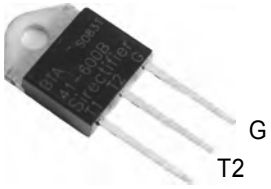
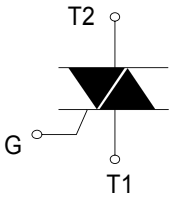
BTA41-200 thru BTA41-1200

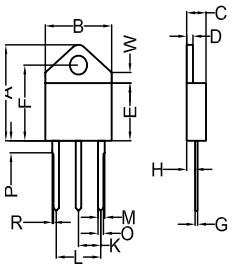
Discrete Traics (Isolated)

Unit:mm





	V_{DRM} V	V_{DSM} V
BTA41-200	200	220
BTA41-400	400	450
BTA41-600	600	700
BTA41-800	800	900
BTA41-1000	1000	1100
BTA41-1200	1200	1300



Dim.	Inches		Millimeter	
	min	max	min	max
A	0.81	0.835	20.57	21.21
B	0.61	0.63	15.49	16
C	0.178	0.188	4.52	4.78
D	0.055	0.07	1.4	1.78
E	0.487	0.497	12.37	12.62
F	0.635	0.655	16.13	16.64
G	0.022	0.029	0.56	0.74
H	0.075	0.095	1.91	2.41
J	0.575	0.625	14.61	15.88
K	0.211	0.219	5.36	5.56
L	0.422	0.437	10.72	11.1
M	0.058	0.068	1.47	1.72
N	0.045	0.055	1.14	1.4
P	0.095	0.115	2.41	2.92
O	0.008	0.016	0.2	0.41
R	0.008	0.016	0.2	0.41
U	0.159	0.163	4.04	4.14
W	0.085	0.095	2.17	2.42

Symbol	Test Conditions		Maximum Ratings	Unit
I_{TRMS}	T_{VJ}=80 °C		41	A
I_{TSM}	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	420 400	A
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	350 320	
i^2t	T_{VJ}=45°C V_R=0	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	880 850	A^2s
	T_{VJ}=T_{VJM} V_R=0	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	760 720	
$(di/dt)_{cr}$	T_{VJ}=T_{VJM} f=50Hz, t_P=200us V_D=2/3V_{DRM} I_G=0.3A di_G/dt=0.3A/us	repetitive, I_T=40A non repetitive, I_T=I_{TAVM}	50 300	A/us
$(dv/dt)_{cr}$	T_{VJ}=T_{VJM}; R_{GK}=∞; method 1 (linear	V_{DR}=2/3V_{DRM} voltage rise)	500	V/us
P_{GM}	T_{VJ}=T_{VJM} I_T=I_{TAVM}	t_P=30us t_P=300us	10 5	W
P_{GAV}			1	W
V_{RGM}			10	V
T_{VJ} T_{VJM} T_{stg}			-40...+125 125 -40...+125	°C
V_{ISOL}	50/60Hz, RMS	t=1minute, leads-to-tab	2500	V~
M_d	Mounting torque (M4)		0.8...1.5	Nm
Weight			6	g

BTA41-200 thru BTA41-1200

Discrete Traics (Isolated)

Symbol	Test Conditions	Characteristic Values	Unit
I_R, I_D	$T_{VJ}=T_{VJM}$; $V_D=V_{DRM}$	10	mA
V_{TM}	I_T=41A; T_{VJ}=25°C	1.44	V
V_{TO}	For power-loss calculations only (T_{VJ}=125°C)	0.85	V
r_T		10	mΩ
V_{GT}	I	1.3	V
	II	1.3	
	III	1.3	
	IV	1.5	
	V_D=6V; I_T=1A;T_{VJ}=25°C		
I_{GT}	I	50	mA
	II	50	
	III	50	
	IV	100	
	V_D=6V; I_T=1A;T_{VJ}=25°C		
V_{GD}	$T_{VJ}=T_{VJM}$; $V_D=2/3V_{DRM}$	0.2	V
I_{GD}		10	mA
I_H	T_{VJ}=25°C; V_D=6V; $R_{GK}=\infty$	100	mA
R_{thJC}	DC current	1.3	K/W
R_{thJH}	DC current	1.5	K/W
a	Max. acceleration, 50 Hz	50	m/s^2

