

Features

- NPNPN 5-layer Structure TRIACs
- Mesa Glass Passivated Technology
- Multi Layers Metal Electrodes
- High Junction Temperature
- Good Commutation Performance
- High dV/dt and dI/dt
- Insulating Voltage=2500V(RMS)

Product Summary

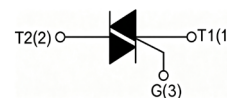
Symbol	Part Number	Rating	Unit
$I_{T(RMS)}$		41	A
V_{DRM}/V_{RRM}	BTA(B)41-800	800	V
	BTA(B)41-1000	1000	
	BTA(B)41-1200	1200	
V_{TM}		1.5	V

Applications

- Heater Control
- Mixer
- Motor Speed Controller



TO-3P top view



Schematic diagram



Halogen-Free

Maximum Ratings(Ta=25°C unless otherwise noted)

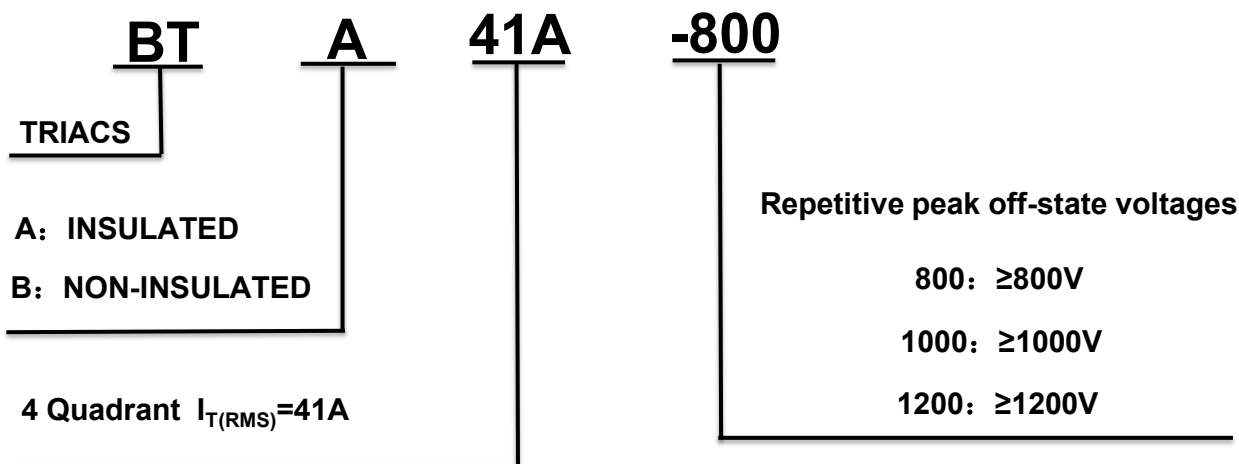
Symbol	Parameter	Test condition		Rating	Unit
$V_{\text{DRM}}/V_{\text{RRM}}$	Repetitive peak off-state voltages	$T_j=25^{\circ}\text{C}$	BTA(B)-800	800	V
			BTA(B)-1000	1000	V
			BTA(B)-1200	1200	V
$I_{\text{T(RMS)}}$	RMS on-state current	$T_c\leqslant 100^{\circ}\text{C}$		41	A
I_{TSM}	Non repetitive surge peak on-state current	Full sine wave, $t_p=20\text{ms}$, $F=50\text{HZ}$		410	A
I^2t	I^2t value for fusing	$t_p=10\text{ms}$		880	A^2s
di/dt	Critical rate of rise of on-state current	$T_j=125^{\circ}\text{C}$		50	$\text{A}/\mu\text{s}$
I_{GM}	Peak gate current	$t_p=20\mu\text{s}$, $T_j=125^{\circ}\text{C}$		8	A
$P_{\text{G(AV)}}$	Average gate power	$T_j=125^{\circ}\text{C}$		1	W
T_j	Junction Temperature			-40~+125	$^{\circ}\text{C}$
T_{stg}	Storage Temperature			-40~+150	$^{\circ}\text{C}$
Mounted on Large Heat Sink					
$R_{\text{th(j-c)}}$	Junction to case (AC)	BTA		0.9	$^{\circ}\text{C}/\text{W}$
		BTB		0.6	$^{\circ}\text{C}/\text{W}$

Electrical Characteristics(Ta=25°C unless otherwise noted)

Symbol	Parameter	Test conditions		Value	Unit
I _{GT}	Gate trigger current	V _D =12V, R _L =100Ω, T _j =25°C	I - II - III	≤50	mA
			IV	≤120	
V _{GT}	Gate trigger voltage			≤1.50	V
V _{GD}	Non-triggering gate voltage	V _D =V _{DRM} , T _j =125°C		≥0.2	V
I _H	Holding current	I _T =0.5A		≤80	mA
I _L	Latching current	I _G =1.2I _{GT}	I - II - III	≤70	mA
			IV	≤160	mA
dV/dt	Critical rate of rise of off-state	V _D =2/3V _{DRM} Gate Open T _j =125°C		≥500	V/μs
V _{TM}	On-state	I _{TM} =82A, T _j =25°C		≤1.50	V
I _{DRM}	Repetitive peak off-state current	T _j =25°C		≤10	μA
I _{RRM}	Repetitive peak reverse current	T _j =125°C		≤2	mA

