

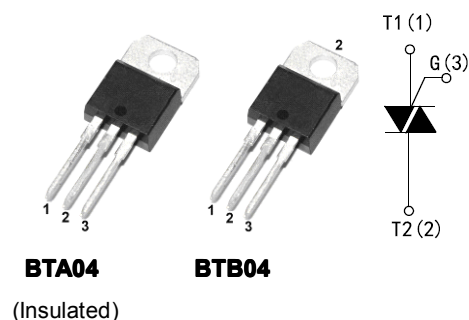
BTA04 / BTB04

4A TRIACS

General Description

- Package: TO-220T
- High current density due to double mesa technology, SIPOS and Glass passivation . BTA04/ BTB04 series triacs is Suitable for general purpose AC switching. They can be used as an ON/OFF function is applications such as static relays, heating regulation, induction motor stator circuits... or phase control operation light dimmers, motor speed controllers.
- BTA04/ BTB04 series are 3 Quadrants triacs, They are specially recommended for use on inductive loads.

DRAWING



Absolute Maximum Ratings

Parameter		Symbol	Value	Unit
Storage junction temperature range		Tstg	-40 to +150	°C
Operating junction temperature range		Tj	-40 to + 125	°C
Repetitive Peak OFF-state Voltage	Tj=25°C	V _{DRM}	800	V
Repetitive Peak Reverse Voltage	Tj=25°C	V _{RRM}	800	V
Non repetitive surge peak off-state voltage	Tp=10ms, Tj=25°C	V _{DSM}	800	V
Non repetitive peak reverse voltage		V _{RSM}	800	V
RMS on-state current(full sine wave)	TC=107°C	IT(RMS)	4	A
Non repetitive surge peak on-state current(full cycle, Tj=25°C)	f=60Hz, t=16.7ms	ITSM	27	A
	f=50Hz, t=20ms		25	
I ² t Value for fusing	Tp=10ms	I ² t	3.1	A ² s
Critical rate of rise of on-state current IG=2*IGT, tr≤100ns, f=120Hz, Tj=125°C	I - II - III	di/dt	50	A/us
	IV		20	
Peak gate current(tp=20us, Tj=125°C)		I _{GM}	2	A
Peak gate power dissipation(tp=20us, Tj=125°C)		P _{GM}	5	W
Average gate power dissipation(Tj=125°C)		PG(AV)	0.5	W

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

Symbol	Test Condition	Quadrant		Limit				Unit
				D	E	F	G	
I_{GT}	$V_D=12\text{V}, R_L=33\Omega$	I - II - III IV	MAX	5 10	10 25	25 70	50 100	mA
V_{GT}		ALL	MAX	1.3				V
V_{GD}	$V_D=V_{DRM}$ $T_j=125^{\circ}\text{C}$	$R_L=3.3\text{K}\Omega$ ALL	MIN	0.2				V
I_L	$I_G=1.2I_{GT}$	I - III-IV	MAX	15	30	40	60	mA
		II	MAX	20	40	60	90	mA
I_H	$I_T=100\text{mA}$		MAX	10	25	30	60	mA
Dv/dt	$V_D=67\%V_{DRM}$ gate open $T_j=125^{\circ}\text{C}$		MIN	5	10	50	200	V/us
$(Dv/dt)_c$	$(di/dt)_c=1.1\text{A/ms}$ $T_j=125^{\circ}\text{C}$		MIN	1	2	5	10	V/us

Static Characteristics

Symbol	Parameter	Value	Unit
$R_{th}(J-C)$	Junction to case(AC)	3.7	$^{\circ}\text{C}/\text{W}$

Thermal Resistances

Symbol	Parameter	Value(MAX)	Unit
V_{TM}	$I_{TM}=5\text{A}, t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$ 1.7	V
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$ 5	μA
I_{RRM}		$T_j=125^{\circ}\text{C}$ 1	mA

Typical Characteristics

FIG.1:Maximum power dissipation versus RMS on-state current(full cycle)