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

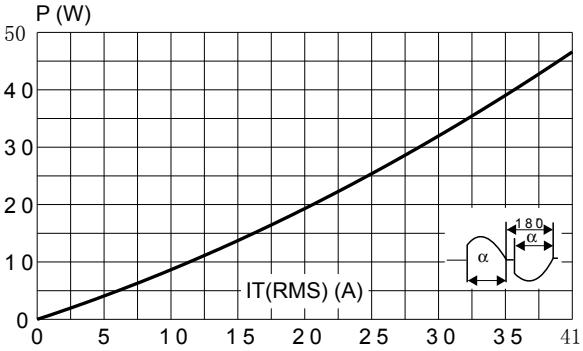


Fig. 2: RMS on-state current versus case temperature (full cycle).

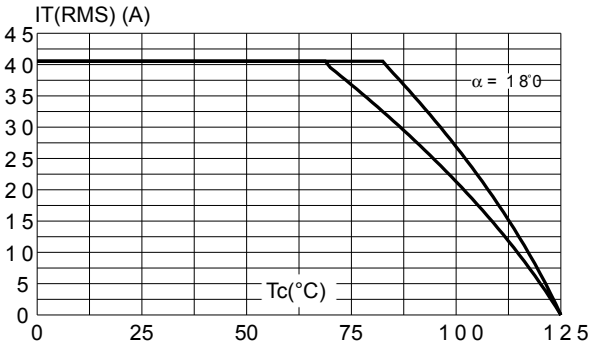


Fig. 3: Relative variation of thermal impedance versus pulse duration.

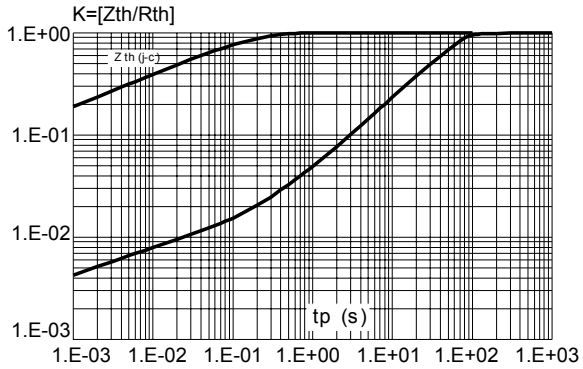


Fig. 4: On-state characteristics (maximum values).

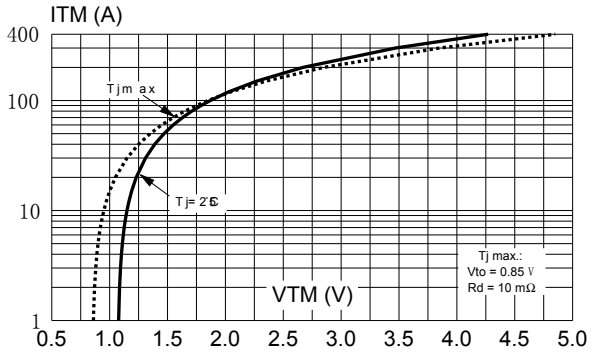


Fig. 5: Surge peak on-state current versus number of cycles.

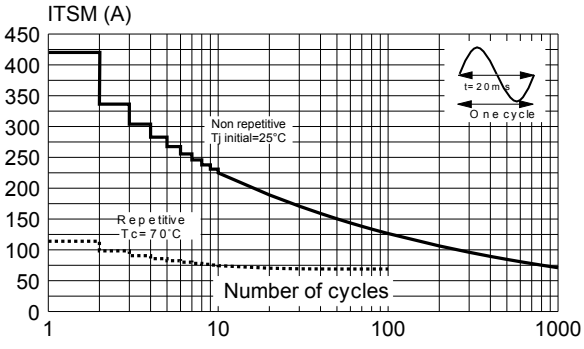


Fig. 6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10 ms, and corresponding value of I²t.