Ordering Information (Example)

Part Number	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)
BTA(B)41-800/1000/1200	TO-3P	See the table below	30	270	2,160

PART NUMBER


Typical Operating Characteristics

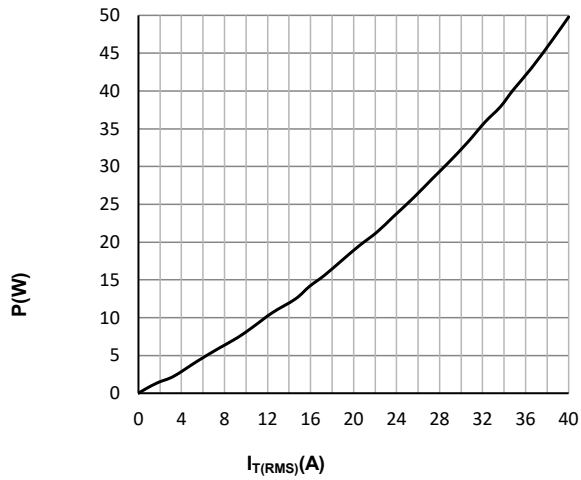


Fig1. Maximum power dissipation versus RMS on-state current

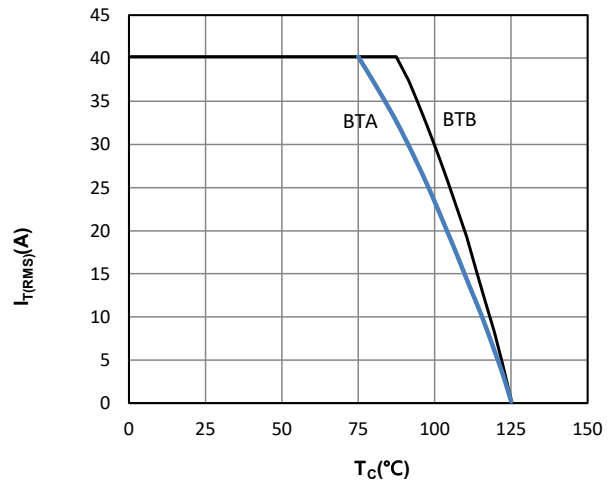


Fig2. RMS on-state current versus case temperature

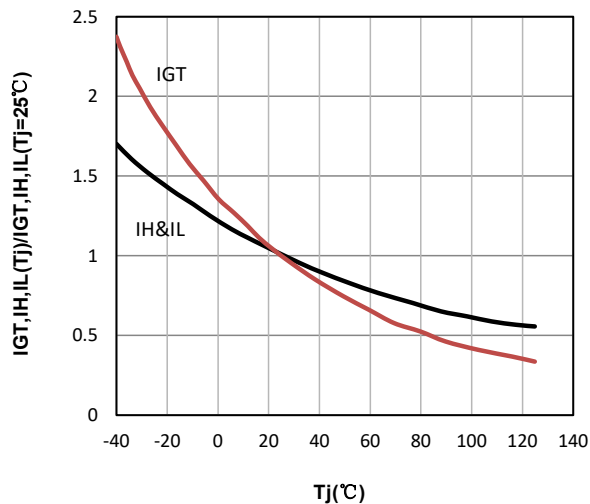


Fig3. Relative variations of gate trigger current, holding current and latching current versus junction temperature