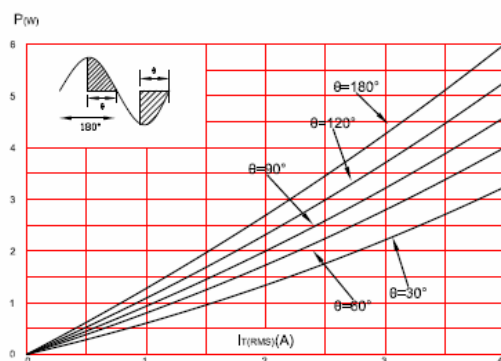


FIG.2:RMS on-state current versus case temperature(full cycle)

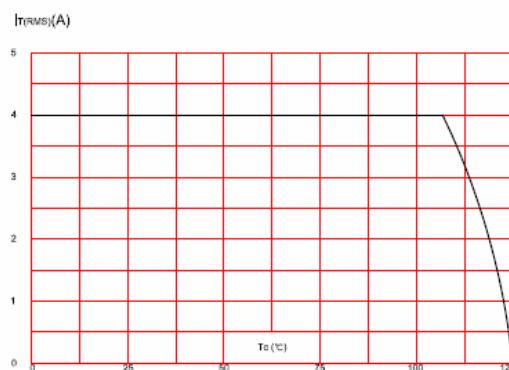


FIG.3:On-state characteristics (maximum values).

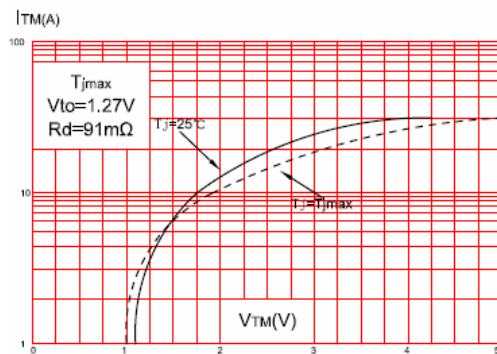


FIG.4:Surge peak on-state current versus number of cycles.

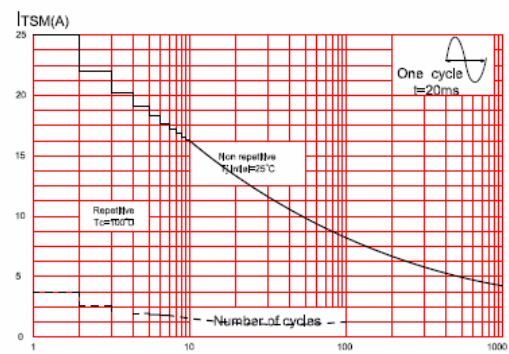


FIG.5:Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p<10ms$,and corresponding value of I^2t .

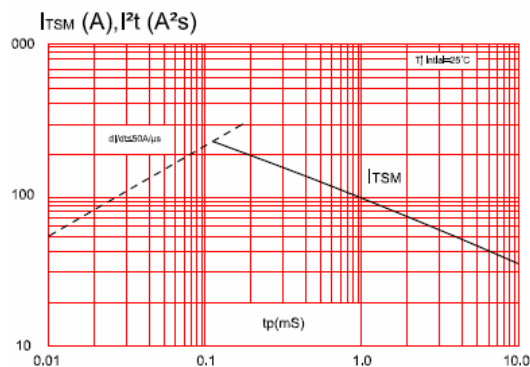
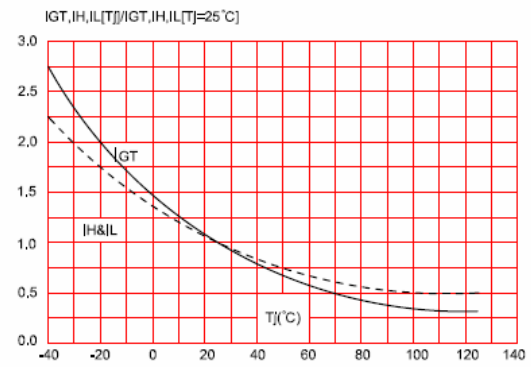


FIG.6:Relative variations of gate trigger current,holding current and latching current versus junction temperature(typical values)



Package Mechanical Data

