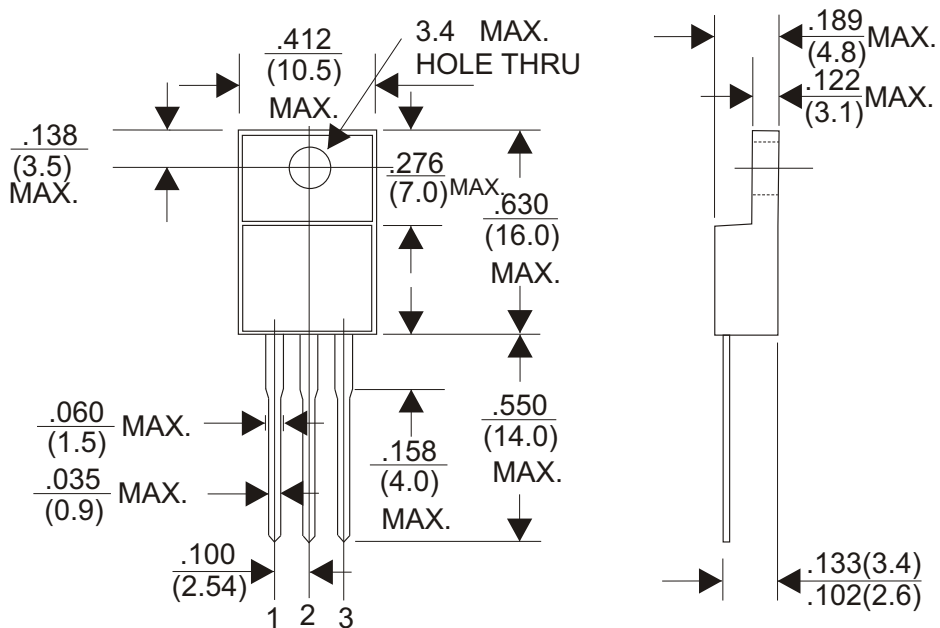


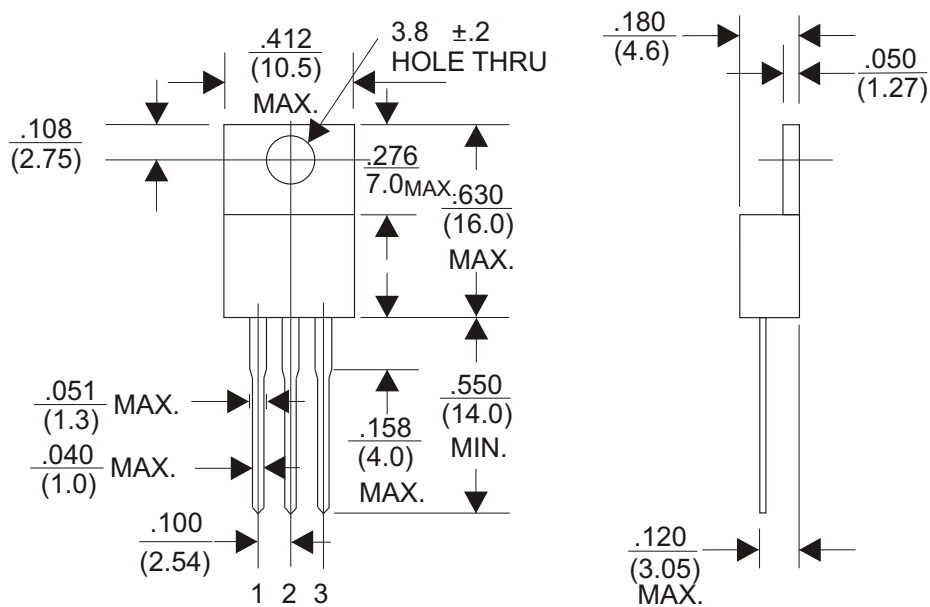
FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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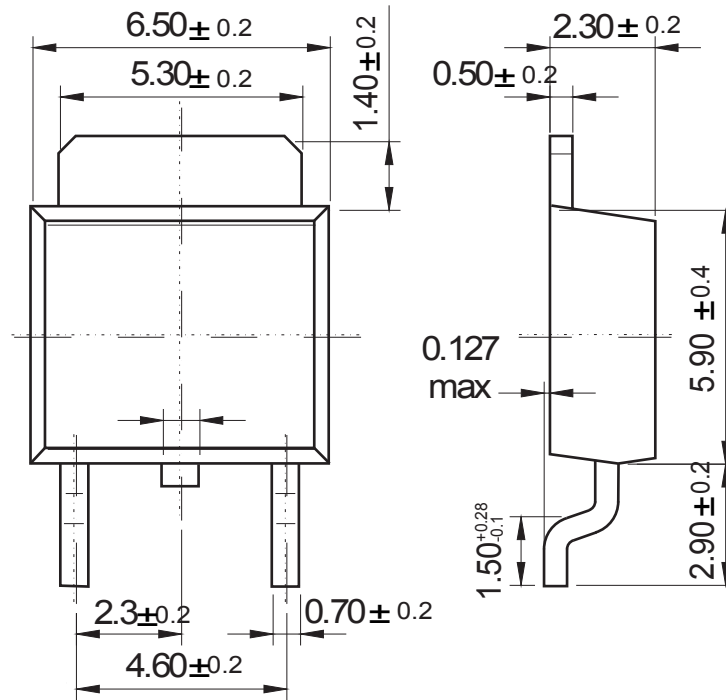


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TO-252

Unit: mm



Dimensions in inches and (millimeters)