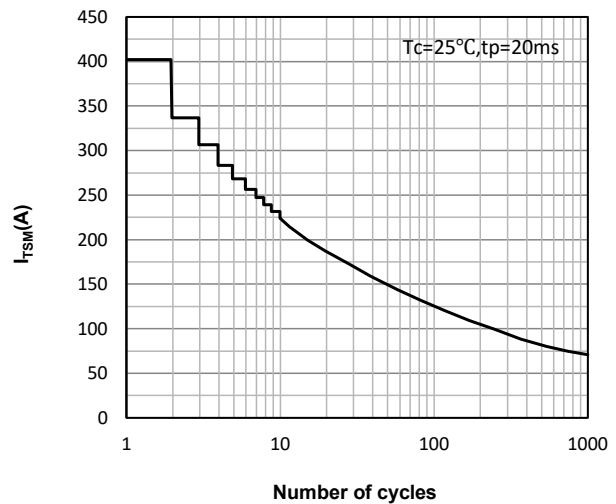


Fig4. Surge peak on-state current versus number of cycles

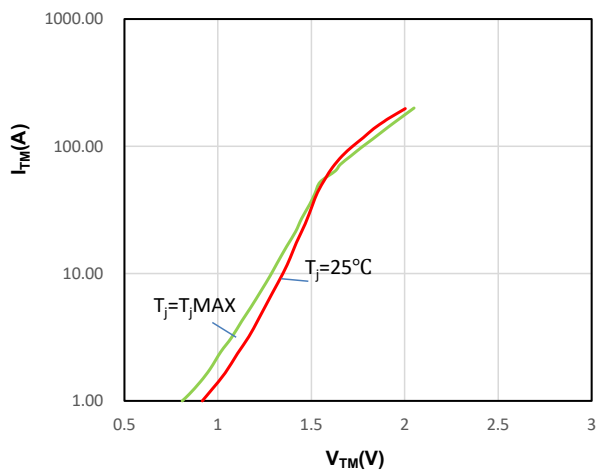


Fig5. On-state characteristics

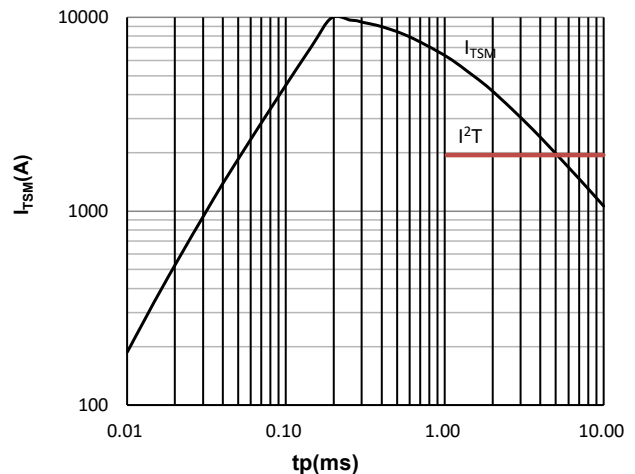
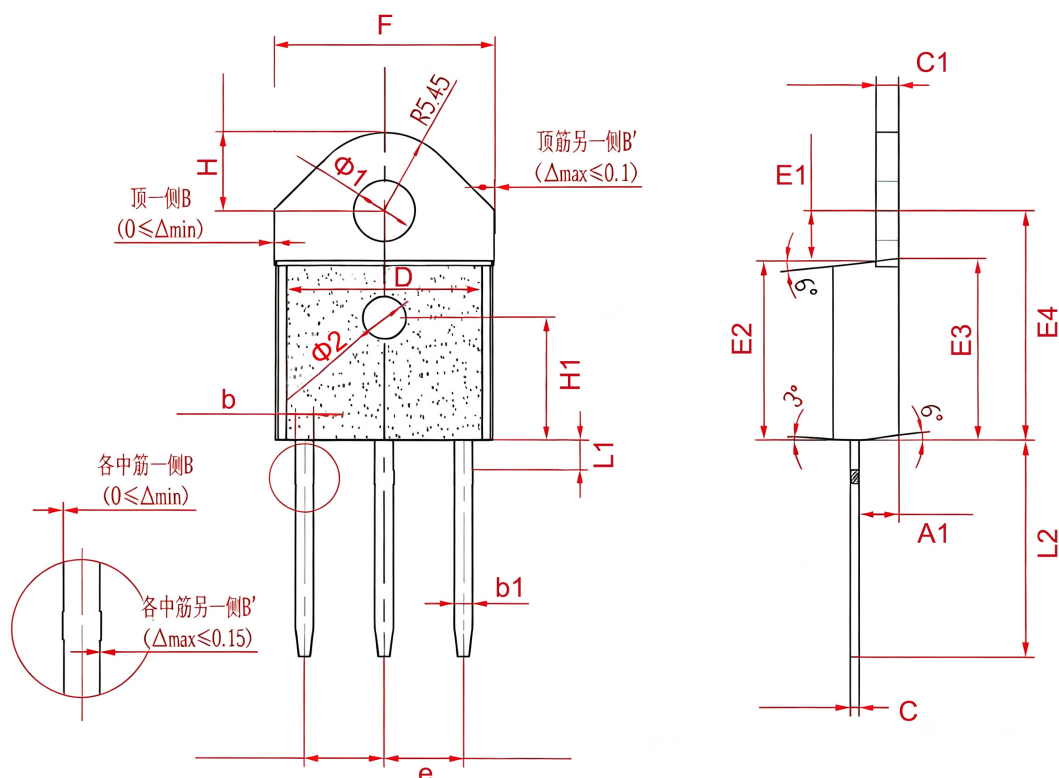


Fig6. Non-repetitive surge peak on-state current for a sinusoidal currents pulse with width $t_p < 20\text{ms}$

TO-3P Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A1	2.750TYP		0.108TYP	
b	1.150	1.220	0.045	0.048
b1	1.200TYP		0.047TYP	
C	0.590	0.610	0.023	0.024
C1	1.490	1.510	0.058	0.059
D	13.400	13.600	0.527	0.535
E1	3.500REF		0.137REF	
E2	12.500	12.600	0.492	0.496
E3	12.625	12.775	0.497	0.502
E4	16.035	16.065	0.631	0.632
F	15.200	15.300	0.598	0.602
H	5.450REF		0.214REF	
H1	8.500	8.700	0.334	0.342
L1	2.000REF		0.078REF	
L2	15.050	15.350	0.592	0.604
$\Phi 1$	4.200REF		0.165REF	
$\Phi 2$	3.000REF		0.118REF	
e	5.460	5.500	0.203	0.219