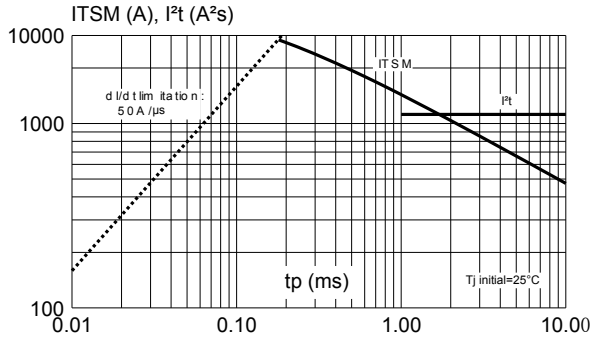


Fig. 7: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

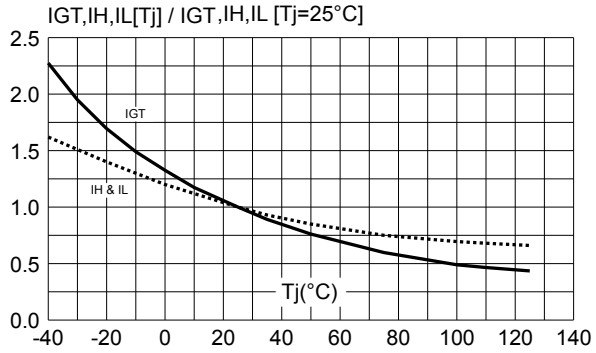


Fig. 8: Relative variation of critical rate of decrease of main current versus (dV/dt)c (typical values).

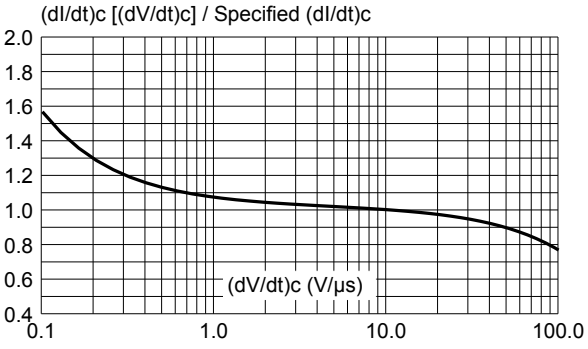
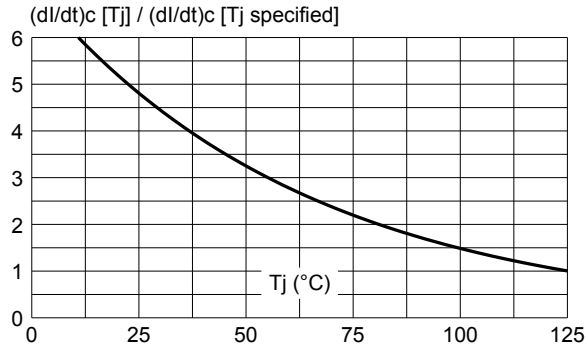


Fig. 9: Relative variation of critical rate of decrease of main current versus junction temperature.



BTA41-200 thru BTA41-1200

Discrete Traics (Isolated)

Symbol	Test Conditions	Characteristic Values	Unit
I_R, I_D	$T_{VJ}=T_{VJM}$; $V_D=V_{DRM}$	10	mA
V_{TM}	I_T=41A; T_{VJ}=25°C	1.44	V
V_{TO}	For power-loss calculations only (T_{VJ}=125°C)	0.85	V
r_T		10	mΩ
V_{GT}	I	1.3	V
	II	1.3	
	III	1.3	
	IV	1.5	
	V_D=6V; I_T=1A;T_{VJ}=25°C		
I_{GT}	I	50	mA
	II	50	
	III	50	
	IV	100	
	V_D=6V; I_T=1A;T_{VJ}=25°C		
V_{GD}	$T_{VJ}=T_{VJM}$; $V_D=2/3V_{DRM}$	0.2	V
I_{GD}		10	mA
I_H	T_{VJ}=25°C; V_D=6V; $R_{GK}=\infty$	100	mA
R_{thJC}	DC current	1.3	K/W
R_{thJH}	DC current	1.5	K/W
a	Max. acceleration, 50 Hz	50	m/s^2